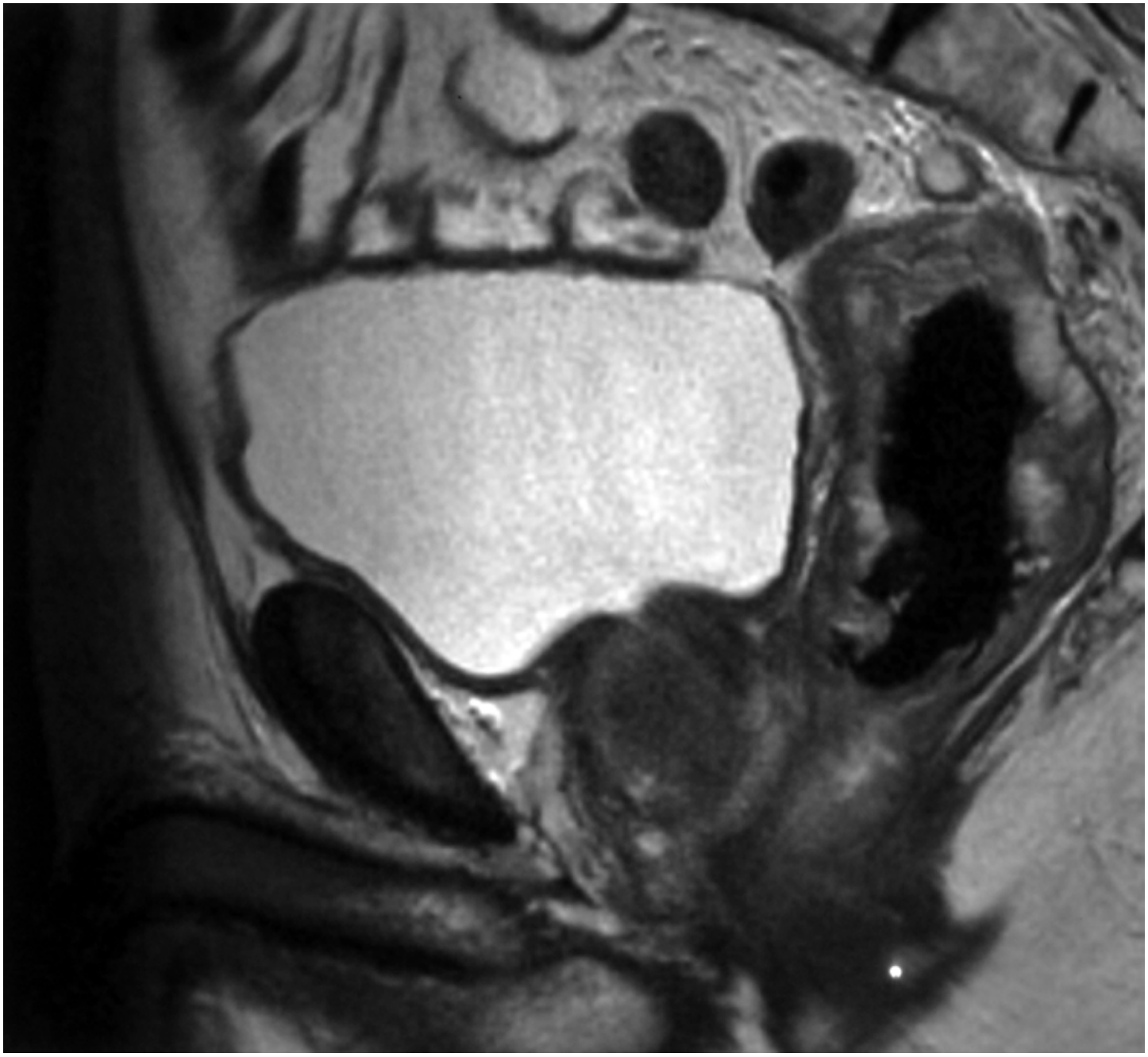
National Bowel Cancer Audit 2009



This Annual Report contains data from both the 2006/07 and 2007/08 reporting periods, which cover patients with a diagnosis date from 1 April 2006 to the 31 July 2007 and 1 August 2007 to 31 July 2008. Data from Wales covers the periods April 2006 to March 2007 and April 2007 to March 2008.

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The National Bowel Cancer Audit Annual Report 2009 is available to download from (http://www.ic.NHS.uk/canceraudits, www.nbocap.org.uk and www.acpgbi.org.uk)

Prepared in partnership with:

The Healthcare Quality Improvement Partnership (HQIP) promotes quality in healthcare. HQIP holds commissioning and funding responsibility for the National Bowel Cancer Audit and other national clinical audits.

The NHS Information Centre for Health and Social Care (The NHS IC) is England's central, authoritative source of essential data and statistical information for frontline decision makers in health and social care. The NHS IC managed the publication of the 2009 annual report.

The Northern and Yorkshire Cancer Registry & Information Service (NYCRIS) is a member of the United Kingdom Association of Cancer Registries (UKACR) which has a long term role in monitoring trends in the patterns of cancer in the population. NYCRIS carried out the analysis of the data for the 2009 Annual Report.

The Association of Coloproctology of Great Britain and Ireland (ACPGBI) is the professional body that represents UK colorectal surgeons. ACPGBI provided a clinical interpretation of the data analysed in the 2009 Annual Report.

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The analyses for this report were undertaken by The Northern and Yorkshire Cancer Registry and Information Service (NYCRIS) who are designated the lead registry for colorectal cancer. The analysis team consisted of Eva Morris, James Thomas and Faye Taylor from NYCRIS and Jason Smith and Paris Tekkis from the ACPGBI.

Connecting for Health provided the development team and the Helpdesk for submission of data via the Open Exeter system.

The National Bowel Cancer Audit Project Team consists of:

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The National Bowel Cancer Audit Project Board consists of:

- Nigel Scott (ACPGBI)
- Martin Old (The IC)
- Steve Dean (The IC)
- Helen Laing (HQIP)

The Bowel Cancer Audit is the result of an immense amount of work by many people and the Project Team and Board would like to acknowledge this.

Foreword by President of ACPGBI

It is in keeping with the tradition of the Association that we are auditing all results. The history of audit has emanated from the steeped history of our craft and one of the first people who comes to mind in auditing his results is Professor Goligher who led his magnificent department for decades. His spirit has been instilled into his students and distant disciples with its inevitable transmission to the subsequent generations that are forming the membership of our Association. It is only befitting that the current Chairman of the National Audit is from the very same Goligher Unit. Mr Finan and his team have done a magnificent job.

A few points have not escaped me and, I am sure, the readership. These include the significant increase in the number of respondent trusts. Every Trust in England and Wales is now registered with the National Bower Cancer Audit. This on its own is a major triumph to the craft in general and to those notables, like Jeff Stamatakis and Mike Thompson to name but two, who initiated regional programmes that transformed bowel cancer audit within a few short years into a nationwide exercise. The recruitment of some of the most active brains in colorectal surgery like Paris Tekkis and Jason Smith added another dimension to the exercise from which we are all benefiting as well as enjoying.

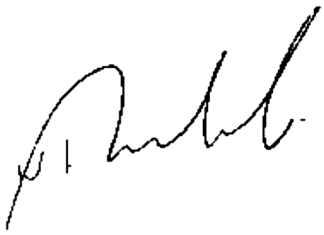
As a histopathologist, I can see even more the value of the MDTs in advancing the science and discipline of coloproctology through audits and applying accepted practice to our professional approaches. I regard MDTs and minimum data sets as the true data 'incubators' that form the bases of audits. The 'job is not finished yet' as we have some areas to work on and refine.

I do encourage Trusts and colorectal surgeons to read this report and use it as a benchmark of how the Nation is doing. I am of course looking forward to further improvement like an increase in the MR imaging of rectal cancers, improved recording of the Dukes' stage and a few other points that need to be addressed by each MDT. I also welcome very much the cross national collaboration with other bodies serving similar purposes, like NYCRIS and the National Cancer Intelligence Network. This cooperation is vital to solidify the collected data and make it even more useful as a tool for measuring our ability and capacity to undertake procedures. Indeed I already look forward to the next even more mature edition.

Many thanks Paul and the rest of the valuable team for their wonderful work. Without auditing our results, we will not maintain high standards or progress further.

The National Audit Programme has become the envy of the world and, indeed, very many important points have been made in various worldwide publications which refer to our Audit. Long may it last.

Najib Haboubi
FRCPath, FRCS (Eng), President ACPGBI



Foreword by National Clinical Director for Cancer

There is no doubt that progress is being made in relation to the early diagnosis and treatment of patients with bowel cancer in this country. The rollout of bowel cancer screening for men and women aged 60-69 years is going well and should cover the whole country by the end of this year. The quality of endoscopy services has improved very considerably. Waiting times for symptomatic patients have been reduced. Multidisciplinary team working is firmly established. The training programme related to total mesorectal excision has been completed and the programme for laparoscopic surgery is now well underway. More patients are benefiting from adjuvant chemotherapy. Most importantly, survival rates are improving.

However, there is also no doubt that more can and must be done. The Cancer Reform Strategy sets out the goal that cancer outcomes in this country should match the best in the world, but we know that survival rates in this country still lag behind the best in Europe.

National audits provide a major opportunity both to measure service quality and to drive quality improvement. I am pleased to see that participation in the National Bowel Cancer Audit has risen, reaching 68 per cent of incident cases in 2007/8. However, we can and must go further both with participation rates and data completeness. Multidisciplinary teams need to record all relevant information on their patients if they are to provide optimal care. They should then ensure that this information is transmitted to cancer registries and relevant national audits.

This audit shows ongoing improvements, for example in relation to 30 day post-operative mortality. It also reveals wide variations between cancer networks. For example, the proportion of patients undergoing major resection appears to vary from around 20 per cent to around 80 per cent. Laparoscopic surgery rates vary from around 5 per cent to around 45 per cent and abdominoperineal excision rates from around 5 per cent to around 40 per cent. It is vital that cancer networks and individual multidisciplinary teams should reflect on their own results, improve reporting where necessary and ensure that they are providing the best possible care for their patients.

Prof Mike Richards
National Clinical Director for Cancer

Commentary on the National Bowel Cancer Audit

I feel that all those involved with the National Bowel Cancer Audit can be proud of the achievements outlined in this year's report. With over 20,000 cases submitted in each 12-month period and all Trusts in England and Wales registered with the audit, we are clearly participating in a "National Audit". It is to be hoped that the targets achieved will secure the necessary funding for this project to continue for the foreseeable future.

Whilst noting the successes it is clear major challenges remain. Data completeness continues to be an issue and unless this can be improved, the future of the audit is threatened. It goes without saying that 30-day post-operative mortality rates need a date of surgery as well as a date of death. Similarly "APER rates" are difficult to determine without a well defined denominator.

The relevance of audit to every day practice is clear and it seems appropriate that the focus for audit should be with the multi-disciplinary teams. These teams are firmly established throughout the country and a sense of ownership of good quality data, submitted for audit purposes, makes feedback and local action planning a positive aspect of our service. The comprehensive comparative analyses presented this year should provide the incentive to improve in those areas where data collection is poor. My own interpretation of the data from Leeds for example is that we need to ensure that what we do is faithfully recorded in a form which is readily submitted to the audit from our bespoke cancer management system.

The National Bowel Cancer Audit collects clinical data which is not readily available within other sources at a national level. However it will be clear to many that other systems do exist eg HES data and Cancer Registry data. The linkage of such systems to give a more comprehensive picture of the care afforded to patients with bowel cancer is an exciting prospect which is being explored within the framework of the National Cancer Intelligence Network. This linked dataset should be capable of informing us of the reasons for differences in outcome observed at both national and international levels.

I would conclude with thanks again to the many people involved with the audit. The success is due entirely to the perseverance shown over many years and one can only hope that those efforts will now be reflected in an established audit which will contribute to the care of patients with colorectal cancer.

Mr Paul Finan
Chairman of Audit Project Team & Clinical Lead

Executive Summary

This Annual Report of the National Bowel Cancer Audit contains data from both the 2006/7 and 2007/8 reporting periods, and includes patients with a diagnosis date between 1 April 2006 and 31 July 2008.

There has been a substantial increase in Trust participation, case ascertainment and data completeness allowing more detailed comparisons between Trusts. 95 per cent of Trusts submitted data for this annual report and 20,262 cases were submitted for the 2007/8 reporting period, representing 68 per cent of the expected incident cases.

Measures of processes and outcome of care are shown to be improving. However, the results show a wide variation across Trusts and Cancer Networks, though this could, in part, be due to poor data completeness amongst some Trusts rather than an actual indicator of variation in care.

The audit measures aspects of process and outcome against a number of key standards or guidelines from NICE and the ACPGBI and the findings are contained in this report along with recommended actions for MDTs, Trusts, Networks and Commissioners.

Main findings

- all Trusts in England and Wales are now registered with the National Audit
- Trust participation increased to 95 per cent
- case ascertainment overall increased to 69 per cent (reporting period 2007/8) with 68.5 per cent of Trusts achieving the expected case ascertainment target of >80 per cent
- data completeness remains an issue, with only 50 per cent of units collecting >80 per cent of the data items needed for calculating risk-adjusted mortality
- 82 per cent of cases of bowel cancer were discussed at an MDT meeting. However, the reported audit data shows that the number of patients discussed at an MDT meeting varied substantially between Cancer Networks, ranging from 36 per cent to 99 per cent
- the reported involvement of a clinical nurse specialist increased from 41 per cent to 51 per cent between the two reporting periods. However, the reported audit data shows that the number of patients seeing a clinical nurse specialist varied substantially between Cancer Networks, ranging from 12 per cent to 97 per cent
- a Dukes' stage was submitted in less than 55 per cent of cases although a "derived" Dukes' stage brought this figure up to over 76 per cent
- there are disappointing figures reported for the use of CT and MR imaging (61 per cent and 51 per cent respectively in the 2007/8 reporting period). The reported audit data shows that the reported use of CT and MR imaging varied substantially between Cancer Networks, ranging from 14 per cent to 92 per cent for CT scanning and from 7 per cent to 84 per cent for MR imaging
- 32.1 per cent of cases of rectal cancer had pre-operative radiotherapy, either long course chemo-radiotherapy or short course (5x5) radiotherapy. Considerable variation was reported in the use of pre-operative radiotherapy across Cancer Networks ranging from 0 per cent to 74 per cent
- ASA grade was recorded in almost 70 per cent of cases where a surgical intervention was recorded
- 69 per cent of patients with colorectal cancer were managed in the elective/scheduled setting, with 18 per cent undergoing urgent/emergency surgery and the remainder unknown
- major resections were undertaken in 60 per cent of cases in both time periods. There was either no procedure recorded or no procedure undertaken in 30 per cent of cases
- the proportion of major resections of colorectal cancer completed laparoscopically in the 2006/7 reporting period was 8.3 per cent and this increased to 17.2 per cent in the 2007/8 data collection period. However, the reported audit data shows that the proportion of major resections completed laparoscopically varied substantially between Cancer Networks, ranging from 3 per cent to 40 per cent
- the APER rate was 17 per cent for the 2007/8 reporting period. There was considerable variation in the use of this procedure across Cancer Networks ranging from 0 per cent to 33 per cent
- permanent stomas were performed in at least 34 per cent of cases of rectal cancer in the 2007/8 reporting period, again with a wide variation between Networks ranging from 3 per cent to 51 per cent
- the 30-day post-operative mortality continued to fall (rate of 4.5 per cent overall)
- the status of the circumferential margin in cases of rectal cancer was noted in almost 59 per cent of cases in 2007/8
- extramural vascular invasion on resected specimens was seen in 26 per cent of cases where this feature was reported. The presence or absence was not reported in almost one third of specimens in the latter of the two reporting periods
- a median of 15 lymph nodes was reported per resected specimen
- the median post-operative length of stay following resection of a colorectal tumour was 9 days.

Recommendations

- Trusts should establish mechanisms for reviewing their audit data and ensure maximum data completeness of the essential dataset prior to submission for the 2010 Annual Report
- colorectal MDTs should ensure that all patients with bowel cancer are discussed and the results of pre-operative imaging (CT and MR), in elective cases, reviewed prior to the decision to treat
- all bowel cancer patients should be seen by a clinical nurse specialist and reasons for falling below the national standard investigated by individual colorectal MDTs
- all Trusts should accurately record a clinico-pathological Dukes' staging for all patients with colorectal cancer and this should be agreed at the MDT
- pathologists should complete the relevant Royal College of Pathologists minimum dataset for all cases of resected bowel cancer. MDTs should ensure that these data items are reviewed at their meetings
- Networks should continue to refine their protocols for the use of pre-operative radiotherapy in patients with rectal cancer in order to ensure its use in appropriate cases
- efforts should be made to manage patients with colorectal cancer in the elective setting whenever possible, regardless of the mode of admission. MDTs should note the reasons for emergency surgery
- the five variables: age, Dukes' stage, urgency of operation (CEPOD category), cancer excision and ASA grade, used for risk adjustment, should be recorded in all cases
- Trusts should ensure adherence to the ACPGBI guideline and NICE recommendations for the use of laparoscopic surgery and preceptorship training
- Trusts and Networks should review local APER rates together with permanent stoma rates for rectal cancer and compare these with the Cancer Network and national rates
- Trusts and Networks should review their 30-day post-operative mortality rates, noting and exploring significant variance from observed Network and national figures
- Trusts should ensure adherence to the NICE guidance of removing and examining a median of 12 lymph nodes from their resected surgical specimens
- Trusts and MDTs should review the provision of those aspects of service which help to reduce the length of stay following resection of colorectal cancers
- Trust Service Improvement or Clinical Governance teams should utilise the draft National Bowel Cancer Audit local action plan in support of their service improvement, clinical governance, and cancer peer review activity
- Networks and Cancer Service Commissioners should use the findings of this report and its recommendations to support monitoring, review and contracting activity in relation to bowel cancer services. In addition they should ensure that all Trusts providing such a service contribute to the National Bowel Cancer Audit.

The National Bowel Cancer Audit

Development of the Audit

The audit was established to investigate whether the care received by bowel cancer patients was consistent with recommended practice and to identify areas where improvements could be made. The original audit was developed by the Association of Coloproctology of Great Britain & Ireland (ACPGBI) and then commissioned by the Healthcare Commission and subsequently by the Healthcare Quality Improvement Partnership. The audit is managed by the NHS Information Centre for health and social care (IC). This audit is one of five national cancer audits being undertaken in England and Wales but offers Trusts from Scotland and Ireland the opportunity to submit data for comparative purposes.

The overall aim of the audit is to measure the quality of care received by patients with bowel cancer, to ensure that "best practice" can be identified and encouraged, and to identify deficiencies within the service at a Trust, Network or national level. The audit answers questions relating to the process of care, identifies variations in treatment and this year reports risk-adjusted clinical outcome measures. Reporting of results by submitting unit enables comparisons to be made and offers the opportunity to improve the quality of data submitted by focussing on the prime role of the multi-disciplinary team in the audit process.

The audit is a collaboration between:

- The Association of Coloproctology of Great Britain and Ireland
- The NHS Information Centre for health and social care

The analysis for this annual report was provided by The Northern and Yorkshire Cancer Registry and Information Service and other members of the analytical team.

The infrastructure and Helpdesk for the audit is provided by Connecting for Health.

All patients in England and Wales with a diagnosis of bowel cancer are eligible for inclusion, however, the audit accepts data from Scotland, Northern Ireland and Republic of Ireland.

Each year the audit publishes an annual report describing its findings. This annual report contains data from both the 2006/7 reporting period; patients with a diagnosis date from 1 April 2006 to 31 July 2007, and the 2007/8 reporting period; patients with a diagnosis date from 1 August 2007 to 31 July 2008. The 2010 annual report will contain data from patients with a diagnosis date from 1 August 2008 to 31 July 2009.

Progress of the Audit

Since initial data collection in 2000/01 the National Bowel Cancer Audit has substantially increased Trust participation and case ascertainment. Originally submission of data was from a small group of enthusiasts. In 2006 the National Bowel Cancer Audit became one of the National Clinical Audit Support Programme (NCASP) cancer audits. A web-based data collection system allowing either direct data entry or upload via a csv file has facilitated a substantial increase in Trust participation and case ascertainment. However there still needs to be an improvement in data completeness.

Recommendation

Trusts should establish mechanisms for reviewing their audit data prior to submission to the audit and ensure maximum data completeness of the essential dataset prior to submission for the 2010 Annual Report.

Participating Trusts, case ascertainment and data completeness

Audit population

21,170 cases were submitted for the period covering 1 April 2006 to 31 July 2007 and 20,262 were submitted for the period of 1 August 2007 to 31 July 2008, this is approximately 68 per cent of the annual incidence.

Table 1 shows the characteristics of the audit's patient population. Around 73 per cent of the participants were identified as receiving some form of surgical intervention whilst approximately 60 per cent were recorded as receiving a major surgical resection.

Trust participation

Audit Finding

95 per cent of eligible NHS Trusts in England and 100 per cent of Welsh Trusts have participated in the audit

Results

146 of 153 NHS Trusts (95 per cent) in England have participated in the audit by submitting their data to the National Bowel Cancer Audit data collection system. 7 NHS Trusts (5 per cent) have registered to submit their data to the audit but have not submitted any records.

Table 1
Cumulative data for the two data collection periods

Characteristic		2006/7		2007/8		Total	
		n	%	n	%	n	%
Total number of cases		21,170		20,262		**41,432**	
Total number surgically treated cases		15,670		14,780		**30,450**	
Total number major resections		12,612		12,216		**24,828**	
Sex	Male	11,785	55.7	11,453	56.5	**23,238**	**56.1**
	Female	9,351	44.2	8,746	43.2	**18,097**	**43.7**
	Not Reported	34	0.2	63	0.3	**97**	**0.2**
Age	<60	4,020	19.0	3,728	18.4	**7,748**	**18.7**
	61-70	5,535	26.1	5,554	27.4	**11,089**	**26.8**
	71-80	7,121	33.6	6,707	33.1	**13,828**	**33.4**
	>80	4,492	21.2	4,273	21.1	**8,765**	**21.2**
	Unknown	2	0.0	0	0.0	**2**	**0.0**
Cancer site	Colon	12,478	58.9	12,322	60.8	**24,800**	**59.9**
	Rectosigmoid	1,786	8.4	1,749	8.6	**3,535**	**8.5**
	Rectum	6,698	31.6	6,184	30.5	**12,882**	**31.1**
	Unknown	208	1.0	7	0.0	**215**	**0.5**

Table 2
Number of Trusts submitting data to the National Bowel Cancer Audit 2006/8

Region	Trusts submitting data	
	2006/7	2007/8
England	135	138
Wales	12	12
Northern Ireland	1	1
Republic of Ireland	2	1
Other	1	0
Total	**151**	**152**

All 12 Welsh Trusts have participated in the audit (table 2). The Welsh data submission covers the periods 1 April 2006 to 31 July 2007 and 1 August 2007 to 31 March 2008. Data have also been submitted from a number of Trusts in Republic of Ireland, Northern Ireland and one private hospital.

Discussion

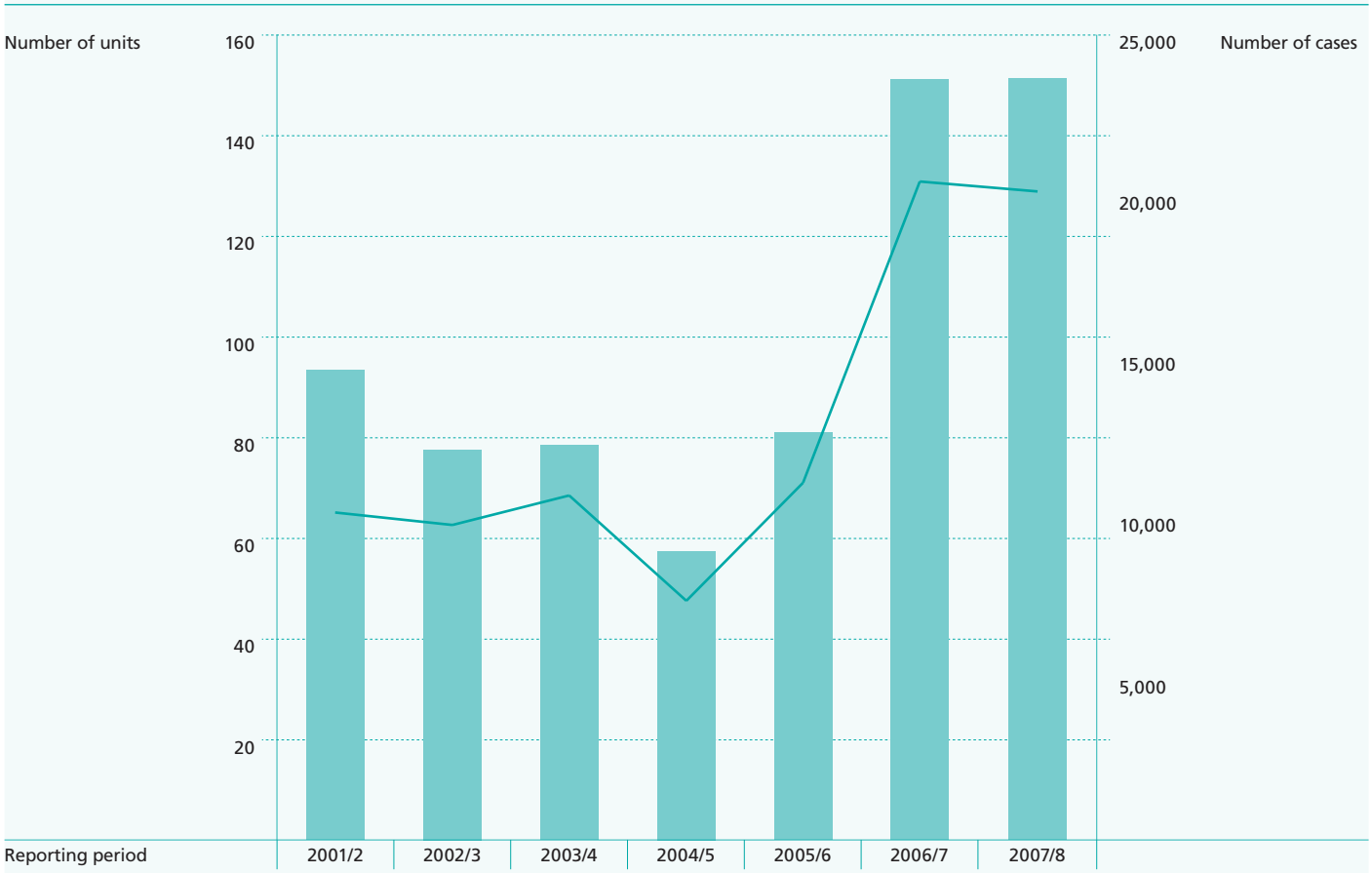
The figures are indicative of a successful audit both in terms of coverage and case ascertainment.

The 7 Trusts that have still to submit data to the audit are urged to consider the local reasons for non-participation (table 3). The multi-disciplinary team (MDT) should be the focus for the national bowel cancer audit, taking responsibility for submission of high quality data and being in a position to receive feedback and to implement local action plans (LAP).

Recommendation

Colorectal MDTs should ensure that all cases of bowel cancer are submitted to the National Bowel Cancer Audit.

Figure 1
Participation of Trusts and case ascertainment



Case ascertainment and data completeness

Audit Finding

The proportion of Trusts with good case ascertainment (>80 per cent) has improved between the two periods from 50 per cent to 69 per cent. In the 2007/8 reporting period only 13 per cent of submitting Trusts had poor case ascertainment

Methods

Case ascertainment from English NHS Trusts has been estimated by comparison with the National Cancer Data Repository (a combination of cancer registry data and Hospital Episode Statistics (HES) data). Case ascertainment from Welsh NHS Trusts has been calculated by comparison with the number of registrations by the Wales Cancer Intelligence and Surveillance Unit, the cancer registry for Wales. No similar data are available for Northern Ireland or the Republic of Ireland and so case ascertainment figures cannot be provided for organisations from these areas.

Data completeness was assessed by calculating the average completeness of the five variables needed for the ACPGBI mortality model: age, Dukes' stage, urgency of operation, cancer excision and ASA grade.

Results

The following table lists all those Trusts in England and Wales that are eligible to submit data to the audit (and those from Ireland who have also submitted) and indicates their case ascertainment and data completeness based on the five mortality model variables listed in previous reports. The figures for both case ascertainment and data completeness can be found in Appendices 1 and 2. Case ascertainment may exceed 100 per cent as it is based on an estimate of annual incidence within each Trust. The Trusts are ordered by Cancer Network.

Grade	Case Ascertainment (CA)	Data Completeness (DC)
Good ●	>80 % completeness	<20 % missing
Fair ■	50-80 % completeness	20-50 % missing
Poor ▲	<50 % completeness	>50 % missing

Table 3
Traffic lighting for case ascertainment and data completeness by Unit and Network over the two reporting time periods of 2006/7 and 2007/8.

Organisation	2006/7		2007/8	
	% CA	% DC	% CA	% DC
Lancashire & South Cumbria Cancer Network				
University Hospitals of Morecambe Bay NHS Trust	56.6 ■	58.3 ■	>100 ●	45.7 ▲
Blackpool, Fylde and Wyre Hospitals NHS Foundation Trust	80.0 ●	38.3 ▲	>100 ●	88.3 ●
Lancashire Teaching Hospitals NHS Foundation Trust	No data submitted		>100 ●	67.6 ■
East Lancashire Hospitals NHS Trust	60.0 ■	47.1 ▲	41.1 ▲	69.3 ■
Greater Manchester & Cheshire Cancer Network				
The Mid Cheshire Hospitals NHS Trust	0.8 ▲	80.0 ●	43.7 ▲	88.0 ●
Christie Hospital NHS Foundation Trust	>100 ●	81.2 ●	>100 ●	93.2 ●
East Cheshire NHS Trust	1.0 ▲	100.0 ●	1.3 ▲	100.0 ●
University Hospitals of South Manchester NHS Foundation Trust	>100 ●	88.6 ●	87.9 ●	90.9 ●
Salford Royal NHS Foundation Trust	64.7 ■	74.6 ■	56.1 ■	80.3 ●
Trafford Healthcare NHS Trust	No data submitted		58.5 ■	95.0 ●
Bolton Hospitals NHS Trust	>100 ●	92.4 ●	>100 ●	80.4 ●
Tameside and Glossop Acute Services NHS Trust	>100 ●	70.2 ■	>100 ●	82.3 ●
Wrightington, Wigan and Leigh NHS Trust	1.2 ▲	100.0 ●	62.6 ■	90.1 ●
Central Manchester University Hospitals NHS Foundation Trust	43.8 ▲	73.1 ■	1.5 ▲	40.0 ▲
Pennine Acute Hospitals NHS Trust	20.7 ▲	94.4 ●	37.1 ▲	95.6 ●
Stockport NHS Foundation Trust	3.9 ▲	75.0 ■	66.2 ■	72.5 ■
Merseyside & Cheshire Cancer Network				
Wirral University Teaching Hospital NHS Foundation Trust	85.8 ●	76.4 ■	>100 ●	77.4 ■
St Helens and Knowsley Hospitals NHS Trust	>100 ●	90.9 ●	>100 ●	87.7 ●
Aintree University Hospitals NHS Foundation Trust	1.4 ▲	80.0 ●	97.0 ●	74.9 ■

Table 3 (continued)
Traffic lighting for case ascertainment and data completeness by Unit and Network over the two reporting time periods of 2006/7 and 2007/8.

Organisation	2006/7		2007/8	
	% CA	% DC	% CA	% DC
Clatterbridge Centre For Oncology NHS Foundation Trust	N/A	20.7 ▲	N/A	20.0 ▲
Countess of Chester Hospital NHS Foundation Trust	>100 ●	88.5 ●	>100 ●	83.0 ●
Royal Liverpool and Broadgreen University Hospitals NHS Trust	>100 ●	78.7 ■	58.5 ■	64.7 ■
Southport and Ormskirk Hospital NHS Trust	>100 ●	92.3 ●	No data submitted	
Warrington and Halton Hospitals NHS Foundation Trust	94.8 ●	72.7 ■	>100 ●	63.7 ■
Yorkshire Cancer Network				
Bradford Teaching Hospitals NHS Foundation Trust	57.1 ■	81.6 ●	>100 ●	82.0 ●
York Hospitals NHS Foundation Trust	>100 ●	64.0 ■	>100 ●	77.1 ■
Harrogate and District NHS Foundation Trust	77.8 ■	95.7 ●	>100 ●	92.1 ●
Airedale NHS Trust	63.3 ■	93.7 ●	>100 ●	84.9 ●
Leeds Teaching Hospitals NHS Trust	>100 ●	60.5 ■	>100 ●	82.6 ●
Calderdale and Huddersfield NHS Foundation Trust	77.4 ■	92.1 ●	56.2 ■	92.0 ●
Mid Yorkshire Hospitals NHS Trust	63.0 ■	86.8 ●	>100 ●	78.2 ■
Humber & Yorkshire Coast Cancer Network				
Scarborough & North East Yorkshire Health Care NHS Trust	No data submitted		No data submitted	
Northern Lincolnshire and Goole Hospitals NHS Foundation Trust	0.4 ▲	80.0 ●	37.7 ▲	77.8 ■
Hull and East Yorkshire Hospitals NHS Trust	77.6 ■	94.9 ●	91.5 ●	92.0 ●
North Trent Cancer Network				
Barnsley Hospital NHS Foundation Trust	27.5 ▲	63.6 ■	>100 ●	79.3 ■
The Rotherham NHS Foundation Trust	15.0 ▲	83.2 ●	91.6 ●	91.9 ●
Chesterfield Royal Hospital NHS Foundation Trust	No data submitted		No data submitted	
Sheffield Teaching Hospitals NHS Foundation Trust	44.1 ▲	66.6 ■	>100 ●	76.5 ■
Doncaster and Bassetlaw Hospitals NHS Foundation Trust	12.8 ▲	82.9 ●	22.9 ▲	86.7 ●
Pan Birmingham Cancer Network				
Walsall Hospitals NHS Trust	39.4 ▲	79.9 ■	59.6 ■	80.0 ●
Heart of England NHS Foundation Trust	77.4 ■	79.0 ■	>100 ●	79.7 ■
University Hospital Birmingham NHS Foundation Trust	65.3 ■	73.1 ■	63.9 ■	93.9 ●
Sandwell and West Birmingham Hospitals NHS Trust	81.8 ●	69.5 ■	76.7 ■	81.6 ●
Arden Cancer Network				
South Warwickshire General Hospitals NHS Trust	>100 ●	77.9 ■	96.8 ●	84.1 ●
University Hospitals Coventry and Warwickshire NHS Trust	>100 ●	76.4 ■	>100 ●	73.0 ■
George Eliot Hospital NHS Trust	64.3 ■	78.8 ■	>100 ●	79.1 ■
Worcestershire Acute Hospitals NHS Trust	7.6 ▲	73.8 ■	>100 ●	77.1 ■
Mid Trent Cancer Network				
Sherwood Forest Hospitals NHS Foundation Trust	59.5 ■	81.5 ●	>100 ●	81.7 ●
United Lincolnshire Hospitals NHS Trust	0.4 ▲	90.0 ●	No data submitted	
Nottingham University Hospitals NHS Trust	>100 ●	89.5 ●	>100 ●	61.9 ■
Derby & Burton Cancer Network				
Burton Hospitals NHS Trust	22.0 ▲	58.4 ■	7.1 ▲	87.5 ●
Derby Hospitals NHS Foundation Trust	>100 ●	86.7 ●	>100 ●	77.2 ■
Leicestershire, Northamptonshire & Rutland Cancer Network				
Kettering General Hospital NHS Trust	64.1 ■	38.2 ▲	No data submitted	
Northampton General Hospital NHS Trust	48.1 ▲	88.2 ●	70.2 ■	74.2 ■
University Hospitals of Leicester NHS Trust	>100 ●	92.2 ●	>100 ●	92.6 ●
Mount Vernon Cancer Network				
Luton and Dunstable Hospital NHS Foundation Trust	66.4 ■	60.0 ■	>100 ●	58.5 ■
West Hertfordshire Hospitals NHS Trust	78.0 ■	66.2 ■	No data submitted	
East and North Hertfordshire NHS Trust	>100 ●	95.2 ●	>100 ●	94.4 ●

Table 3 (continued)
Traffic lighting for case ascertainment and data completeness by Unit and Network over the two reporting time periods of 2006/7 and 2007/8.

Organisation	2006/7		2007/8	
	% CA	% DC	% CA	% DC
West London Cancer Network				
The Hillingdon Hospital NHS Trust	>100 ●	75.4 ■	>100 ●	67.9 ■
Ealing Hospital NHS Trust	7.3 ▲	90.0 ●	75.2 ■	78.1 ■
West Middlesex University Hospital NHS Trust	>100 ●	85.5 ●	>100 ●	89.3 ●
Chelsea and Westminster Hospital NHS Foundation Trust	>100 ●	86.7 ●	>100 ●	82.5 ●
North West London Hospitals NHS Trust	2.2 ▲	73.0 ■	28.2 ▲	63.6 ■
Imperial College Healthcare NHS Trust	No data submitted		>100 ●	84.8 ●
North London Cancer Network				
Royal Free Hampstead NHS Trust	>100 ●	82.9 ●	98.6 ●	61.3 ■
North Middlesex University Hospital NHS Trust	No data submitted		No data submitted	
The Whittington Hospital NHS Trust	9.3 ▲	80.0 ●	>100 ●	79.9 ■
The Princess Alexandra Hospital NHS Trust	No data submitted		No data submitted	
University College London Hospitals NHS Foundation Trust	>100 ●	87.6 ●	No data submitted	
Barnet and Chase Farm Hospitals NHS Trust	>100 ●	86.4 ●	87.1 ●	88.3 ●
North East London Cancer Network				
Barking, Havering and Redbridge Hospitals NHS Trust	82.6 ●	74.2 ■	62.6 ■	78.6 ■
Whipps Cross University Hospital NHS Trust	93.3 ●	71.3 ■	>100 ●	84.2 ●
Newham University Hospital NHS Trust	8.0 ▲	85.0 ●	>100 ●	84.0 ●
Barts and The London NHS Trust	35.8 ▲	63.6 ■	60.4 ■	91.1 ●
Homerton University Hospital NHS Foundation Trust	>100 ●	73.2 ■	>100 ●	77.9 ■
South East London Cancer Network				
Queen Elizabeth Hospital NHS Trust	>100 ●	74.3 ■	>100 ●	71.2 ■
Bromley Hospitals NHS Trust	6.6 ▲	35.0 ▲	3.3 ▲	33.3 ▲
Queen Mary's Sidcup NHS Trust	23.3 ▲	27.6 ▲	38.5 ▲	53.1 ■
Guy's and St Thomas' NHS Foundation Trust	No data submitted		86.2 ●	27.1 ▲
The Lewisham Hospital NHS Trust	>100 ●	89.4 ●	>100 ●	77.8 ■
King's College Hospital NHS Foundation Trust	>100 ●	80.2 ●	>100 ●	80.2 ●
South West London Cancer Network				
Kingston Hospital NHS Trust	No data submitted		No data submitted	
Mayday Healthcare NHS Trust	18.1 ▲	69.2 ■	84.8 ●	81.5 ●
St George's Healthcare NHS Trust	15.2 ▲	81.8 ●	22.7 ▲	58.2 ■
The Royal Marsden NHS Foundation Trust	6.0 ▲	40.0 ▲	88.0 ●	61.3 ■
Epsom and St Helier University Hospitals NHS Trust	31.1 ▲	51.2 ■	79.4 ■	50.1 ■
Peninsula Cancer Network				
South Devon Health Care NHS Foundation Trust	72.5 ■	82.0 ●	68.9 ■	82.2 ●
Northern Devon Healthcare NHS Trust	36.9 ▲	82.5 ●	87.0 ●	87.6 ●
Royal Cornwall Hospitals NHS Trust	>100 ●	45.0 ▲	>100 ●	83.8 ●
Royal Devon and Exeter NHS Foundation Trust	98.8 ●	88.1 ●	>100 ●	88.3 ●
Plymouth Hospitals NHS Trust	>100 ●	45.6 ▲	>100 ●	79.8 ■
Dorset Cancer Network				
Dorset County Hospital NHS Foundation Trust	>100 ●	90.1 ●	>100 ●	76.6 ■
Poole Hospital NHS Foundation Trust	>100 ●	87.7 ●	>100 ●	76.8 ■
Royal Bournemouth and Christchurch Hospitals NHS Foundation Trust	>100 ●	96.9 ●	>100 ●	89.6 ●
Avon, Somerset & Wiltshire Cancer Network				
Weston Area Health NHS Trust	90.0 ●	52.6 ■	82.1 ●	76.5 ■
Yeovil District Hospital NHS Foundation Trust	67.0 ■	79.7 ■	73.0 ■	90.7 ●
University Hospitals Bristol NHS Foundation Trust	>100 ●	52.9 ■	>100 ●	74.5 ■
Taunton and Somerset NHS Foundation Trust	86.6 ●	55.8 ■	>100 ●	61.3 ■
Royal United Hospital Bath NHS Trust	>100 ●	63.7 ■	45.9 ▲	76.8 ■
North Bristol NHS Trust	97.1 ●	81.5 ●	>100 ●	88.8 ●

Table 3 (continued)
Traffic lighting for case ascertainment and data completeness by Unit and Network over the two reporting time periods of 2006/7 and 2007/8.

Organisation	2006/7		2007/8	
	% CA	% DC	% CA	% DC
Three Counties Cancer Network				
Hereford Hospitals NHS Trust	>100 ●	95.6 ●	>100 ●	93.9 ●
Gloucestershire Hospitals NHS Foundation Trust	0.7 ▲	100.0 ●	25.4 ▲	87.3 ●
Thames Valley Cancer Network				
Heatherwood and Wexham Park Hospitals NHS Foundation Trust	>100 ●	24.6 ▲	>100 ●	40.0 ▲
Milton Keynes General Hospital NHS Foundation Trust	39.7 ▲	80.8 ●	56.9 ■	63.2 ■
Royal Berkshire NHS Foundation Trust	No data submitted		No data submitted	
Great Western Hospitals NHS Foundation Trust	>100 ●	85.5 ●	86.5 ●	88.2 ●
Oxford Radcliffe Hospitals NHS Trust	34.6 ▲	87.9 ●	71.7 ■	80.9 ●
Buckinghamshire Hospitals NHS Trust	24.6 ▲	96.2 ●	33.3 ▲	97.4 ●
Central South Coast Cancer Network				
Isle of Wight Healthcare NHS Trust	>100 ●	81.6 ●	94.3 ●	73.3 ■
Southampton University Hospitals NHS Trust	0.7 ▲	40.0 ▲	>100 ●	95.2 ●
Portsmouth Hospitals NHS Trust	>100 ●	83.8 ●	>100 ●	79.3 ■
Winchester and Eastleigh Healthcare NHS Trust	>100 ●	75.3 ■	>100 ●	77.6 ■
Basingstoke & North Hampshire NHS Foundation Trust	No data submitted		>100 ●	68.7 ■
Salisbury NHS Foundation Trust	>100 ●	90.2 ●	>100 ●	88.6 ●
Royal West Sussex NHS Trust	99.3 ●	92.4 ●	>100 ●	85.4 ●
Surrey, West Sussex & Hampshire Cancer Network				
Royal Surrey County Hospital NHS Trust	74.6 ■	78.2 ■	69.2 ■	63.3 ■
Frimley Park Hospital NHS Foundation Trust	No data submitted		67.5 ■	86.2 ●
Ashford and St Peter's Hospitals NHS Trust	No data submitted		16.2 ▲	20.0 ▲
Surrey and Sussex Healthcare NHS Trust	No data submitted		>100 ●	20.0 ▲
Sussex Cancer Network				
Worthing and Southlands Hospitals NHS Trust	0.5 ▲	80.0 ●	>100 ●	67.2 ■
East Sussex Hospitals NHS Trust	1.1 ▲	83.3 ●	>100 ●	76.7 ■
Brighton and Sussex University Hospitals NHS Trust	5.7 ▲	64.7 ■	56.1 ■	66.4 ■
Kent & Medway Cancer Network				
Dartford And Gravesham NHS Trust	15.0 ▲	95.7 ●	>100 ●	97.5 ●
Medway NHS Trust	36.4 ▲	79.2 ■	15.4 ▲	93.7 ●
East Kent Hospitals NHS Trust	2.8 ▲	20.0 ▲	72.6 ■	20.0 ▲
Maidstone And Tunbridge Wells NHS Trust	1.7 ▲	80.0 ●	48.3 ▲	81.6 ●
Greater Midlands Cancer Network				
Mid Staffordshire General Hospitals NHS Trust	40.9 ▲	20.0 ▲	58.2 ■	20.0 ▲
University Hospital of North Staffordshire NHS Trust	No data submitted		No data submitted	
The Royal Wolverhampton Hospitals NHS Trust	28.0 ▲	69.4 ■	>100 ●	69.1 ■
Dudley Group of Hospitals NHS Trust	67.1 ■	91.7 ●	67.9 ■	87.1 ●
Shrewsbury and Telford Hospital NHS Trust	>100 ●	80.5 ●	>100 ●	83.4 ●
North of England Cancer Network				
South Tyneside NHS Foundation Trust	>100 ●	89.4 ●	99.5 ●	81.7 ●
City Hospitals Sunderland NHS Foundation Trust	85.7 ●	91.1 ●	78.7 ■	90.6 ●
North Cumbria Acute Hospitals NHS Trust	59.2 ■	75.3 ■	>100 ●	82.5 ●
Gateshead Health NHS Foundation Trust	66.4 ■	87.9 ●	82.9 ●	87.5 ●
The Newcastle Upon Tyne Hospitals NHS Foundation Trust	74.7 ■	72.1 ■	86.5 ●	83.1 ●
Northumbria Health Care NHS Foundation Trust	61.2 ■	82.4 ●	98.3 ●	83.6 ●
South Tees Hospitals NHS Trust	90.0 ●	81.0 ●	>100 ●	85.5 ●
North Tees and Hartlepool NHS Trust	89.1 ●	81.1 ●	>100 ●	77.8 ■
County Durham and Darlington NHS Foundation Trust	>100 ●	73.7 ■	>100 ●	77.5 ■

Table 3 (continued)
Traffic lighting for case ascertainment and data completeness by Unit and Network over the two reporting time periods of 2006/7 and 2007/8.

Organisation	2006/7		2007/8	
	% CA	% DC	% CA	% DC
Anglia Cancer Network				
Bedford Hospital NHS Trust	0.8 ▲	40.0 ▲	>100 ●	54.3 ■
The Queen Elizabeth Hospital King's Lynn NHS Trust	>100 ●	88.7 ●	44.8 ▲	62.2 ■
Peterborough and Stamford Hospitals NHS Foundation Trust	95.6 ●	81.8 ●	64.4	24.9 ▲
James Paget Healthcare NHS Foundation Trust	>100 ●	80.9 ●	>100 ●	86.1 ●
Ipswich Hospital NHS Trust	No data submitted		No data submitted	
West Suffolk Hospitals NHS Trust	54.4 ■	81.3 ●	>100 ●	37.7 ▲
Cambridge University Hospitals NHS Foundation Trust	5.9 ▲	78.7 ■	>100 ●	78.6 ■
Norfolk and Norwich University Hospital NHS Trust	32.3 ▲	74.3 ■	>100 ●	82.3 ●
Hinchingbrooke Health Care NHS Trust	No data submitted		65.3 ■	88.4 ●
Essex Cancer Network				
Southend University Hospital NHS Foundation Trust	90.4 ●	92.3 ●	No data submitted	
Basildon and Thurrock University Hospitals NHS Foundation Trust	No data submitted		85.8 ●	64.8 ■
Essex Rivers Healthcare NHS Trust	0.4 ▲	100.0 ●	No data submitted	
Mid Essex Hospital Services NHS Trust	0.7 ▲	20.0 ▲	6.4 ▲	76.0 ■
North Wales Cancer Network				
North West Wales NHS Trust	>100 ●	77.9 ■	>100 ●	89.9 ●
Conwy and Denbighshire NHS Trust	>100 ●	89.0 ●	99.0 ●	98.6 ●
North East Wales NHS Trust	81.8 ●	62.3 ■	98.9 ●	94.1 ●
South East Wales Cancer Network				
North Glamorgan NHS Trust	96.8 ●	84.1 ●	>100 ●	87.6 ●
Pontypridd & Rhondda NHS Trust	>100 ●	75.3 ■	>100 ●	90.3 ●
Gwent Healthcare NHS Trust	>100 ●	79.9 ■	94.6 ●	77.0 ■
Cardiff & Vale NHS Trust	82.8 ●	75.8 ■	>100 ●	71.3 ■
South West Wales Cancer Network				
Ceredigion & Mid Wales NHS Trust	96.4 ●	89.8 ●	>100 ●	93.2 ●
Pembrokeshire & Derwen NHS Trust	>100 ●	93.6 ●	96.2 ●	95.9 ●
Carmarthenshire NHS Trust	>100 ●	92.4 ●	96.6 ●	91.2 ●
Swansea NHS Trust	>100 ●	92.5 ●	96.5 ●	91.8 ●
Bro Morgannwg	92.0 ●	79.1 ■	97.4 ●	89.2 ●
Republic of Ireland				
St James Hospital, Ireland	N/A	91.5 ●	No data submitted	
Southern Health and Social Care Trust, Ireland	N/A	91.2 ●	No data submitted	
Beaumont Hospital, Dublin	No data submitted		N/A	80.3 ●
Northern Ireland				
Belfast	N/A	79.1 ■	N/A	79.4 ■
Other				
Princess Grace Hospital	N/A	100.0 ●	No data submitted	

Figures 2 and 3 summarise the data for both case ascertainment and data completeness for the two data collection periods.

Discussion

There has been an improvement in Trust participation, case ascertainment and data completeness, which is greatly encouraging. However, data completeness remains an issue. For meaningful analysis, especially risk adjusted outcomes and comparative audit, the data should be as complete as possible. Data completeness ensures that the audit can truly reflect the national picture and individual Trust results as well as facilitate risk adjustment.

Trusts should concentrate on improving their data completeness. Submitting high quality data will allow Trusts to monitor their results against previous performance, which together with the development of local action plans will ensure a continuous improvement in the quality of the care they provide.

Recommendation

Trusts should establish mechanisms for reviewing their audit data prior to submission to the audit and ensure maximum data completeness of the essential dataset prior to submission for the 2010 Annual Report.

Figure 2
Percentage of English and Welsh Trusts with low, intermediate and high case ascertainment in the two reporting periods (2006/7 and 2007/8)

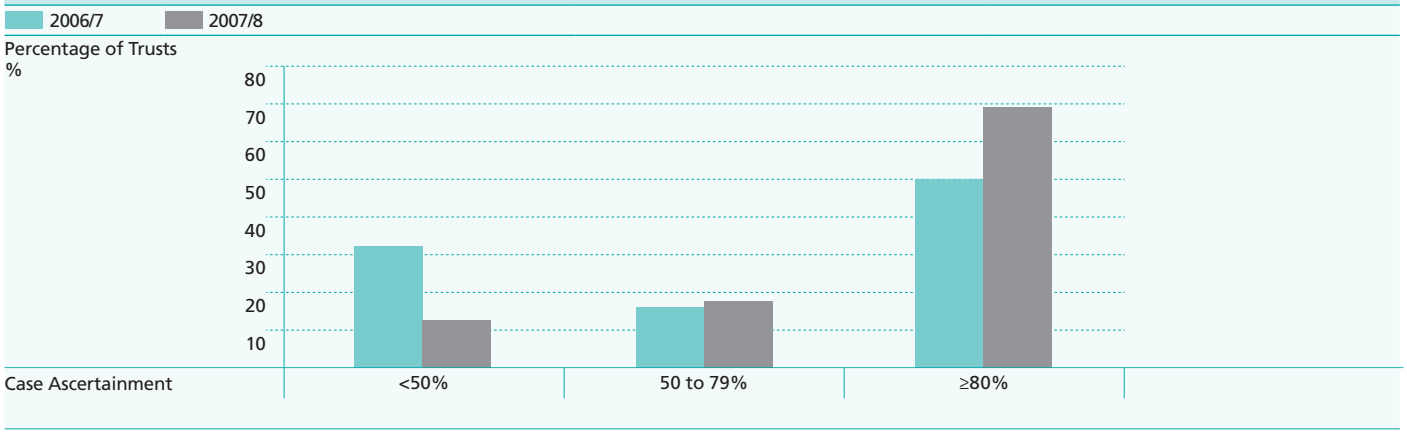
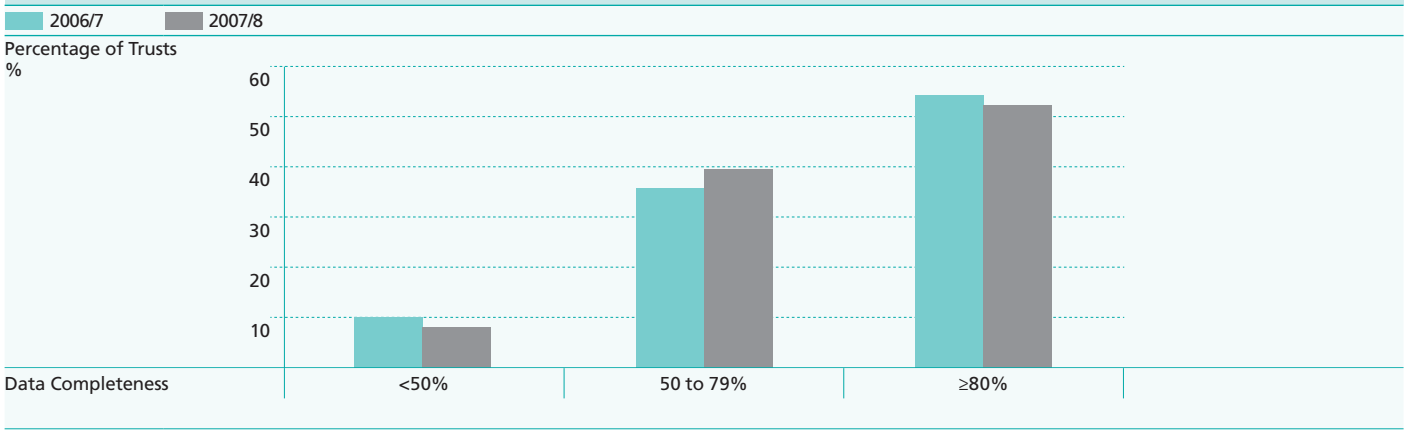


Figure 3
Percentage of all Trusts with low, intermediate and high data completeness in the two reporting periods (2006/7 and 2007/8)



Main Findings

Discussion of patients at a multi-disciplinary team meeting (MDT)

Audit finding

84 per cent of cases were reported to have been discussed at an MDT meeting in 2007/8.

Standard

NICE guidance and Peer Review recommendations are that 95 per cent to 100 per cent of patients should be discussed at an MDT meeting.

ACPGBI Guidelines for the Management of Colorectal Cancer 2007 recommended that: All patients with colorectal cancer should have the benefit of a suitably informed surgical opinion and their management should be discussed by the MDT.

Background

The management of colorectal cancer has become increasingly complex, both in terms of staging the disease and in the options for treatment. Local procedures, with curative intent, are likely to increase with the advent of bowel screening programmes. Decisions on the use of pre-operative chemotherapy, radiotherapy or a combination of both, post-operative adjuvant and palliative chemotherapy, and referral for surgical treatment of metastatic disease, are becoming commonplace. There are also efforts at increasing recruitment of eligible patients into clinical trials.

Although MR and CT imaging have made clinical decisions more precise and pathological examination of specimens has helped in identification of "high-risk groups", there remain many uncertainties, which can only be resolved by full discussion between radiologists, pathologists, oncologists and surgeons.

The way to ensure patients receive the maximum benefit from these new modalities and treatment schedules is by discussion at a multidisciplinary team (MDT) meeting. Patients need the reassurance that a team rather than a single clinician has discussed all options and that the MDT has selected the best treatment for them.

Methods

The contents of the field MDT_DISCUSSION_INDICATOR in the dataset indicate whether a patient has been discussed at an MDT meeting. The data entered into this field were, therefore, compared over the two reporting periods. The denominators for these analyses are the total number of individuals submitted to the audit.

Results

The number of patients recorded as being discussed at an MDT meeting increased from 80.3 per cent in 2006/7 to 83.7 per cent in 2007/8 (table 4). The level of data completeness also increased over the two reporting periods but, overall, no data were supplied about MDT discussion in 13.4 per cent of cases.

Discussion

Over 80 per cent of cases of colorectal cancer were discussed at an MDT meeting. Although it may never be possible to discuss all patients before treatment the aim should be to be as close to 100 per cent as possible and to improve performance each year. The reported audit data shows that the number of patients discussed at an MDT meeting varied substantially between Cancer Networks, ranging from 36 per cent to 99 per cent.

Recommendation

Trusts should ensure that all bowel cancer patients are discussed at an MDT meeting.

Table 4
Number of cases discussed at an MDT meeting

MDT Discussion	2006/7		2007/8		Total	
	n	%	n	%	n	%
No	873	4.1	1,033	5.1	**1,906**	**4.6**
Yes	17,001	80.3	16,966	83.7	**33,967**	**82.0**
Not reported	3,296	15.6	2,263	11.2	**5,559**	**13.4**

Patients seeing a clinical nurse specialist (CNS)

Audit finding

51 per cent of patients were reported as being seen by a clinical nurse specialist in 2007/8.

Standard

NICE guidance is that 100 per cent of patients should be seen by a specialist nurse.

ACPGBI Guidelines for the Management of Colorectal Cancer 2007 recommended that: Patients with colorectal cancer should have access to a colorectal nurse specialist for advice and support from the time they receive the diagnosis. The patient who may require a stoma should be seen by a stoma nurse prior to surgery and the referral should be made at the earliest opportunity to allow adequate time for preparation.

Methods

The contents of the field NURSE_SEEN in the dataset indicate whether a patient has had contact with a CNS. The data entered into this field were, therefore, compared over the two reporting periods. The denominator for this analysis was the total number of individuals submitted to the audit.

Results

The number of patients seeing a CNS increased from 40.9 per cent in 2006/7 to 51.2 per cent in 2007/8, showing a 10 per cent increase in this standard of care. The level of data completeness for this data item was poor and in nearly 40 per cent of cases no information was supplied to indicate whether a CNS had been involved in patient care.

Discussion

The 10 per cent increase in patients seeing a clinical nurse specialist is encouraging; however, guidance is that 100 per cent of patients with bowel cancer should have access to a clinical nurse specialist. The data indicates that only 51 per cent of cases entered into the audit are receiving this care. This low figure could be due to poor data completeness rather than a true reflection of the care provided. It is hoped that the value of these data may be more to encourage Trusts to collect it accurately so that individual Trusts can monitor their own achievements and to aim for the national guideline of all patients with bowel cancer having access to a clinical nurse specialist. The reported audit data shows that the number of patients seeing a clinical nurse specialist varied substantially between Cancer Networks, ranging from 12 per cent to 97 per cent.

Recommendation

All bowel cancer patients should be seen by a clinical nurse specialist.

Table 5
Proportion of patients seen by a clinical nurse specialist

Patient seen by CNS	2006/7		2007/8		Total	
	n	%	n	%	n	%
No	3,605	17.0	2,514	12.4	**6,119**	**14.8**
Yes	8,657	40.9	10,373	51.2	**19,030**	**45.9**
Unknown	8,908	42.1	7,375	36.4	**16,283**	**39.3**

Reporting of clinico-pathological Dukes' stage

Audit finding

Dukes' staging was reported in less than 55 per cent of cases. By analysis of other data submitted a derived Dukes' stage was determined in 76 per cent of cases.

Background

Accurate staging of colorectal cancer is of the utmost importance. Staging determines outcome as presented in a recent publication from the National Cancer Intelligence Network revealing five-year survival rates of 93 per cent for Dukes' stage A disease to 6 per cent for stage D. Those patients with more advanced disease will be recommended adjuvant therapy and patients with metastatic disease may require further surgery or palliative measures. As well as allowing decisions to be made on further treatment, the stage of the disease is one of the five variables in the risk-adjusted modelling of post-operative mortality.

Methods

Two Dukes' stages have been reported. The first is that supplied directly to the audit in the field MODIFIED_DUKES. A number of other fields exist in the dataset, however, that indicate the extent of disease within particular patients. In many cases it was apparent that the MODIFIED_DUKES field had not been completed but staging information was available from other fields. As a consequence, a second Dukes' stage was derived from these other staging variables to increase the proportion of cases that could be staged. The following rules were applied to derive this stage:

- If the T stage was stated as T1 or T2 and the patient was node negative then the patient was allocated to Dukes' A
- If the T stage was stated as T3 or T4 and the patient was node negative then the patient was allocated to Dukes' B
- If positive nodes were recorded then the patient was deemed a Dukes' C
- If any of the fields (including pre-operative staging fields) indicated that a patient had distant metastases then stage defaulted to Dukes' D
- If data in any of the relevant fields conflicted then the most advanced stage reported was adopted.

Results

The MODIFIED_DUKES field was completed in only 54.6 per cent of the cases submitted (tables 6 & 7). Using all the staging information supplied, however, it was possible to derive a Dukes stage' for 76.1 per cent of patients.

Discussion

Dukes' stage is poorly recorded in the data submitted to the audit. The stage of the disease is of great importance in risk adjustment. MDTs should make every effort to arrive at a clinico-pathological stage for every patient with bowel cancer and then record this information. Pathological stage needs to be combined with the results of all other findings (radiological and operative) and an "integrated" clinico-pathological stage obtained.

It is imperative that the staging of disease approaches 100 per cent and should be one of the main aims for the data submitted for the 2010 annual report.

Recommendation

All Trusts should accurately record a clinico-pathological Dukes' stage and this should be agreed at the MDT for all patients with colorectal cancer.

Table 6
Dukes' staging and derived Dukes' staging of all cases of bowel cancer submitted to the National Bowel Cancer Audit

Dukes' stage		2006/7		2007/8		Total	
		n	%	n	%	n	%
Supplied	A	1,520	7.2	1,328	6.6	**2,848**	**6.9**
	B	3,990	18.8	3,291	16.2	**7,281**	**17.6**
	C	3,417	16.1	2,930	14.5	**6,347**	**15.3**
	D	2,857	13.5	3,271	16.1	**6,128**	**14.8**
	Unknown	9,386	44.3	9,442	46.6	**18,828**	**45.4**
Derived	A	1,839	8.7	1,879	9.3	**3,718**	**9.0**
	B	4,932	23.3	4,786	23.6	**9,718**	**23.5**
	C	5,290	25.0	5,154	25.4	**10,444**	**25.2**
	D	3,982	18.8	3,683	18.2	**7,665**	**18.5**
	Unknown	5,127	24.2	4,760	23.5	**9,887**	**23.9**

Table 7
Dukes' staging and derived Dukes' staging of all patients undergoing a major resection of their bowel cancer submitted to the National Bowel Cancer Audit

Dukes' stage		2006/7		2007/8		Total	
		n	%	n	%	n	%
Supplied	A	1,251	9.9	1,071	8.8	**2,322**	**9.4**
	B	3,469	27.5	2,773	22.7	**6,242**	**25.1**
	C	2,906	23.0	2,435	19.9	**5,341**	**21.5**
	D	1,104	8.8	1,232	10.1	**2,336**	**9.4**
	Unknown	3,882	30.8	4,705	38.5	**8,587**	**34.6**
Derived	A	1,543	12.2	1,594	13.0	**3,137**	**12.6**
	B	4,272	33.9	4,147	33.9	**8,419**	**33.9**
	C	4,174	33.1	4,152	34.0	**8,326**	**33.5**
	D	1,776	14.1	1,462	12.0	**3,238**	**13.0**
	Unknown	847	6.7	861	7.0	**1,708**	**6.9**

Use of CT scanning in patients with colorectal cancer

Audit finding

61 per cent of patients were reported to have had a CT scan during their care in the 2007/8 reporting period.

Standard

NICE guidance is that 100 per cent of patients should be given a CT scan. ACPGBI Guidelines for the Management of Colorectal Cancer 2007 recommended that: All patients with colon or rectal cancer should have pre-operative staging by CT scan to determine the local extent of the disease and the presence of lung or liver metastases. In patients presenting with obstruction, CT scanning should be carried out to exclude pseudo-obstruction before operation.

Background

Good pre-operative staging identifies patients with early disease that may be cured by endoscopic or minimal surgery and, in contrast, also identifies those with extensive disease and minimal symptoms who are best managed without major surgery. It is, therefore, an important part of a patient's pre-operative management that a CT scan is performed in all who subsequently have an elective operation. It is more difficult to do this in an emergency situation although this is increasingly required to identify which patients with large bowel obstruction have disseminated disease and are best treated with an internal colonic stent without surgery.

Methods

No field exists in the dataset to simply indicate whether a patient underwent a CT scan but rather this variable is inferred from the field that reports whether liver metastases were identified by CT scan (PAT_PROC_RESULT_CT_SCAN). If this field has been completed (whether positive or negative for metastases) then it was taken that a patient underwent a CT scan. If the field is blank then it was assumed no CT scan was performed. The denominators used for the analysis were all patients and all those undergoing a surgical procedure.

Results

Overall, the number of patients having a CT scan increased from 54.9 per cent in 2006/7 to 60.9 per cent in 2007/8 (tables 8 & 9). In nearly 43 per cent of cases no data was recorded. The proportion of surgically treated cases that underwent a CT scan increased from 58.2 per cent in 2006/7 to 66.0 per cent in 2007/8.

Discussion

These data indicate that many Trusts are failing the 100 per cent standard contained within the NICE Guidelines. However, these poor results may be due to incomplete data submission rather than a lack of resources for CT imaging. But, if 'failing' MDTs do suffer from an inadequate CT resource then they should use this information to persuade their Trusts to provide them with appropriate resources for this important aspect of a bowel cancer patient's care. The reported audit data shows that the number of patients having a CT scan varied substantially between Cancer Networks, ranging from 14 per cent to 92 per cent.

Recommendation

CT scanning should be performed on all patients with colorectal cancer.

Table 8
Proportion of patients with colorectal cancer undergoing CT imaging

CT reported	2006/7		2007/8		Total	
	n	%	n	%	n	%
No	9,544	45.1	7,931	39.1	**17,475**	**42.2**
Yes	11,626	54.9	12,331	60.9	**23,957**	**57.8**

Table 9
Proportion of surgically treated patients undergoing CT imaging

CT reported	2006/7		2007/8		Total	
	n	%	n	%	n	%
No	6,638	41.8	5,116	34.0	**11,754**	**38.0**
Yes	9,243	58.2	9,920	66.0	**19,163**	**62.0**

Use of pre-operative MR scanning in rectal cancer patients

Audit finding

For patients with rectal cancer MR imaging was used to stage the disease in 51 per cent of cases overall and 58 per cent in those treated surgically in the 2007/8 reporting period

Standard

NICE guidance is that patients with invasive rectal cancers for whom surgery is being considered should have magnetic resonance imaging (MRI) scans before treatment begins.

ACPGBI Guidelines for the Management of Colorectal Cancer 2007 recommend that: All patients with rectal cancer should have MR scans of the pelvis to stage the tumour and asses involvement of adjacent organs.

Background

Evidence shows that pre-operative radiotherapy reduces local recurrence, one of the most unpleasant complications of rectal cancer surgery; therefore Trusts should identify patients with threatened margins pre-operatively so they may receive the potential benefit of this treatment. MR imaging is currently the best modality for identifying these high-risk patients and, hence, optimising treatment plans.

Methods

There is, again, no single field in the dataset that indicates whether an MR scan was undertaken. Rather there are a number of fields that indicate the pre-operative stage determined by an MR scan. If any of these fields (PAT_PROC_RESULT_T_MRI_SCAN_1, PAT_PROC_RESULT_N_MRI_SCAN_1, MARGIN_THREATENED) were completed then a patient was defined as having undergone an MR scan. If the fields were empty then a patient was defined as not having received this pre-operative staging intervention.

All patients and all surgically treated rectal cancer patients are included in this analysis. Please note that malignant rectal polyps are included in the total number of rectal cancer patients that require staging. These patients will have T1 lesions by default but they should still have the same workup as non-polyp cancers.

Results

Overall, the number of rectal cancer patients receiving a pre-operative MR scan increased from 41.3 per cent in 2006/7 to 51.1 per cent in 2007/8 (tables 10 & 11). 54.0 per cent were identified as not receiving a pre-operative MR scan. Amongst surgically treated patients the rates of MR scanning use were higher with, 52.3 per cent of patients undergoing this investigation.

Discussion

The high proportion of patients recorded as not receiving this investigation may be a consequence of poor data completion. For Trusts achieving below average rates of MR use these results should encourage them to either improve their data collection or reflect on the care they are providing. They should aim to improve next year and encourage their Chief Executive and Management to provide the resources for this activity. The reported audit data shows that the number of patients having a MR scan varied substantially between Cancer Networks, ranging from 7 per cent to 84 per cent.

Recommendation

Patients with rectal cancer who are to be treated for their primary disease should be staged with an MR scan.

Table 10
Proportion of patients with rectal cancer having an MR scan pre-operatively

MR reported	2006/7		2007/8		Total	
	n	%	n	%	n	%
No	3,935	58.7	3,024	48.9	**6,959**	**54.0**
Yes	2,763	41.3	3,160	51.1	**5,923**	**46.0**

Table 11
Proportion of surgically treated rectal cancer patients having an MR scan pre-operatively

MR reported	2006/7		2007/8		Total	
	n	%	n	%	n	%
No	2,448	53.0	1,762	41.6	**4,210**	**47.4**
Yes	2,171	47.0	2,474	58.4	**4,645**	**52.3**

Use of pre-operative radiotherapy in patients with rectal cancer

Audit finding

Overall 32 per cent of cases of rectal cancer were reported to have pre-operative radiotherapy, either long course chemo-radiotherapy or short course (5x5) radiotherapy. Considerable variation was observed across Cancer Networks in the use of pre-operative radiotherapy.

Standard

ACPGBI Guidelines for the Management of Colorectal Cancer 2007 recommended that: Patients with resectable rectal cancer should be considered for pre-operative short-term radiotherapy with surgery performed within 1 week of completion of radiation.

Background

Whether or not a patient receives pre-operative radiotherapy will depend on many factors including case-mix and local protocols. The use of radiotherapy should also be determined by audited outcome measures of local recurrence and margin status. The use of this treatment is, therefore, an important parameter to measure, both in terms of determining the need for radiotherapy services and, in future, to determine the degree to which it reduces local recurrence at a national level rather than just in the context of randomised controlled trials.

Methods

Information in the field TELETHERAPY_TYPE_GIVEN was used to determine whether a patient had received pre-operative radiotherapy. If the data provided indicated a patient had had short course or long course pre-operative radiotherapy then they were deemed as receiving this intervention. As pre-operative radiotherapy is only used to treat patients with rectal tumours then the denominator used was all patients with rectal cancer who underwent any surgical intervention.

Results

Overall, 32.1 per cent of surgically treated rectal cancer patients underwent some form of pre-operative radiotherapy (table 12). There was no significant change over the two reporting periods in the proportion of patients receiving this intervention. Significant variation was observed in the use of this treatment across Cancer Networks (Figure 4).

Discussion

Radiotherapy has a major role in the management of rectal cancer. Despite the results of randomised controlled trials its use varies throughout the country. The importance for the future is to determine accurately the proportion of patients receiving radiotherapy, and to have the ability to follow up these patients in the longer term. The reported audit data shows that the number of patients having pre-operative radiotherapy varied substantially between Cancer Networks, ranging from 0 per cent to 74 per cent.

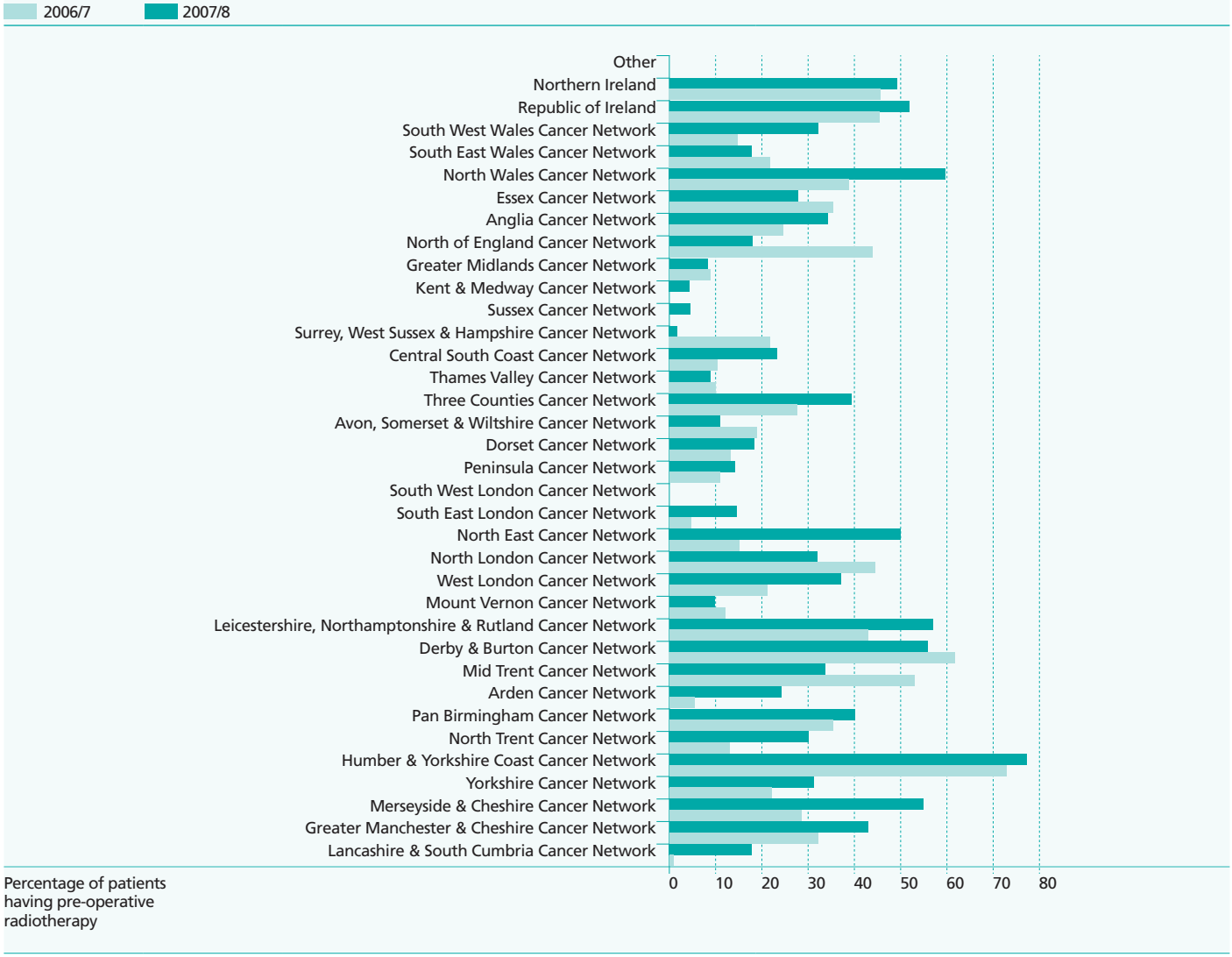
Recommendation

Networks should continue to refine their protocols for the use of pre-operative radiotherapy in patients with rectal cancer in order to ensure it is used in all appropriate cases.

Table 12
Use of pre-operative radiotherapy in patients with rectal cancer

Pre-operative radiotherapy	2006/7		2007/8		Total	
	n	%	n	%	n	%
None or unknown	2,253	68.6	2088	67.1	**4,341**	**67.9**
Short course	425	12.9	416	13.4	**841**	**13.1**
Long course	608	18.5	606	19.5	**1,214**	**19.0**

Figure 4
Rates of pre-operative radiotherapy in rectal cancer patients receiving a major resection for their disease by Cancer Network



ASA (American Society of Anaesthesiologists) grade in patients undergoing surgical intervention

Audit finding

Overall, ASA grade was reported in 69 per cent of cases where a surgical intervention was recorded.

Background

55 per cent of patients presenting with colorectal cancer are over 70 years old and may have co-existent morbidity. Without ASA grade, or another validated score for co-morbidity, post-operative mortality cannot be risk-adjusted.

Methods

The contents of the field ASA_GRADE within the audit dataset were used to determine each patient's ASA grade. This data item may not be recorded for those individuals who do not undergo a surgical intervention. In consequence, the denominator for these analyses was the number of individuals who underwent any surgical intervention. This included those who underwent major resections, local excision and palliative procedures.

Results

ASA grade was recorded in 69.3 per cent of cases (table 13).

Discussion

The ASA grade is very often recorded at surgery by the anaesthetist and is a simple grade to note for audit purposes. Although it was reported in 69.3 per cent of cases every effort should be made to record this grade on all patients with bowel cancer undergoing surgical intervention as this is the factor with the greatest variance in the operative mortality model.

Recommendation

ASA grade should be recorded for all patients with bowel cancer undergoing surgical intervention.

Table 13
ASA grade as recorded for all patients undergoing any surgical intervention

ASA grade	2006/7		2007/8		Total	
	n	%	n	%	n	%
Fit	1,627	10.2	1,598	10.6	**3,225**	**10.4**
Relevant disease	5,864	36.9	5,351	35.6	**11,215**	**36.3**
Restrictive disease	2,956	18.6	3,128	20.8	**6,084**	**19.7**
Life-threatening disease	49	0.3	5	0.0	**54**	**0.2**
Moribund	419	2.6	430	2.9	**849**	**2.7**
Unknown	4,966	31.3	4,524	30.1	**9,490**	**30.7**

Cases undergoing urgent or emergency surgery

Audit finding

Overall 69 per cent of patients having surgery for colorectal cancer were managed in the elective/ scheduled setting, with 18 per cent undergoing urgent/ emergency procedures.

Standard

NICE guidance is that facilities and services should be established to provide stenting for patients with intestinal obstruction, particularly those with serious comorbidity, so that high-risk emergency surgery may be avoided. Cancer Networks should assemble teams with appropriate expertise and sufficient capacity to stent about 15 people per million population per annum. Decision-making generally on the use of stents should be the responsibility of colorectal cancer MDTs. Stents should be inserted within 48 hours of admission, by appropriately trained individuals (usually interventional radiologists, ideally working with endoscopists).

ACPGBI Guidelines for the Management of Colorectal Cancer 2007 recommended that: In patients with large bowel obstruction, the insertion of an expanding stent is an acceptable treatment option where adequate local expertise exists. Stenting may be used either for palliation or as a bridge to surgery.

Background

Patients having emergency surgery are at a much higher risk of dying in the post-operative period. Although it is commonly assumed that emergency surgery is the result of delayed diagnosis, these patients tend to have a shorter history before surgery and they may represent a sub-set of cancers that are biologically more aggressive. It is important to identify these cases as they will significantly affect the risk-adjustment of a unit's overall post-operative mortality. With a five-fold increase in the post-operative mortality of patients treated urgently or as an emergency it is important to attempt to convert emergency cases to elective if at all possible. This is possible with some cases of large bowel obstruction.

Methods

The mode of operation was determined from the field within the dataset called SURGICAL_URGENCY_MODE_OF_OP. The denominator used for the analysis was all patients who underwent any form of surgical intervention including local excisions, major resections and palliative procedures.

Results

The CEPOD category, which is one of the five variables in the risk-adjusted modelling of post-operative mortality, was reported in all but 12 per cent of cases (table 14). The relationship of CEPOD category to post-operative mortality is shown in Figure 5.

Discussion

Whilst nearly 70 per cent of patients having surgery for colorectal cancer were managed in the elective/scheduled setting, a fair proportion (20 per cent) still underwent urgent/emergency procedures. This occurred despite recent advances in care, such as the use of stenting.

Wherever possible it is important to attempt to convert emergency cases to elective. This can be achieved in some cases of large bowel obstruction but these data suggest there will always be cases that require skilled surgical management in the emergency/urgent setting.

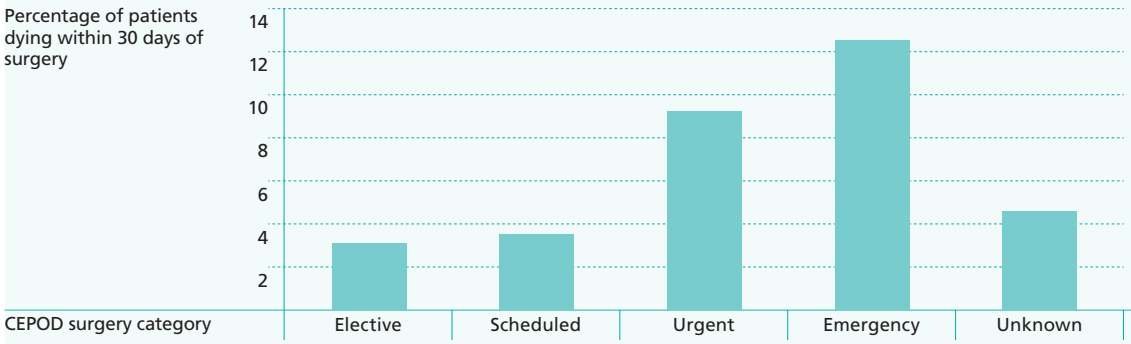
Recommendation

Efforts should be made to manage patients with colorectal cancer in the elective setting whenever possible, regardless of the mode of admission. CEPOD category should be recorded in all cases.

Table 14
CEPOD category of surgical procedure in patients with colorectal cancer

CEPOD category	2006/7		2007/8		Total	
	n	%	n	%	n	%
Elective	8,645	54.4	8,240	54.8	**16,885**	**54.6**
Scheduled	2,157	13.6	2,370	15.8	**4,527**	**14.6**
Urgent	1,463	9.2	1,458	9.7	**2,921**	**9.4**
Emergency	1,492	9.4	1,279	8.5	**2,771**	**9.0**
Unknown	2,124	13.4	1,689	11.2	**3,813**	**12.3**

Figure 5
30-day operative mortality in relation to the CEPOD category of surgical procedure in patients with bowel cancer



Surgical procedures for colorectal cancer

Audit finding

Major resections were undertaken in 60 per cent of cases in both time periods. More minor procedures were undertaken in 10 per cent of cases and no procedure recorded or no record of surgery in the remainder.

Background

The mainstay of treatment for colorectal cancer is surgical resection. There may, however, be some changes to the proportion undergoing this intervention in the future. The newly introduced screening programmes for colorectal cancer may increase the incidence of Dukes' stage A tumours and evidence suggests many of these tumours can be removed endoscopically without major surgical intervention. In addition, locally advanced rectal tumours may be treated with pre-operative chemo-radiotherapy and in up to 20 per cent of cases there is a complete pathological response when the tumour-bearing area is subsequently removed. In consequence, some Trusts are considering adopting a "wait and see" policy for these tumours, particularly if surgery would entail an APER. A strength of the Audit will be to observe changes in surgical and non-surgical techniques over time.

Methods

Information in the field PRIMARY_PROCEDURE_NAME was used to determine the type of procedure undertaken. In some cases this field had not been completed but it was still possible to determine that these individuals had undergone surgery as other relevant fields had been completed (for example MAJOR_POSTOP_COMPLICATION OR ANASTOMOSIS_DONE). In these cases patients were defined as receiving a surgical intervention in the other/not known category.

Results

Some form of surgical intervention was reported in 74.7 per cent of patients. Around 60 per cent of patients underwent a major surgical resection whilst local excisions and polypectomies were used in around 2 per cent of cases (Table 15). Figures 6 and 7 show there was significant variation in the types of surgical procedure undertaken by network over the two reporting periods.

Discussion

There are major differences in operation rates between Networks. These should be explored further but may represent poor data completeness, particularly as the non-reporting rate significantly affected the differences observed. The low incidence of laparotomy or laparoscopy alone indicates better pre-operative staging of potentially curative cases.

Recommendation

Cancer Networks should refer to these findings and ensure that their Trusts capture complete data on surgical procedures.

Table 15
Operative techniques employed for treatment of colorectal cancer

Surgery type	2006/7		2007/8		Total	
	n	%	n	%	n	%
Major resection	12,612	59.6	12,216	60.3	**24,828**	**59.9**
Local excision	192	0.9	179	0.9	**371**	**0.9**
Polypectomy	275	1.3	257	1.3	**532**	**1.3**
Stoma	1,073	5.1	1,070	5.3	**2,143**	**5.2**
Stent	211	1.0	256	1.3	**467**	**1.1**
Laparotomy only	132	0.6	106	0.5	**238**	**0.6**
Laparoscopy only	28	0.1	33	0.2	**61**	**0.1**
Examination Under Anaesthetic	28	0.1	29	0.1	**57**	**0.1**
Other/Not known	1,358	6.4	919	4.5	**2,277**	**5.5**
Not reported/No surgery	5,261	24.9	5,197	25.6	**10,458**	**25.2**

Figure 6
Operations used by Cancer Network – 2006/7 reporting period

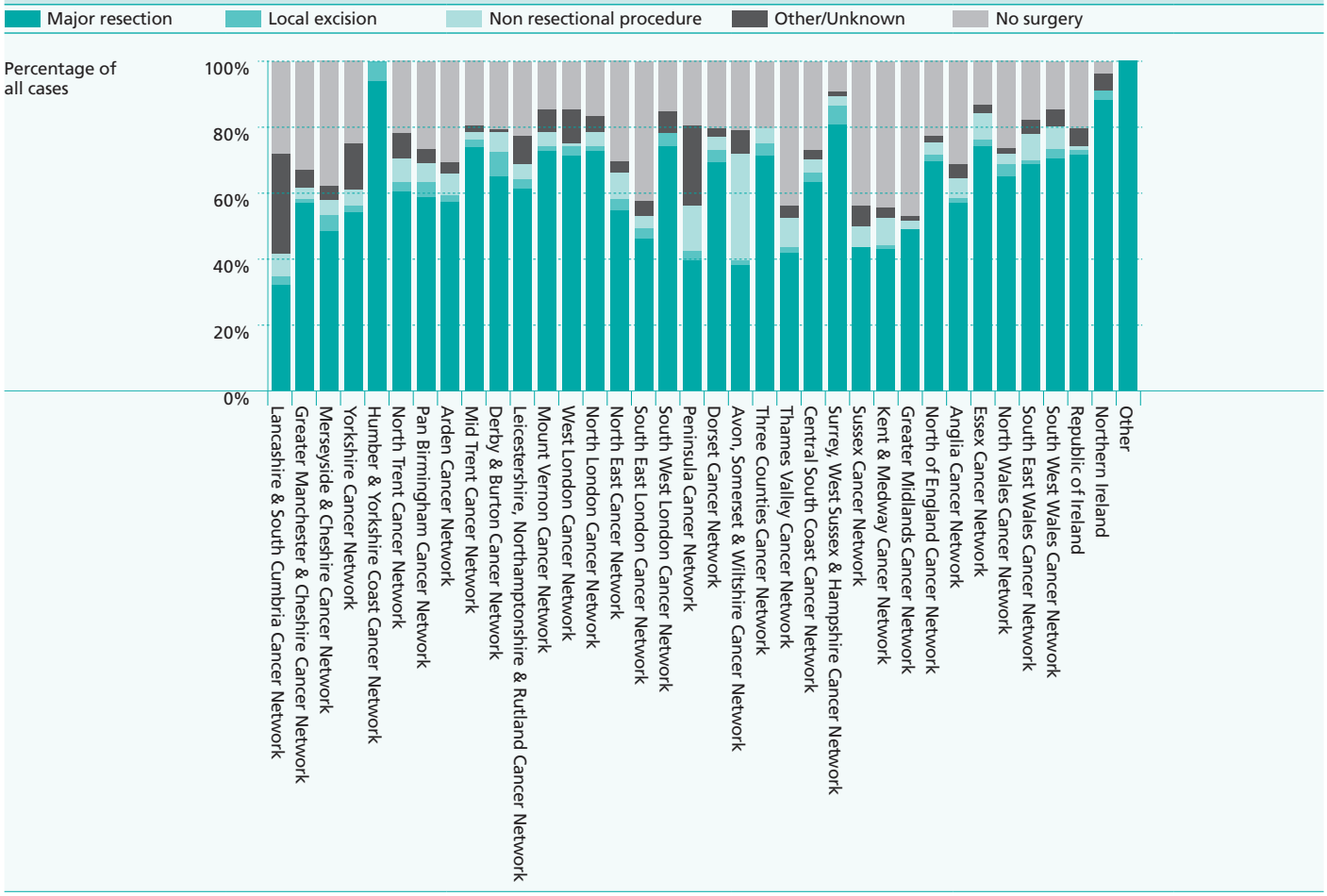
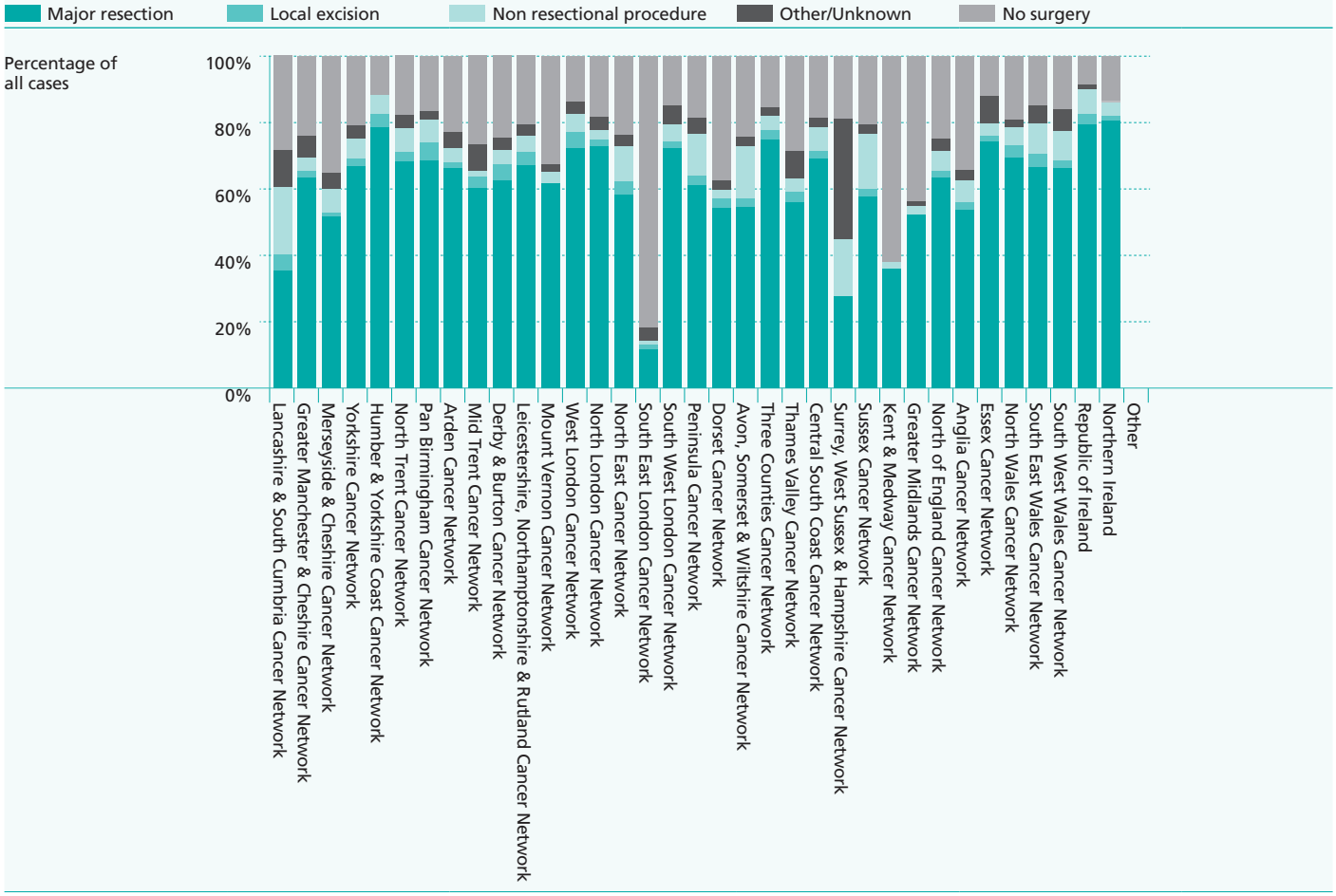


Figure 7
Operations used by Cancer Network – 2007/8 reporting period



Use of laparoscopic procedures in colorectal cancer surgery

Audit finding

The proportion of major resections of colorectal cancer completed laparoscopically in the 2006/7 reporting period was 8.3 per cent and, in the 2007/8 data collection period, 17.2 per cent. The reported conversion rate remains constant at 23 per cent.

Standard

NICE guidance states that laparoscopic surgery (including laparoscopically assisted surgery) is recommended as an alternative to open surgery for people with colorectal cancer if:

- both laparoscopic and open surgery are suitable for the person and their condition

ACPGBI Guidelines for the Management of Colorectal Cancer 2007 recommended that: All laparoscopic colorectal operations should be performed by surgeons properly trained in colorectal surgery who have also undergone preceptorship laparoscopic training, particularly in rectal procedures. Their results should be carefully monitored.

Background

Laparoscopic techniques for resection of colorectal cancer were slow to be adopted within the UK. The initial concerns, over the adequacy of resection and the frequency of local recurrence, have proved unfounded and the use of laparoscopy has now been sanctioned by NICE. Major efforts have been directed at training in laparoscopic techniques but there is general acceptance of the need for further training in this area.

Methods

The field in the dataset entitled SURGICAL_ACCESS was used to distinguish between patients treated via laparoscopic or open surgery. Patients were allocated into three groups; laparoscopic completed, laparoscopic converted and open surgery. Those patients for whom this field was not completed were assumed to have undergone an open procedure. The denominator for this analysis was all patients who underwent a major resection.

Results

There was a significant increase in the proportion of patients receiving some form of laparoscopic surgery over the two reporting periods with the proportion increasing from 10.8 per cent in 2006/7 to 22.5 per cent in 2007/8 (table 16).

The proportion of procedures that were laparoscopic at the outset but were subsequently converted to open procedures remained constant over the two reporting periods at around 23 per cent.

Figure 8 shows there was considerable variation in the number of laparoscopic procedures by Cancer Network.

Discussion

The number of cases of colorectal cancer treated laparoscopically is increasing. In the future, completion of the pathological variables within the audit should allow detailed comparisons to be made with open surgery. Some concerns have been raised over laparoscopic rectal surgery and these too could be addressed. The technical difficulties encountered within the pelvis, often related to the instrumentation, may reveal an increase in complications.

It is hoped that the National Audit can address some of these issues in 2010 or 2011. The reported audit data shows that the number of resections completed laparoscopically varied substantially between Cancer Networks, ranging from 3 per cent to 40 per cent.

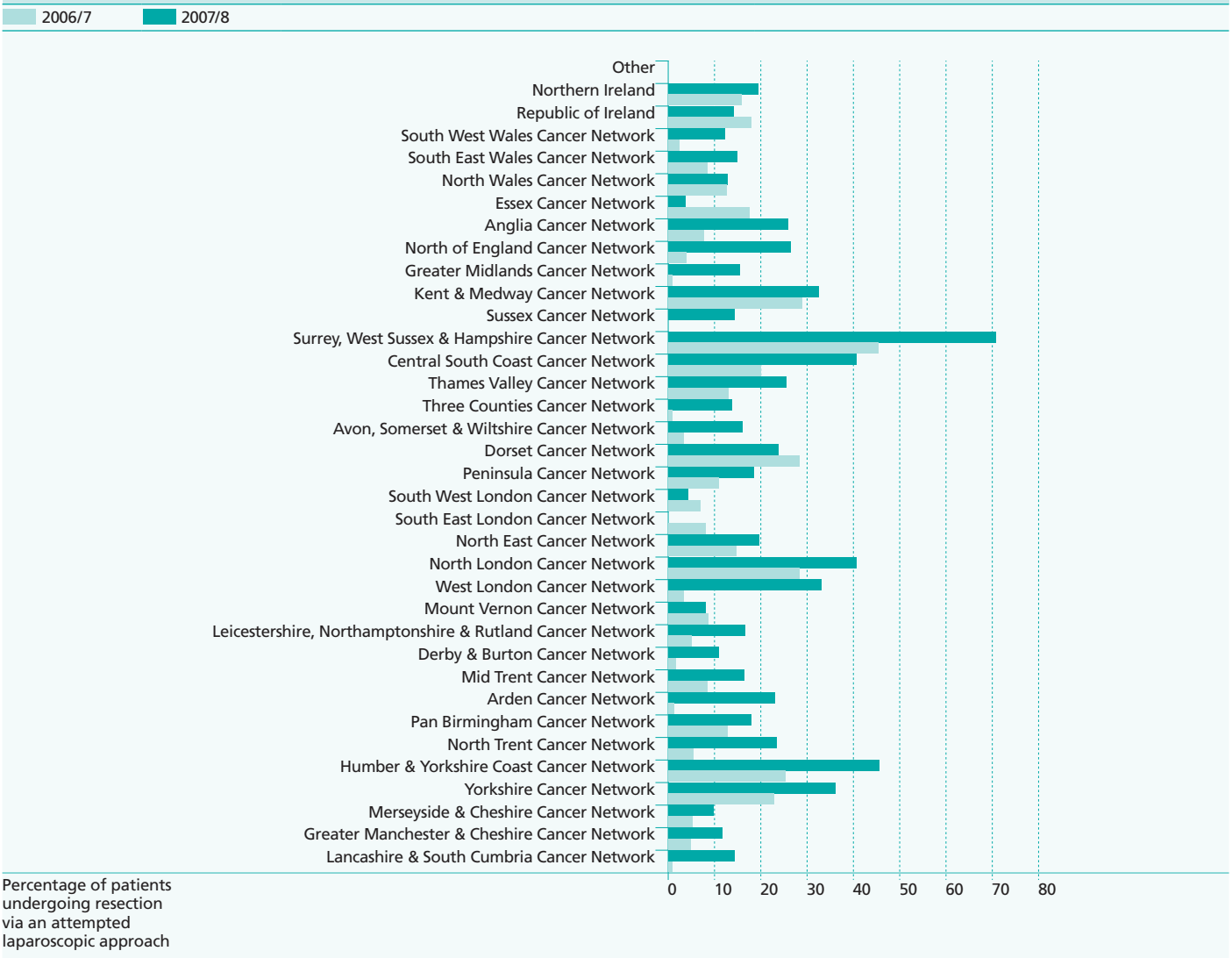
Recommendation

Trusts should ensure adherence to the ACPGBI guideline and NICE recommendations for the use of laparoscopic surgery and preceptorship training.

Table 16
Proportion of major resections performed laparoscopically

Approach to surgery	2006/7		2007/8		Total	
	n	%	n	%	n	%
Open/Unknown	11,254	89.2	9,469	77.5	**20,723**	**83.5**
Laparoscopic completed	1,047	8.3	2,098	17.2	**3,145**	**12.7**
Laparoscopic converted	311	2.5	649	5.3	**960**	**3.9**

Figure 8
Proportion of major resections performed laparoscopically by Cancer Network



Rates of abdominoperineal excision of the rectum and anus (APER)

Audit finding

The APER rate was 16.6 per cent for the 2007/8 reporting period. There was considerable variation in the use of this procedure across Cancer Networks.

Standard

NICE guidance states that APER rates should be kept to a minimum. The permanent stoma rate is therefore used as measure of quality of surgical care.

The ACPGBI guidance recommended that: The overall proportion of rectal cancers treated by APER should be less than 30 per cent.

Background

APER is a valid operation for tumours of the low rectum and in patients where it is felt that the functional results obtained with a low restorative resection would significantly affect quality of life. The Audit's findings are in keeping with recent publications which have shown a wide variation in the use of APER by unit and Network.

Methods

Patients undergoing APER operations were identified from the field in the dataset entitled PRIMARY_PROCEDURE_NAME. In this analysis the denominator was all patients coded as possessing a rectal tumour who underwent a major resection.

It is of note, however, that a number of patients with tumours at other sites within the bowel were also coded as receiving APERs (Table 17).

As this operation is only used for tumours within the rectum this suggests there are errors in the coding of either tumour site or the operative procedure undertaken. In addition, when comparisons of the types of rectal cancer operations used across Networks were undertaken (Figures 9 and 10 overleaf) some networks appeared to have a very low proportion undergoing anterior resection, Hartmann's procedure and APERs on their rectal cancer patients. As these operations form the mainstay of rectal cancer surgery it seems that there may, again, be a problem with the coding of procedures.

Results

The reported rate of APER would appear to have fallen from 23.8 per cent to 16.6 per cent across the two reporting periods (table 18). This figure, lower than expected, will be reported again in the 2010 report. Analysis by Cancer Network has shown a wide variation of APER rates from over 40 per cent to 6 per cent.

Discussion

Although APER rates by Trust and Network are receiving increasing interest and are the subject of much debate these audit findings demonstrate the difficulty of gaining accurate figures for this procedure. Analysis of the numbers of reported cases by Cancer Network reveal both gross incomplete and under-reporting of surgical procedures for rectal cancer. It is imperative that future audits capture complete and accurate date on surgical procedures for rectal cancer, particularly where it involves a permanent stoma. The reported audit data shows that the APER rates varied substantially between Cancer Networks, ranging from 0 per cent to 33 per cent.

Recommendation

Trusts and Networks should review local APER rates in relation to the NICE standard and the findings of this report.

Table 17
Numbers of cases undergoing APER

Tumour site	Other	APER	Total
Colon	24,755	45	**24,800**
Rectosigmoid	3,502	33	**3,535**
Rectum	11,585	1,297	**12,882**
Unknown	206	9	**215**
Total	**40,048**	**1,384**	**41,432**

Table 18
Use of APER amongst those patients coded as having rectal cancer and listed as undergoing a major surgical resection

Surgery type	2006/7		2007/8		Total	
	n	%	n	%	n	%
Other	2,504	76.2	2,595	83.4	**5099**	**79.7**
APER	782	23.8	515	16.6	**1297**	**20.3**
Total	**3,286**	**100**	**3,110**	**100**	**6,396**	**100**

Figure 9
APER rates by Cancer Network (2006/7)

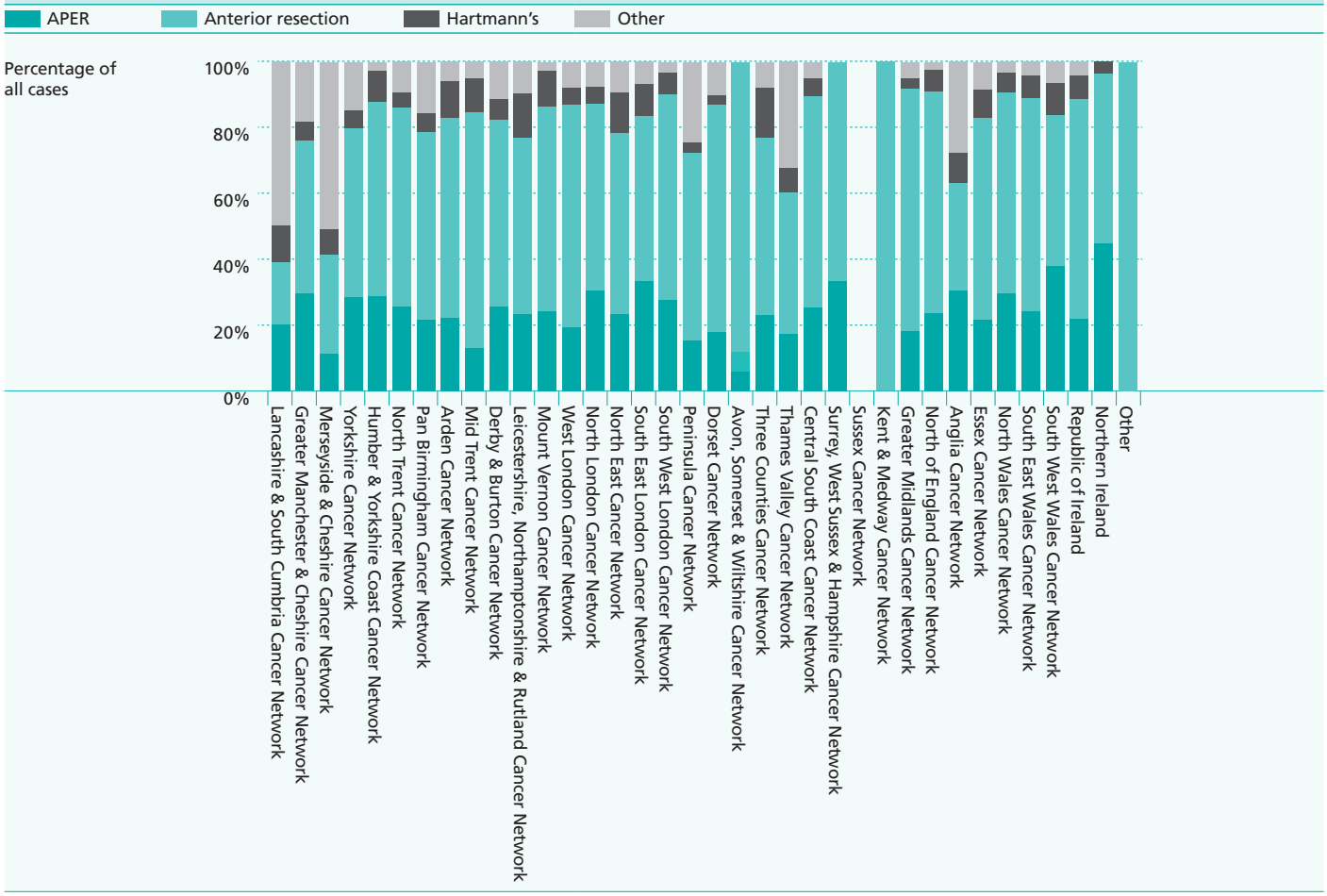
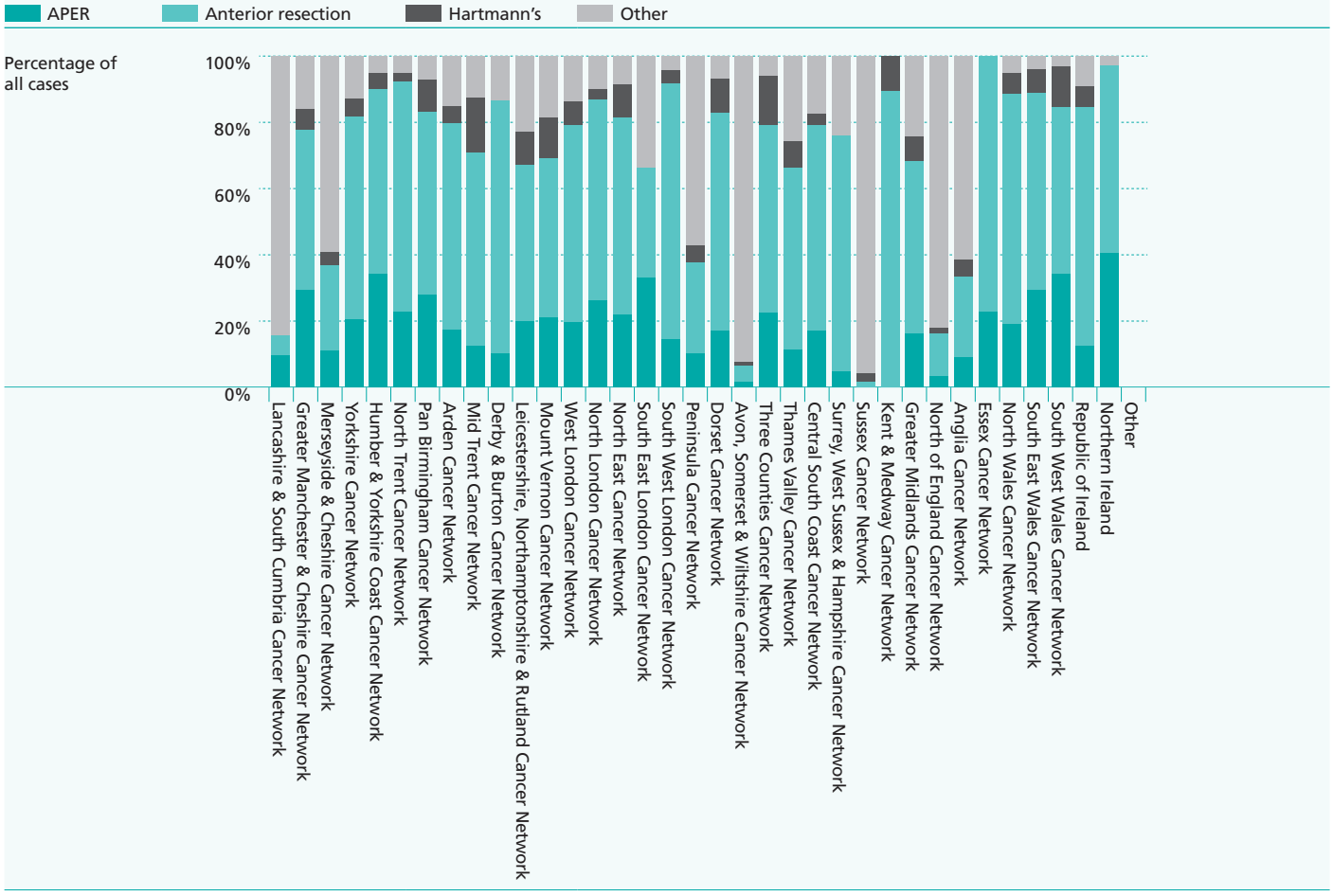


Figure 10
APER rates by Cancer Network (2007/8)



Permanent stoma rates for rectal cancer

Audit finding

Permanent stomas were performed in 34 per cent of cases of rectal cancer in the 2007/8 reporting period.

Standard

NICE guidance states that a reduced rate of stoma formation is likely to improve quality of life for individual patients and reduce long-term costs to the NHS.

Background

As well as APER, other procedures will leave a patient with rectal cancer with a permanent stoma. Included in this group would be Hartmann's procedures and low anterior resections with a loop stoma which is never closed or fashioned post-operatively because of a poor functional result. Some would suggest that for low rectal tumours an ultra-low Hartmann's procedure could be performed which obviates the need for a perineal wound, particularly following pre-operative radiotherapy. It therefore seems sensible to try and estimate the rate of permanent stoma within this group of patients.

Methods

In these analyses the proportion of rectal cancer patients who received either a Hartmann's procedure, an APER or who were coded as receiving a permanent stoma in the field STOMA_PROCEDURE were determined. The denominator was all rectal cancer patients who underwent a major resection.

Results

The percentage of rectal cancer patients who received a permanent stoma dropped over the two study periods from 37.6 per cent, in the 2006/7 reporting period, to 33.8 per cent in the 2008/9 reporting period, with an overall rate of 35.7 per cent (Table 19). There was a significant variation in the permanent stoma rate between Cancer Network (Figure 11).

Discussion

The incidence of permanent stoma in patients with rectal cancer remains high but is probably realistic when one considers the factors such as pre-operative treatment, level of tumour, age of patient and deficient sphincter function. As it stands the audit is unable to ascertain the true incidence of "permanent" stomas due to incomplete data entry. There will be temporary stomas that are not closed and variance in the denominator between Trusts. It will be for future audits to try and explain the reasons for any variation seen either over time or between Networks. The reported audit data shows that the permanent stoma rates varied substantially between Cancer Networks, ranging from 3 per cent to 51 per cent.

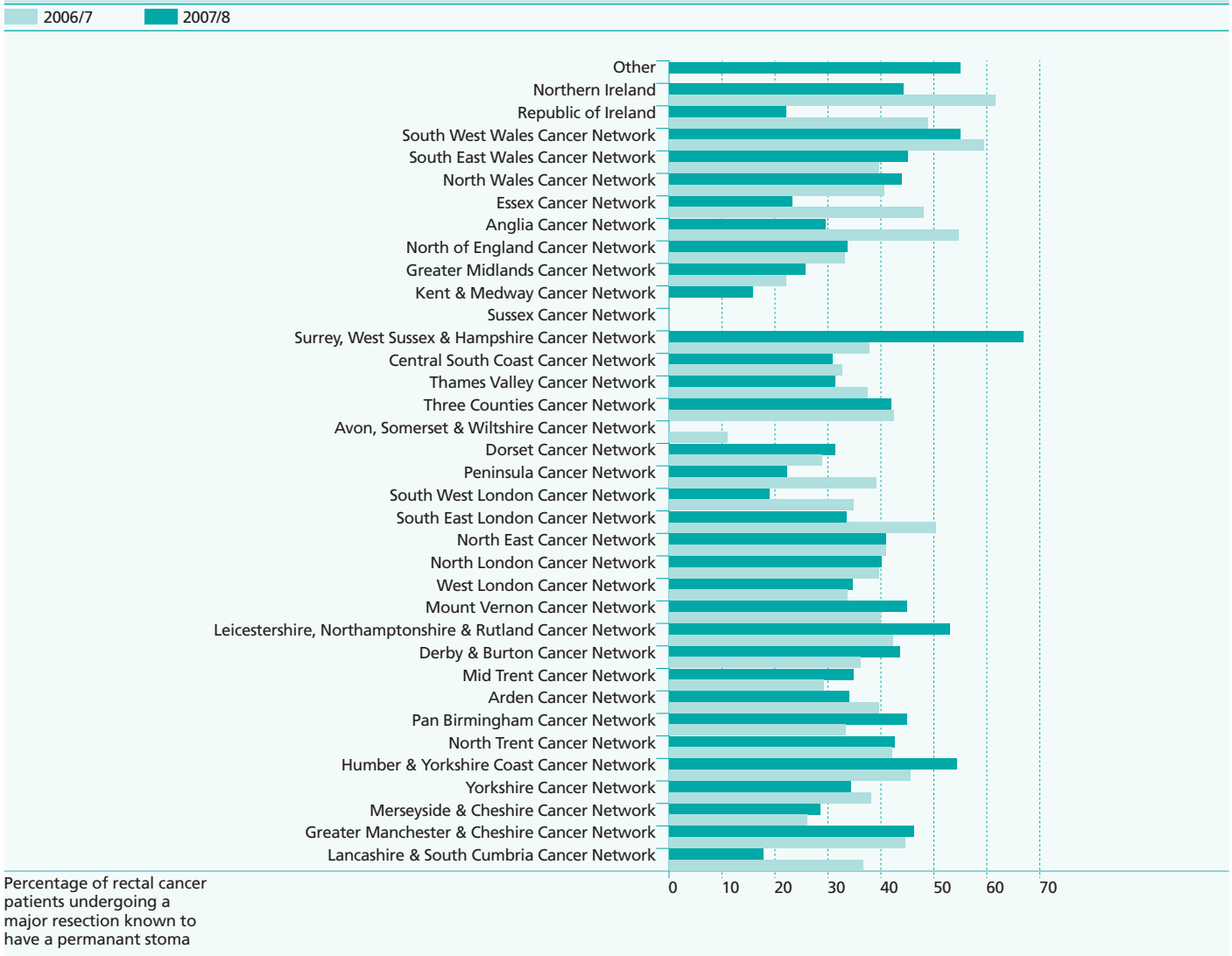
Recommendation

Trusts and Networks need to review their stoma rates in conjunction with the findings of the report and take steps to ensure that procedures resulting in permanent stoma are used appropriately.

Table 19
Permanent stoma rates within patients with rectal cancer

Permanent stoma	2006/7		2007/8		Total	
	n	%	n	%	n	%
No/Unknown	2,052	62.4	2,058	66.2	**4,110**	**64.3**
Stoma	1,234	37.6	1,052	33.8	**2,286**	**35.7**
Total	**3,286**	**100**	**3,110**	**100**	6,396	100

Figure 11
Permanent stoma rates amongst rectal cancer patients by Cancer Network



Post-operative mortality

Audit finding

The post-operative 30-day mortality was 4.3 per cent in the 2007/8 period.

Standard

ACPGBI Guidelines for the Management of Colorectal Cancer 2007 recommended that: Surgeons should expect to achieve an operative mortality of less than 20 per cent for emergency surgery and less than 7 per cent for elective surgery for colorectal cancer.

Background

The Audit has focussed on post-operative mortality as an important measure of quality of care. It is relatively easy to record and measure but it is unsafe to use for comparative audit without adjustment for case mix. It is the principal outcome measurement most susceptible to misuse and misreporting.

It is also important to emphasise that a single year's post-operative mortality is not always an accurate measure of the quality of care provided. There are natural year on year variations and four to five years of high quality data may be required before one can reliably quantify the significance of observed differences between Trusts. Performance should, therefore, be assessed on the basis of several years of good quality data, which will insure against the risk of falsely identifying a unit as providing sub-optimal care.

Methods

Death within 30-days of surgery was used to define post-operative mortality. Patients for whom no date of surgery was available or where an incorrect date of surgery had been supplied (eg, date of surgery was after the date of death) were excluded. The denominator for the analyses was all patients who underwent any form of surgical intervention.

Cases submitted to Open Exeter are automatically populated with dates of death. This should ensure that mortality information is complete for the entire patient cohort within the audit. A small number of Trusts did not submit their data into the Open Exeter system and for these organisations the date of death data has not been validated.

To identify whether any Trusts had outlying rates of 30-day mortality, funnel plots were constructed. All Trusts were included in the analysis irrespective of their level of case ascertainment or data completeness. Multiple imputation was undertaken (using a two level model of patients clustered within Trusts) to take account of missing values. Models were constructed both without any adjustment for case mix and with adjustment for the five case mix variables previously shown to be related to operative mortality (age, urgency of procedure, Dukes' stage, ASA grade and excision.)

Results

Overall post-operative mortality rates continue to decrease (from 7.04 per cent in 2001 to 4.3 per cent in 2008). This may be due to a number of factors including better selection of patients who will tolerate and obtain benefit from major surgery, improvements in service infrastructure to provide optimal post-operative care and better surgical technique.

Variation in post-operative mortality by cancer network is shown in Figure 13. All-cause 30-day mortality for the period 1 April 2006 to 31 July 2008 was calculated at 4.5 per cent (Table 20). The all-cause 30-day mortality rate for elective/scheduled procedures was 3.0 per cent and for urgent/emergency procedures was 10.8 per cent.

Figure 14 shows the unadjusted 30-day mortality rates. One Trust in the risk-adjusted analysis was identified as having operative mortality rates outside the 99 per cent confidence limits (Figure 15). This outlying Trust is known to have poor data quality with an exceptionally low number of patients with advanced stage disease, emergency surgery and poor ASA reporting. A review of the accuracy of the data supplied by this Trust is underway.

Discussion

It may be stating the obvious but accurately auditing 30-day post-operative mortality requires both a date for surgery and an accurate, validated date of death. This information was frequently missing from the data submitted. Accepting these problems, the observed all-cause mortality rates continue to fall when compared with previous annual reports. The observation of a four-fold increase in mortality for cases operated in the emergency/urgent setting only serves to emphasise the importance of risk-adjustment of these figures. Previous work from the audit has identified five variables that allow risk-adjusted mortality and particular attention needs to be paid to accurate recording of these factors.

Recommendation

Trusts and networks should review local mortality rates against the ACPGBI guidance in conjunction with the findings of the audit.

Figure 12
Unadjusted post-operative mortality rates over the last six reporting periods

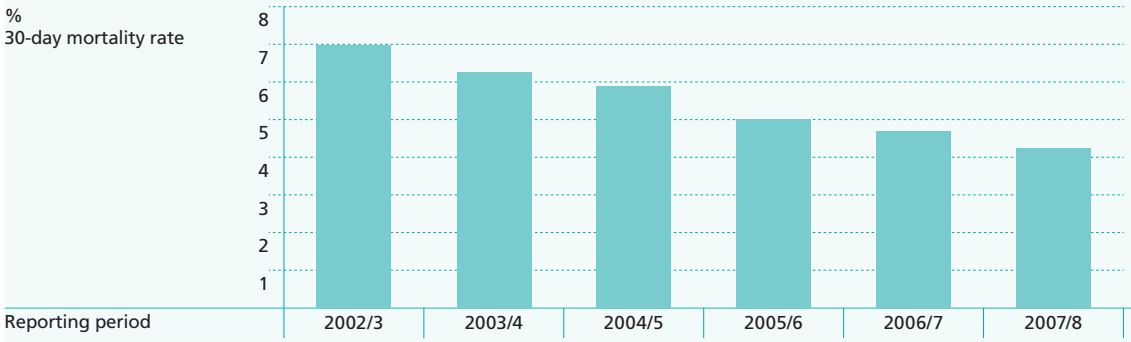
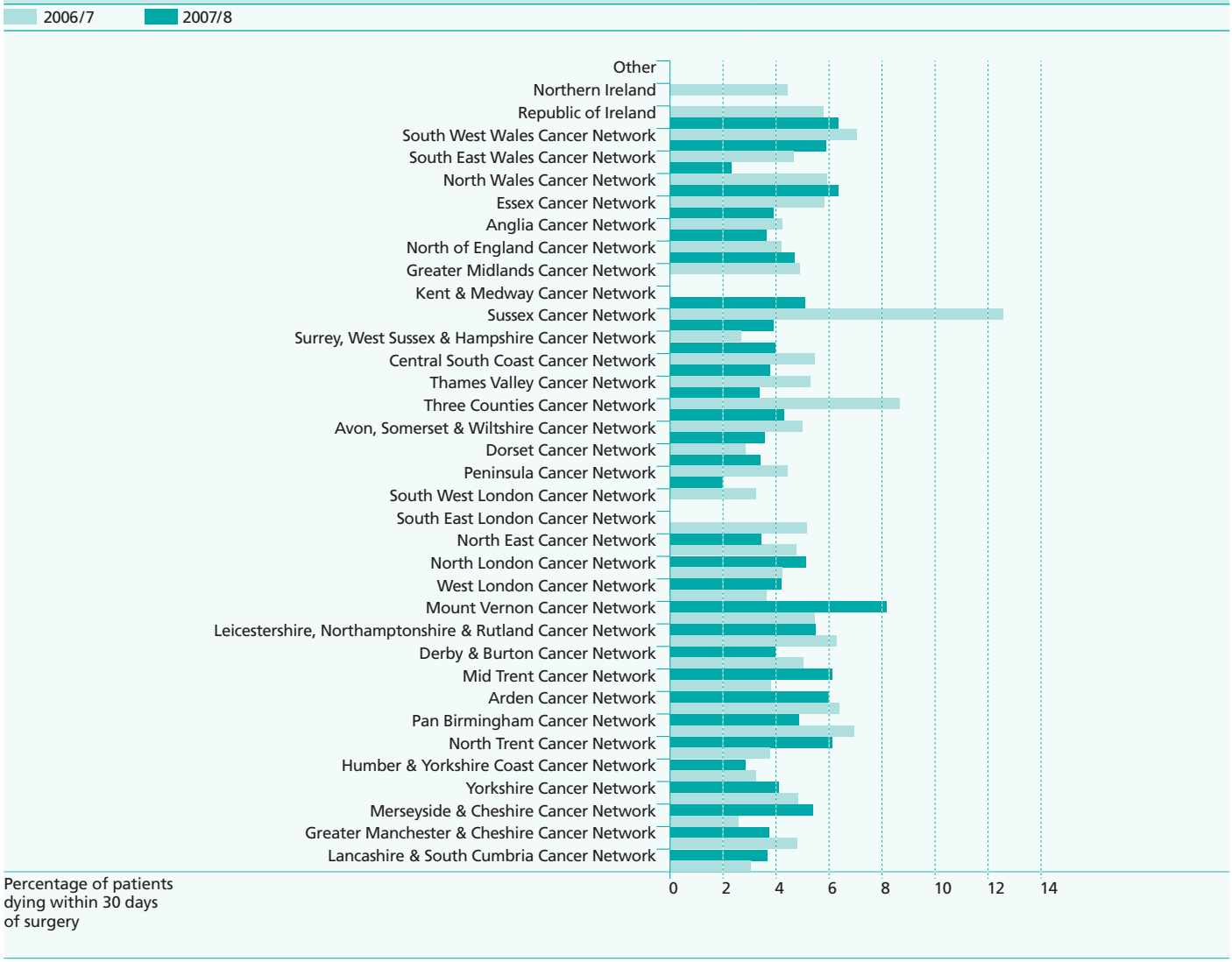


Table 20
Status at 30-days post-surgical intervention

Status at 30-days post-surgical intervention	2006/7		2007/8		Total	
	n	%	n	%	n	%
Alive	13,037	95.2	12,834	95.7	**25,871**	**95.5**
Dead	659	4.8	574	4.3	**1,233**	**4.5**
Total	**13,696**	**100.0**	**13,408**	**100.0**	**27,104**	**100.0**

Figure 13
Mortality by Cancer Network (unadjusted)



NB. Sussex Cancer Network only submitted 16 cases for the audit period 2006/7 and operative mortality could only be calculated amongst 8 patients. One patient died within 30-days of surgery, hence, their seemingly high operative mortality.

Figure 14
Unadjusted 30-day mortality (all Trusts) 2006/8

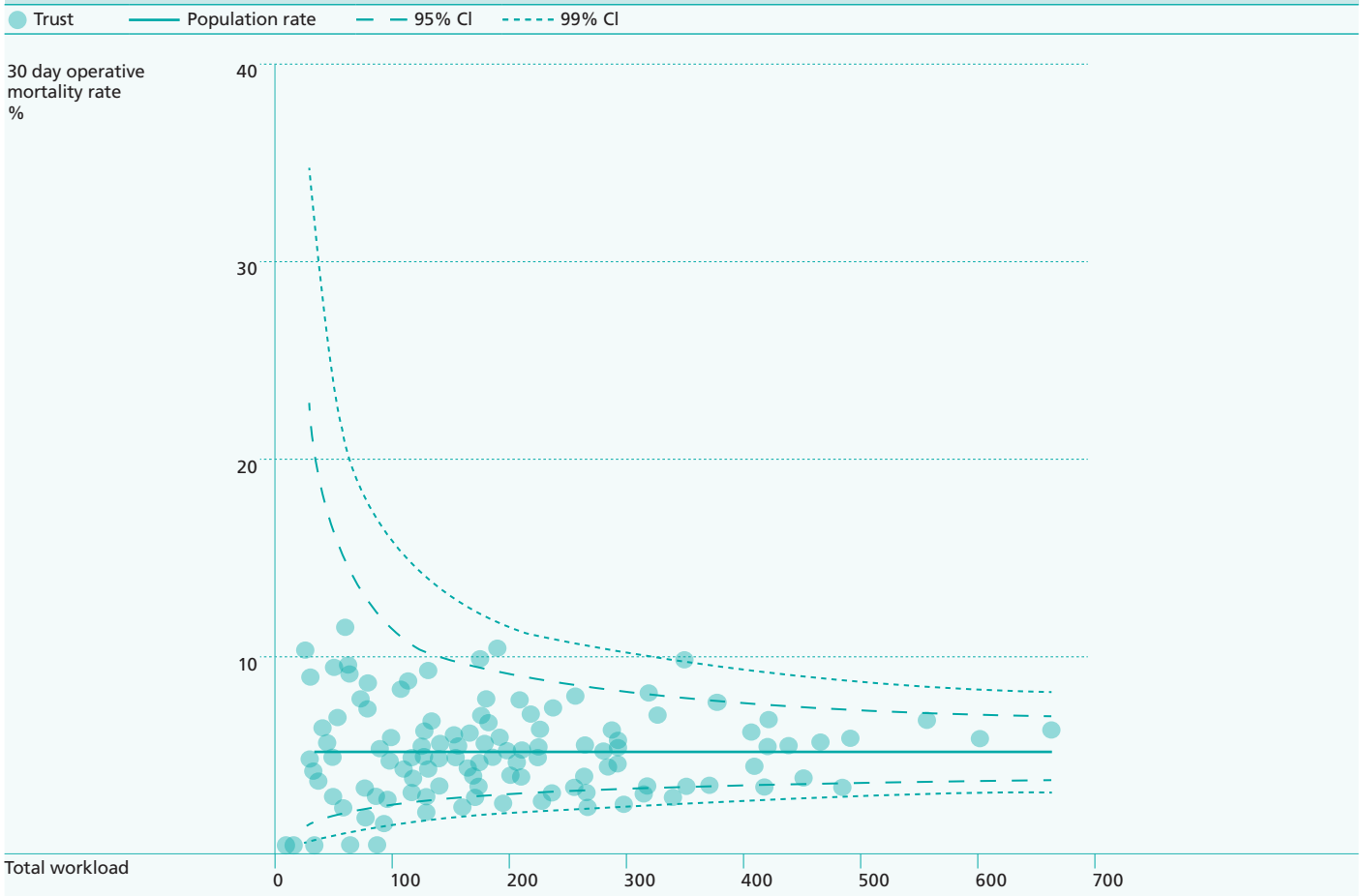
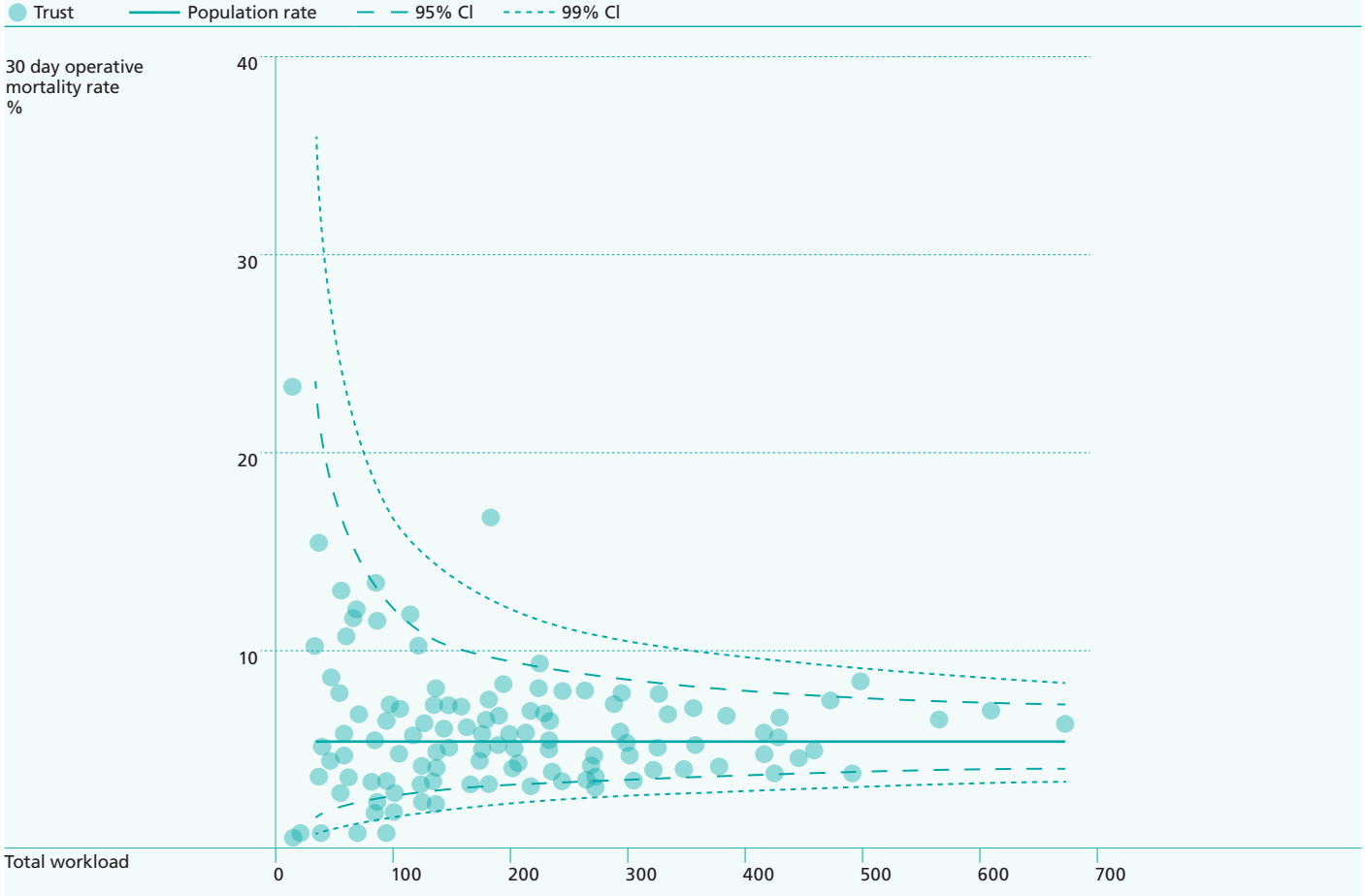


Figure 15
Adjusted 30-day mortality (all Trusts) 2006/8



Reporting of status of circumferential resection margins in rectal cancer

Audit finding

The circumferential margin status was reported in 58 per cent of cases in 2007/8.

Background

The proportions of cases having an involved circumferential resection margin (CRM), after surgery is a surrogate marker of the quality of care rectal cancer patients receive. The CRM positive rate will reflect how accurately patients have been selected for pre-operative chemo-radiotherapy and the quality of surgery. It has also been shown to be an indicator of the risk of local recurrence, a much more difficult parameter to measure.

Methods

The field CIRCUMFERENTIAL_MARGINS was used to determine the number of patients for whom this data item was reported. The denominator for the analyses was all rectal cancer patients who underwent a major resection (including urgent/emergency procedures).

Results

The status of the circumferential margins was reported for 56.9 per cent of rectal cancer patients who underwent a major resection for their disease. This proportion increased from 55.7 per cent in the 2006/7 reporting period to 58.2 per cent in the 2007/8 reporting period. This data item was poorly completed with no mention of CRM status in over 40 per cent of cases. Amongst those cases where data were provided the CRM positivity rate was 10.3 per cent (Table 21).

Discussion

This variable has been poorly recorded by Trusts. The status of the margin is the responsibility of the pathologist but the feedback that this gives to other members of the MDT is of great importance in maintaining the quality of pre-operative imaging, surgical endeavours and the integrated working of the MDT.

Recommendation

Pathologists should record the status of the circumferential rectal resection margin in all cases of rectal cancer.

Table 21
Status of circumferential margin on pathology report of major resections of rectal cancer

CRM status	2006/7		2007/8		Total	
	n	%	n	%	n	%
Negative	1,630	49.6	1,635	52.6	3,265	51.0
Positive	201	6.1	174	5.6	375	5.9
Not reported	1,455	44.3	1,301	41.8	2,756	43.1

Reporting of extramural vascular invasion

Audit finding

Extramural vascular invasion on resected specimens was seen in 26 per cent of cases where this feature was reported. The presence or absence was not reported in almost one third of specimens in the latter of the two reporting periods.

Background

It is estimated that extramural vascular invasion should be seen in at least 20 per cent of resected bowel cancer specimens. This data item, along with others such as margin involvement and nodal count, has been identified by the Royal College of Pathologists as being important when reporting on resected specimens of colorectal cancer.

Methods

The field EXTRAMURAL_VASCULAR_INVASION was used to determine the proportion of cases in which this pathological feature was found. As extramural vascular invasion can only be found during pathological examination of resected tumours, the denominator for these analyses was those individuals who underwent a major resection for their disease.

Results

Of those cases where a comment was made on extramural vascular invasion, it was found to be present 26.0 per cent of the time. Non-reporting rates were high at 25.2 per cent overall (Table 22).

Discussion

The full significance of extramural vascular invasion for clinical practice and adjuvant therapy has still to be determined.

Recommendation

The presence or absence of extramural vascular invasion should be reported on all resected specimens.

Table 22
Proportion of cases with a comment on extramural vascular invasion and whether present or absent.

Extramural Vascular Invasion	2006/7		2007/8		Total	
	n	%	n	%	n	%
Negative	7,600	60.3	6,135	50.2	**13,735**	**55.3**
Positive	2,426	19.2	2,401	19.7	**4,827**	**19.4**
Not reported	2,586	20.5	3,680	30.1	**6,266**	**25.2**

Median number of nodes obtained and identified following major excision

Audit finding

Nodal harvest was at an acceptable level with a median of 15.1 nodes and a mean of 14 nodes retrieved over the two reporting periods.

Standard

NICE guidance states that the histopathologist should search for as many lymph nodes as possible in the excised specimen and the number found should be audited. 12 or more nodes should normally be examined and if the median number is consistently below 12 the surgeon and histopathologist should discuss their techniques.

Background

Nodal harvest will be affected by the mode and nature of the surgery and whether or not the patient had pre-operative radiotherapy (see www.riskprediction.org.uk). It is well recognised, however, that seeking the highest nodal count possible will ensure optimal staging and allow for the most accurate estimation of clinical outcome.

Methods

The number of lymph nodes retrieved from each patient is recorded in the field NO_OF_LYMPH_NODES_FOUND.

Results

The mean number of lymph nodes retrieved has increased throughout the audit (Figure 16). The percentage of Trusts achieving the required median of 12 nodes per resected specimen was 78.6 per cent. Although there was some variation across Cancer Networks the majority were achieving the required standard (Figure 17). The median number of nodes per procedure is shown in Figure 18 and the effect of mean nodal account in those receiving radiotherapy is shown in Figure 19.

Discussion

Nodal harvest is well reported in the audit and good nodal counts are being observed. Particular difficulties may well be encountered as more cases have pre-operative neoadjuvant therapy. This should be evaluated in future audits.

Recommendation

Trusts should ensure adherence to the NICE guidance of removing and examining a median of 12 lymph nodes from their resected surgical specimens.

Figure 16
Mean nodal count by year of Audit Report

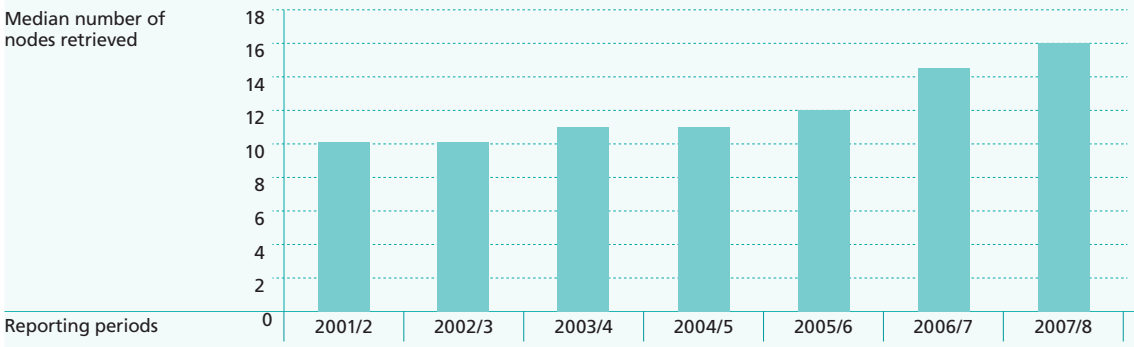


Figure 17
Median number of nodes retrieved across networks

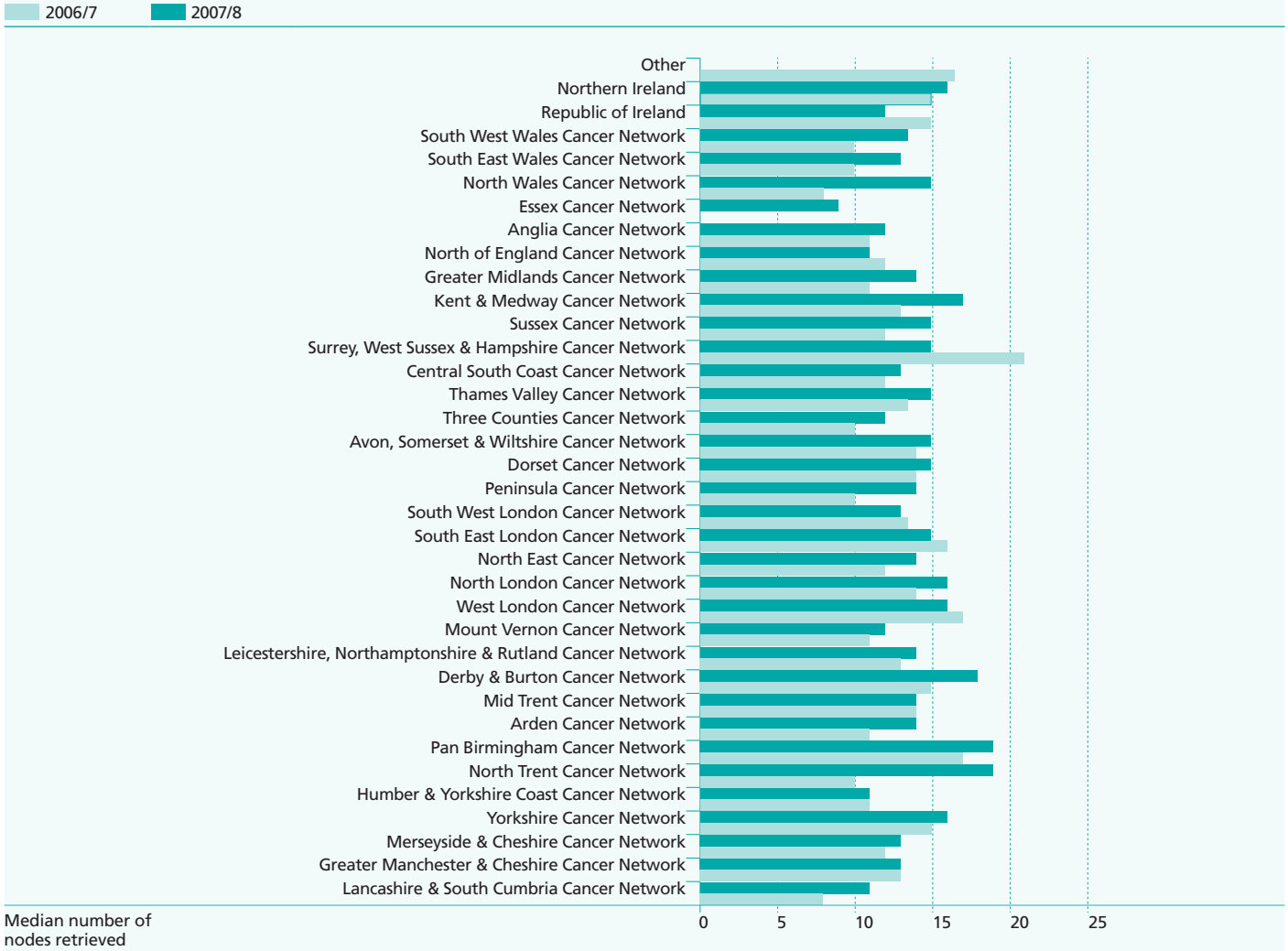


Figure 18
Median number of nodes obtained by operative procedure (2006/8)

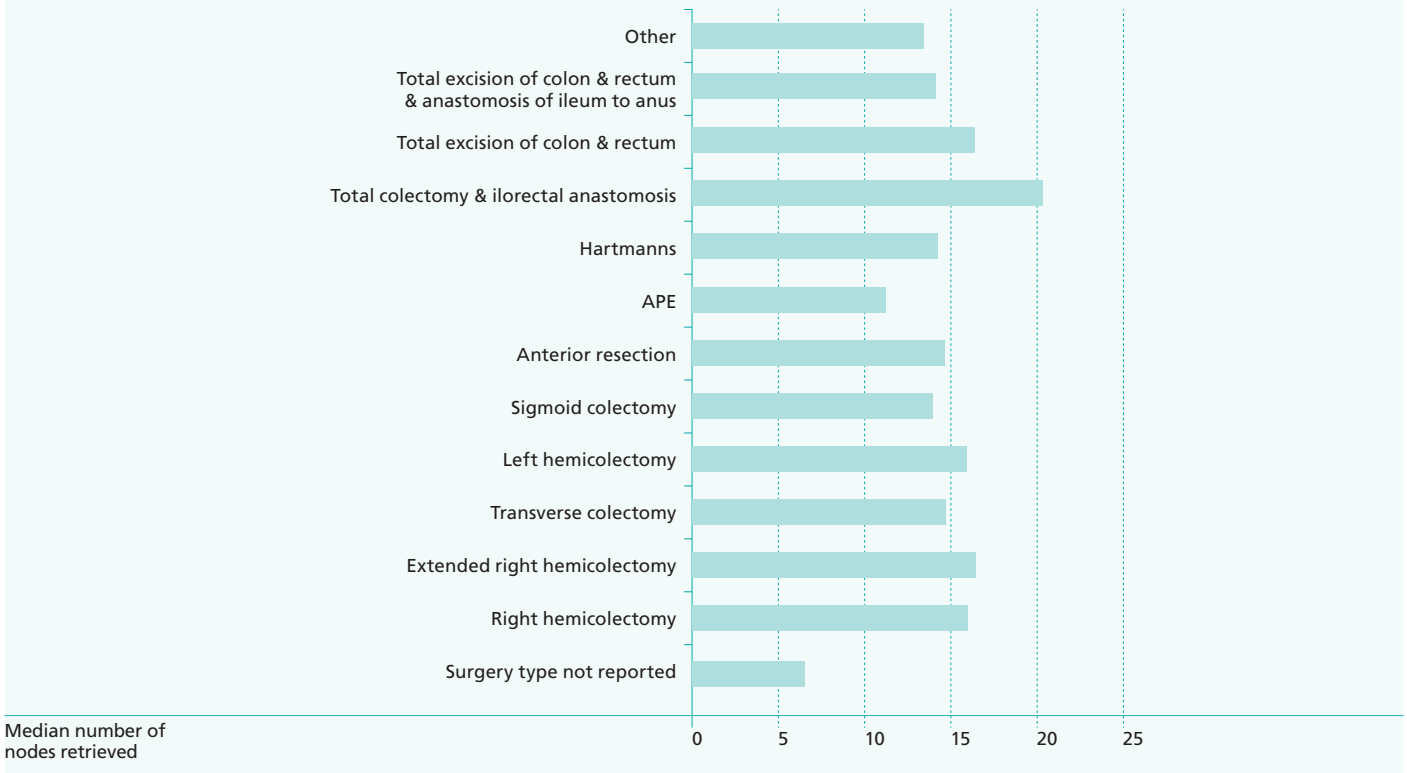
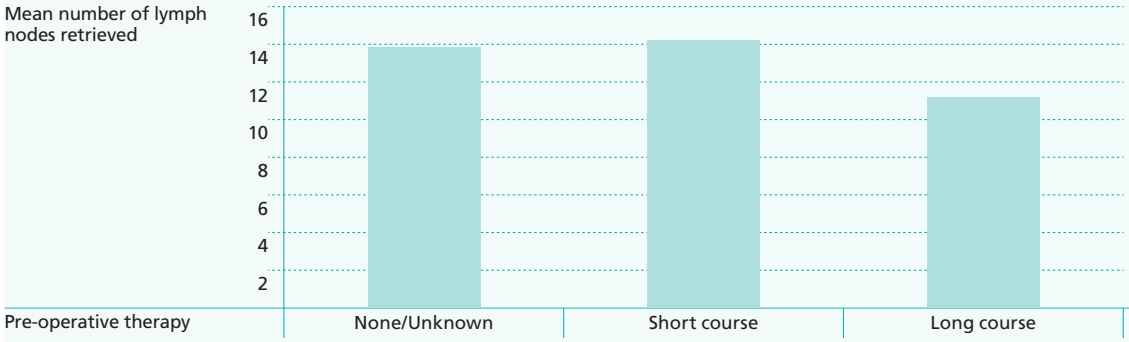


Figure 19
Mean number of nodes detected following radiotherapy (2006/8)



Post-operative length of stay (LOS)

Audit finding

The median unadjusted post operative length of stay following resection of a colorectal tumour was 9 days

Background

LOS is probably a valid surrogate marker of the quality of care. Shorter stays will depend on better selection of patients for major surgery, by good pre-operative staging, colonic stenting in patients with disseminated disease presenting with large bowel obstruction, the introduction of laparoscopic surgery and enhanced recovery programmes.

Methods

LOS was defined as the number of days between the surgical intervention and the date of discharge from hospital (or death if the patient died in hospital). Patients were excluded from the analysis if their LOS exceeded one year or if the date of discharge/death was reported as being prior to the date of surgery or diagnosis.

Results

Median LOS overall for the period 1 April 2006 to 31 July 2008 was 9 days with a range of 7 to 11 days across the Cancer Networks (Figure 20). The figures reported are not adjusted for casemix.

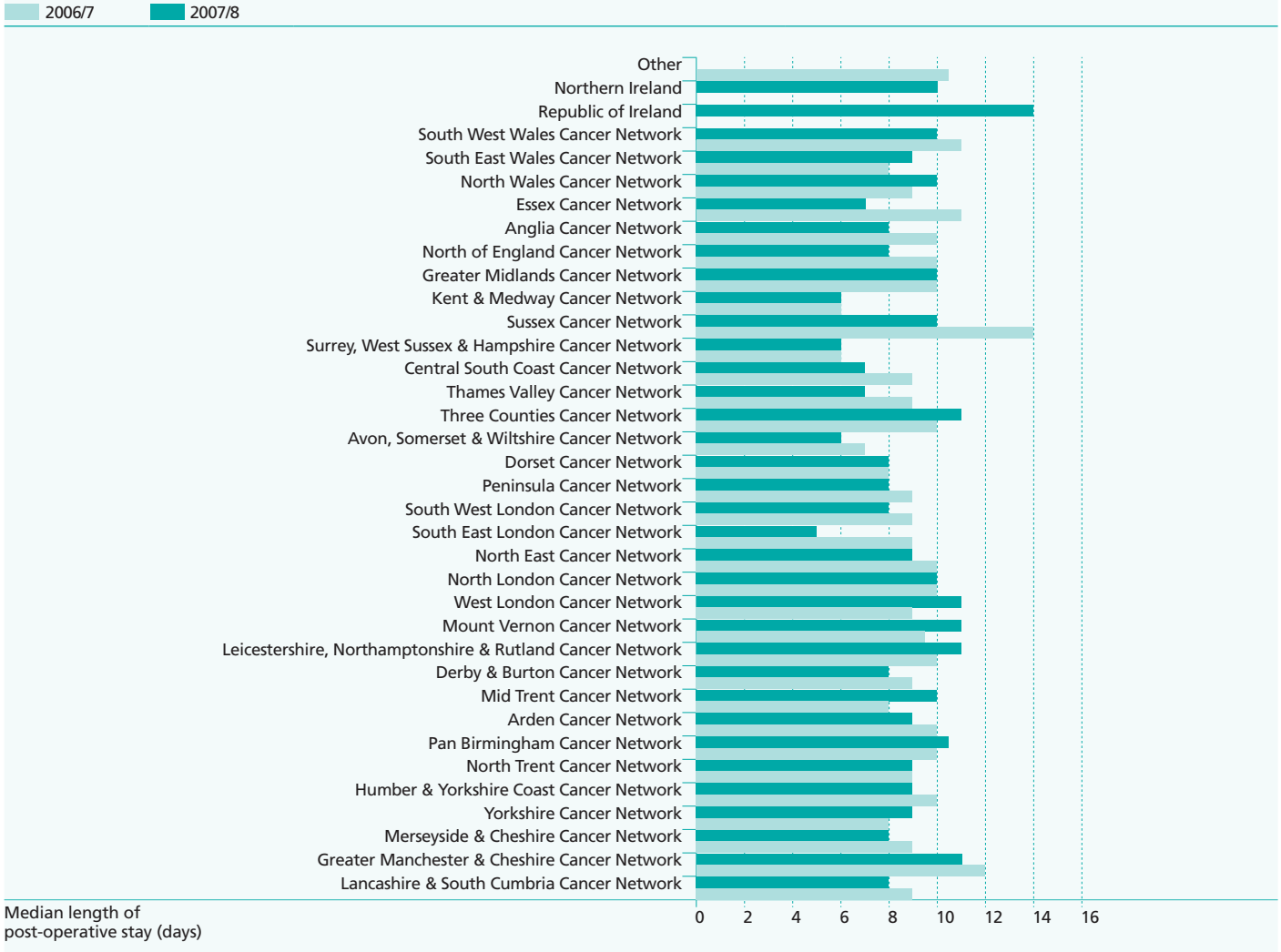
Discussion

There are several initiatives contributing to the reduction in length of stay and equally considerable variations across Cancer Networks. The Audit should seek to document in the next few years the adoption of well-proven patterns of care that will serve to reduce length of stay.

Recommendation

Trusts and MDTs should review the provision of those aspects of service which help to reduce the length of stay following resection of colorectal cancers.

Figure 20
Unadjusted length of stay by Cancer Network



Summary

Throughout this audit report there has been an emphasis on the difficulty of interpretation of the results of the analyses because of incomplete data submission. This is in spite of the very real improvements in participation, and case ascertainment. With the introduction of colorectal MDTs throughout the country it seems appropriate that these are the correct fora for ensuring accurate and complete data submission and, on receipt of the report, discussing the local results in light of the national findings. Contained within Appendices 3 and 4 are examples of how the results are discussed locally (Leicester) and how data is captured (Portsmouth and Swansea). Whilst not being the only way that complete data can be obtained or local action plans discussed, they serve as a guide for further improvements within the National Bowel Cancer Audit.

Local Action Plans

As an integral part of participation in the audit, Trusts should discuss the national audit results with their local teams and develop local action plans to improve the quality of care. As part of the National Bowel Cancer Audit, the National Cancer Audit Support Programme (NCASP) has been tasked by the Healthcare Quality Improvement Partnership (HQIP) to produce an action planning toolkit to help support Cancer Networks in converting national audit data into changes in clinical practice and outcomes.

Local action plans can be used to identify areas for data collection and clinical practice that may fall below national standards and need improvement. Local action plans have the potential to convert local audit data into important changes in practice and thereby close the audit loop.

NCASP intend to provide local action plans purely as a toolkit to facilitate service improvement. The implementation of this is the remit of the hospitals, Trusts and Networks concerned. Local action plans will be linked to both peer review and the annual health check in the near future. There is also potential for using the results in conjunction with the Clinical Negligence Scheme for Trusts (CNST).

The National Bowel Cancer Audit has developed local action plans based on the recommendations of the 2009 Annual Report (Appendix 5).

An example of how the colorectal team in Leicester has already started to discuss the national audit data locally and disseminate best practice is detailed in the Appendix.

Appendices

Appendix 1: Summary of 2006/7 data

Key: **MR** – Number of patients estimated/reported as undergoing a major resection **ST** – Number of patients reported as receiving any surgical treatment
OM – Number of patients eligible to be included in operative mortality calculations **LOS** – Number of patients eligible to be included in length of stay calculations

Organisation	Estimated expected number		Number submitted							
			All cases					Rectal tumours		
	Total	MR	Total	ST	MR	OM	LOS	Total	ST	MR
Lancashire & South Cumbria Cancer Network										
University Hospitals of Morecambe Bay NHS Trust	**233**	187	**132**	90	53	67	40	**50**	27	12
Blackpool, Fylde and Wyre Hospitals NHS Foundation Trust	**235**	188	**188**	135	33	125	5	**70**	38	7
Lancashire Teaching Hospitals NHS Foundation Trust	**220**	176								
East Lancashire Hospitals NHS Trust	**253**	203	**152**	115	67	100	39	**82**	55	25
Greater Manchester & Cheshire Cancer Network										
The Mid Cheshire Hospitals NHS Trust	**125**	100	**1**	1	0	1	1	**1**	1	0
Christie Hospital NHS Foundation Trust	**25**	20	**50**	28	15	26	26	**20**	10	5
East Cheshire NHS Trust	**105**	84	**1**	1	1	0	1	**0**	0	0
University Hospitals of South Manchester NHS Foundation Trust	**135**	108	**162**	119	101	117	117	**44**	29	25
Salford Royal NHS Foundation Trust	**128**	103	**83**	69	59	63	65	**18**	15	12
Trafford Healthcare NHS Trust	**87**	69								
Bolton Hospitals NHS Trust	**158**	127	**194**	121	110	119	108	**56**	31	29
Tameside and Glossop Acute Services NHS Trust	**127**	101	**166**	71	61	57	70	**48**	22	16
Wrightington, Wigan and Leigh NHS Trust	**168**	135	**2**	2	2	2	2	**0**	0	0
Central Manchester University Hospitals NHS Foundation Trust	**87**	69	**38**	33	26	11	26	**13**	13	8
Pennine Acute Hospitals NHS Trust	**463**	371	**96**	82	77	79	77	**28**	22	18
Stockport NHS Foundation Trust	**203**	163	**8**	6	6	6	6	**2**	2	2
Merseyside & Cheshire Cancer Network										
Wirral University Teaching Hospital NHS Foundation Trust	**225**	180	**193**	147	126	138	131	**42**	30	21
St Helens and Knowsley Hospitals NHS Trust	**182**	145	**200**	154	127	83	114	**68**	42	27
Aintree University Hospitals NHS Foundation Trust	**220**	176	**3**	1	1	1	1	**1**	0	0
Clatterbridge Centre For Oncology NHS Foundation Trust			**213**	0	0	0	0	**113**	0	0
Countess of Chester Hospital NHS Foundation Trust	**113**	91	**139**	102	78	98	99	**24**	16	12
Royal Liverpool and Broadgreen University Hospitals NHS Trust	**205**	164	**229**	184	128	177	4	**68**	48	26
Southport and Ormskirk Hospital NHS Trust	**158**	127	**161**	133	113	113	125	**0**	0	0
Warrington and Halton Hospitals NHS Foundation Trust	**207**	165	**196**	98	78	85	82	**72**	45	30
Yorkshire Cancer Network										
Bradford Teaching Hospitals NHS Foundation Trust	**205**	164	**117**	93	79	90	91	**41**	32	24
York Hospitals NHS Foundation Trust	**232**	185	**282**	211	87	130	187	**77**	50	17
Harrogate and District NHS Foundation Trust	**123**	99	**96**	89	81	84	78	**32**	29	26
Airedale NHS Trust	**122**	97	**77**	70	68	67	66	**17**	15	15
Leeds Teaching Hospitals NHS Trust	**400**	320	**407**	295	235	244	32	**145**	100	65
Calderdale and Huddersfield NHS Foundation Trust	**202**	161	**156**	114	97	113	106	**55**	39	36
Mid Yorkshire Hospitals NHS Trust	**333**	267	**210**	109	91	103	88	**69**	27	22
Humber & Yorkshire Coast Cancer Network										
Northern Lincolnshire and Goole Hospitals NHS Foundation Trust	**233**	187	**1**	1	1	1	0	**0**	0	0
Hull and East Yorkshire Hospitals NHS Trust	**323**	259	**251**	249	237	184	198	**77**	76	66
Scarborough & North East Yorkshire Health Care NHS Trust	**142**	113								
North Trent Cancer Network										
Barnsley Hospital NHS Foundation Trust	**142**	113	**39**	1	1	1	0	**15**	1	1
Chesterfield Royal Hospital NHS Foundation Trust	**178**	143								
The Rotherham NHS Foundation Trust	**127**	101	**19**	19	19	19	19	**8**	8	8
Sheffield Teaching Hospitals NHS Foundation Trust	**322**	257	**142**	129	96	0	0	**48**	43	23
Doncaster and Bassetlaw Hospitals NHS Foundation Trust	**297**	237	**38**	33	28	33	15	**11**	11	11
Pan Birmingham Cancer Network										
Walsall Hospitals NHS Trust	**170**	136	**67**	63	58	60	56	**34**	31	27
Heart of England NHS Foundation Trust	**443**	355	**343**	265	222	251	239	**109**	81	59
University Hospital Birmingham NHS Foundation Trust	**455**	364	**297**	182	148	164	170	**92**	55	44
Sandwell and West Birmingham Hospitals NHS Trust	**202**	161	**165**	119	93	103	63	**53**	42	24

	Data completeness %						Outcomes %												
Age	Excision	Urgent	ASA	Supplied Dukes	Derived Dukes	MDT	Nurse	CT All	CT ST	MRI All	MRI ST	Preop RT	Urgent or Emergency	APER	Stoma	EMVI	Median no. of nodes	CRM	Median LOS (days)
100	62.2	70.0	47.8	11.4	43.2	78.0	4.5	37.1	45.6	52.0	70.4	3.7	25.6	25.0	66.7	30.2	8	58.3	8
100	27.4	43.0	2.2	19.1	20.2	54.3	0.0	1.1	0.7	10.0	7.9	0.0	10.4	28.6	42.9	0.0	10	0.0	10
100	60.9	43.5	9.6	21.7	21.7	58.6	25.7	13.2	13.0	35.4	43.6	0.0	32.2	16.0	20.0	1.5	18	12.0	10
100	0.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0	0.0	22
100	53.6	100.0	96.4	56.0	88.0	78.0	52.0	92.0	89.3	90.0	100.0	45.5	3.6	0.0	20.0	13.3	15	80.0	13
100	100.0	100.0	100.0	100.0	100.0	100.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	11	0.0	14
100	85.7	100.0	82.4	74.7	77.2	2.5	2.5	80.9	84.0	56.8	72.4	69.0	13.4	56.0	72.0	20.8	16	92.0	12
100	91.3	95.7	46.4	39.8	86.7	95.2	50.6	59.0	58.0	94.4	93.3	0.0	21.7	41.7	66.7	18.6	11	0.0	11
100	90.9	99.2	95.9	76.3	84.0	1.5	0.0	0.5	0.0	0.0	0.0	0.0	24.0	34.5	41.4	0.0	12	82.8	11
100	90.1	94.4	54.9	11.4	36.7	89.2	37.3	44.0	90.1	29.2	50.0	45.5	8.5	6.3	37.5	0.0	10	0.0	12
100	100.0	100.0	100.0	100.0	100.0	0.0	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	13	0.0	8
100	81.8	3.0	93.9	86.8	89.5	10.5	28.9	73.7	69.7	0.0	0.0	0.0	0.0	0.0	0.0	30.8	15	0.0	18
100	96.3	100.0	97.6	78.1	90.6	70.8	69.8	66.7	65.9	46.4	54.5	8.7	30.5	16.7	27.8	16.9	10	88.9	13
100	100.0	66.7	83.3	25.0	75.0	87.5	87.5	75.0	83.3	50.0	50.0	0.0	16.7	50.0	50.0	0.0	13	0.0	7
100	89.8	89.8	77.6	24.9	73.6	92.7	55.4	22.3	22.4	52.4	60.0	26.7	15.0	9.5	28.6	14.3	13	52.4	8
100	90.3	98.7	88.3	77.0	77.5	98.5	63.5	0.0	0.0	0.0	0.0	11.1	36.4	11.1	22.2	17.3	11	48.1	9
100	100.0	100.0	100.0	0.0	66.7	100.0	33.3	66.7	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	21	0.0	10
100	0.0	0.0	0.0	3.3	3.3	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0
100	80.4	99.0	97.1	66.2	68.3	98.6	0.0	1.4	2.0	0.0	0.0	35.3	23.5	16.7	16.7	0.0	15	100.0	8
100	78.8	87.5	84.8	42.4	51.1	88.2	53.3	0.4	0.5	1.5	2.1	32.0	26.1	0.0	3.8	18.0	16	65.4	17
100	93.2	100.0	91.7	76.4	91.3	100.0	82.0	100.0	100.0	0.0	0.0	0.0	9.0	0.0	0.0	16.8	13	0.0	10
100	86.7	96.9	55.1	24.5	51.5	99.0	3.6	44.9	36.7	0.0	0.0	6.7	18.4	20.0	50.0	17.9	10	26.7	10
100	88.2	98.9	97.8	23.1	83.8	41.0	85.5	80.3	78.5	87.8	87.5	37.5	5.4	8.3	20.8	36.7	17	66.7	8
100	41.7	87.2	87.2	3.9	67.4	94.7	62.8	64.2	64.5	79.2	84.0	0.0	24.2	29.4	29.4	28.7	11	17.6	8
100	95.5	100.0	97.8	85.4	93.8	99.0	99.0	92.7	93.3	81.3	86.2	75.9	11.2	15.4	23.1	37.0	14	88.5	9
100	97.1	100.0	97.1	74.0	97.4	98.7	90.9	88.3	87.1	100.0	100.0	26.7	5.7	60.0	80.0	48.5	20	93.3	8
100	83.1	58.0	12.5	48.9	62.9	40.5	25.8	8.6	11.9	2.8	4.0	0.0	4.1	33.8	36.9	8.5	18	7.7	10
100	85.1	100.0	99.1	76.3	89.1	25.0	22.4	90.4	89.5	76.4	76.9	27.5	11.4	30.6	50.0	18.6	14	86.1	9
100	84.4	98.2	95.4	56.2	69.0	77.6	41.9	55.2	76.1	46.4	77.8	35.7	17.4	22.7	36.4	28.6	12	90.9	9
100	100.0	100.0	0.0	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	18	0.0	0
100	99.6	99.6	80.3	94.8	98.8	83.3	85.3	59.8	59.8	87.0	86.8	68.4	14.9	28.8	45.5	22.8	11	90.9	10
100	100.0	100.0	0.0	17.9	20.5	89.7	20.5	10.3	100.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0	0.0	0
100	100.0	100.0	100.0	15.8	100.0	100.0	84.2	73.7	73.7	25.0	25.0	62.5	15.8	37.5	50.0	15.8	8	0.0	9
100	79.8	86.0	0.0	66.9	73.9	2.1	0.7	0.7	0.0	2.1	0.0	0.0	10.9	13.0	30.4	0.0	0	0.0	0
100	84.8	100.0	84.8	44.7	57.9	13.2	0.0	60.5	63.6	63.6	63.6	27.3	3.0	45.5	54.5	10.7	18	18.2	8
100	93.7	100.0	98.4	7.5	82.1	91.0	89.6	9.0	9.5	5.9	6.5	32.3	12.7	25.9	33.3	22.4	15	59.3	9
100	91.7	95.5	73.6	34.4	81.6	62.1	39.9	64.1	63.4	47.7	56.8	43.5	21.9	20.3	33.9	44.1	20	30.5	9
100	83.0	85.2	88.5	8.8	60.3	90.2	63.3	6.7	7.7	2.2	1.8	23.6	15.4	18.2	31.8	48.6	17	75.0	11
100	87.4	56.3	47.1	57.0	76.4	95.8	90.9	51.5	57.1	26.4	28.6	13.6	10.1	25.0	33.3	9.7	14	16.7	11

Organisation	Estimated expected number		Number submitted							
			All cases					Rectal tumours		
	Total	MR	Total	ST	MR	OM	LOS	Total	ST	MR
Arden Cancer Network										
South Warwickshire General Hospitals NHS Trust	**158**	127	**170**	125	114	123	124	**52**	35	27
University Hospitals Coventry and Warwickshire NHS Trust	**272**	217	**305**	177	149	168	172	**118**	72	52
George Eliot Hospital NHS Trust	**115**	92	**74**	59	51	48	50	**18**	15	12
Worcestershire Acute Hospitals NHS Trust	**368**	295	**28**	22	20	21	20	**10**	9	8
Mid Trent Cancer Network										
Sherwood Forest Hospitals NHS Foundation Trust	**190**	152	**113**	100	96	64	88	**39**	31	30
United Lincolnshire Hospitals NHS Trust	**445**	356	**2**	2	2	2	1	**1**	1	1
Nottingham University Hospitals NHS Trust	**397**	317	**474**	370	340	327	341	**174**	113	97
Derby & Burton Cancer Network										
Burton Hospitals NHS Trust	**150**	120	**33**	23	22	23	23	**31**	23	22
Derby Hospitals NHS Foundation Trust	**260**	208	**301**	242	197	235	235	**108**	85	56
Leicestershire, Northamptonshire & Rutland Cancer Network										
Kettering General Hospital NHS Trust	**172**	137	**110**	79	22	56	58	**32**	21	9
Northampton General Hospital NHS Trust	**177**	141	**85**	84	77	82	72	**26**	26	24
University Hospitals of Leicester NHS Trust	**455**	364	**541**	406	355	341	352	**162**	118	91
Mount Vernon Cancer Network										
Luton and Dunstable Hospital NHS Foundation Trust	**125**	100	**83**	62	49	60	0	**33**	26	23
West Hertfordshire Hospitals NHS Trust	**212**	169	**165**	156	126	0	0	**63**	59	47
East and North Hertfordshire NHS Trust	**245**	196	**270**	222	205	215	216	**85**	70	61
West London Cancer Network										
The Hillingdon Hospital NHS Trust	**95**	76	**110**	93	85	89	8	**32**	25	22
Ealing Hospital NHS Trust	**55**	44	**4**	4	4	4	4	**1**	1	1
West Middlesex University Hospital NHS Trust	**62**	49	**120**	120	89	78	52	**27**	27	19
Chelsea and Westminster Hospital NHS Foundation Trust	**62**	49	**88**	60	53	45	47	**17**	9	8
North West London Hospitals NHS Trust	**227**	181	**5**	4	4	4	4	**1**	1	1
Imperial College Healthcare NHS Trust	**182**	145								
North London Cancer Network										
Royal Free Hampstead NHS Trust	**93**	75	**103**	89	83	73	83	**20**	18	16
The Whittington Hospital NHS Trust	**75**	60	**7**	7	7	7	7	**1**	1	1
University College London Hospitals NHS Foundation Trust	**67**	53	**133**	108	90	26	61	**32**	25	18
Barnet and Chase Farm Hospitals NHS Trust	**187**	149	**282**	225	203	154	172	**79**	58	51
The Princess Alexandra Hospital NHS Trust	**127**	101								
North Middlesex University Hospital NHS Trust	**68**	55								
North East London Cancer Network										
Barking, Havering and Redbridge Hospitals NHS Trust	**337**	269	**278**	161	136	157	109	**82**	32	24
Whipps Cross University Hospital NHS Trust	**105**	84	**98**	81	68	81	16	**30**	25	19
Newham University Hospital NHS Trust	**50**	40	**4**	1	1	0	0	**1**	0	0
Barts and The London NHS Trust	**95**	76	**34**	29	25	8	6	**8**	8	8
Homerton University Hospital NHS Foundation Trust	**40**	32	**95**	73	52	68	60	**31**	22	13
South East London Cancer Network										
Queen Elizabeth Hospital NHS Trust	**103**	83	**115**	79	63	35	0	**30**	17	7
Bromley Hospitals NHS Trust	**122**	97	**8**	0	0	0	0	**4**	0	0
Queen Mary's Sidcup NHS Trust	**90**	72	**21**	0	0	0	0	**7**	0	0
Guy's and St Thomas' NHS Foundation Trust	**65**	52								
The Lewisham Hospital NHS Trust	**63**	51	**95**	58	48	36	42	**37**	21	18
King's College Hospital NHS Foundation Trust	**68**	55	**83**	47	38	45	42	**12**	7	5

Data completeness %						Outcomes %													
Age	Excision	Urgent	ASA	Supplied Dukes	Derived Dukes	MDT	Nurse	CT All	CT ST	MRI All	MRI ST	Preop RT	Urgent or Emergency	APER	Stoma	EMVI	Median no. of nodes	CRM	Median LOS (days)
100	92.0	99.2	97.6	0.6	85.3	99.4	0.0	0.6	0.8	0.0	0.0	0.0	18.4	40.7	51.9	27.2	12	100.0	13
100	87.0	91.0	93.2	10.8	60.3	89.5	59.7	36.1	36.2	7.6	8.3	3.9	12.4	17.3	36.5	28.2	11	80.8	9
100	89.8	94.9	78.0	31.1	78.4	81.1	55.4	62.2	61.0	38.9	40.0	26.7	16.9	8.3	25.0	29.4	17	91.7	9
100	90.9	100.0	31.8	46.4	92.9	92.9	28.6	89.3	90.9	90.0	88.9	0.0	18.2	12.5	37.5	25.0	17	0.0	13
100	96.0	100.0	100.0	11.5	86.7	99.1	98.2	80.5	86.0	71.8	87.1	51.6	14.0	20.0	46.7	47.9	14	100.0	11
100	100.0	100.0	50.0	100.0	100.0	100.0	50.0	100.0	100.0	100.0	100.0	0.0	0.0	0.0	0.0	50.0	13	0.0	3
100	95.4	99.5	71.4	81.4	87.3	99.8	97.9	81.0	81.4	73.6	79.6	50.0	18.9	11.3	23.7	49.4	15	3.1	8
100	95.7	17.4	0.0	78.8	78.8	84.8	0.0	84.8	87.0	90.3	91.3	95.7	0.0	36.4	45.5	18.2	9	86.4	12
100	90.9	81.8	80.2	80.7	82.4	96.0	70.8	89.4	88.4	77.8	78.8	44.7	13.6	21.4	32.1	29.4	16	80.4	9
100	29.1	39.2	22.8	0.0	45.5	80.9	21.8	0.0	0.0	0.0	0.0	0.0	11.4	11.1	11.1	18.2	13	77.8	10
100	91.7	97.6	92.9	58.8	91.8	83.5	58.8	15.3	14.3	80.8	80.8	46.2	13.1	29.2	41.7	11.7	11	12.5	11
100	92.1	96.6	89.2	83.2	85.0	100.0	51.0	82.1	81.0	74.7	76.3	42.0	22.4	23.1	45.1	34.6	13	86.8	10
100	87.1	75.8	8.1	28.9	33.7	91.6	27.7	43.4	43.5	6.1	7.7	0.0	12.9	43.5	60.9	0.0	13	0.0	0
100	80.8	0.0	76.3	73.9	81.8	97.0	52.1	93.9	93.6	0.0	0.0	20.3	0.0	25.5	31.9	32.5	10	78.7	0
100	92.3	99.5	92.8	91.1	94.4	100.0	95.2	66.7	65.8	0.0	0.0	0.0	14.0	16.4	37.7	15.1	11	75.4	10
100	94.6	100.0	3.2	79.1	82.7	90.0	6.4	6.4	7.5	0.0	0.0	4.0	24.7	18.2	31.8	1.2	7	0.0	14
100	100.0	75.0	75.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	0.0	0.0	25.0	12	100.0	10
98.3	77.5	78.3	85.0	88.3	92.5	100.0	45.8	92.5	92.5	74.1	74.1	37.0	17.5	26.3	42.1	34.8	16	89.5	8
100	90.0	98.3	95.0	50.0	84.1	98.9	93.2	90.9	90.0	64.7	66.7	22.2	20.0	12.5	25.0	34.0	27	25.0	10
100	100.0	75.0	50.0	40.0	100.0	80.0	60.0	80.0	75.0	100.0	100.0	0.0	0.0	0.0	0.0	25.0	12	0.0	11
100	93.3	93.3	48.3	79.6	96.1	99.0	90.3	89.3	87.6	70.0	77.8	50.0	21.3	31.3	43.8	30.1	14	68.8	12
100	100.0	85.7	100.0	14.3	85.7	100.0	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11	100.0	5
100	84.3	89.8	97.2	66.9	88.7	100.0	94.0	93.2	95.4	50.0	48.0	52.0	15.7	11.1	11.1	7.8	16	94.4	12
100	93.8	99.1	68.9	70.2	89.0	98.6	39.7	92.9	93.3	63.3	69.0	35.6	15.1	37.3	49.0	21.7	13	86.3	9
100	88.2	78.9	61.5	42.4	53.6	79.9	36.3	81.3	78.9	53.7	62.5	30.6	13.0	25.0	41.7	6.6	13	54.2	10
100	86.4	98.8	65.4	6.1	71.4	100.0	1.0	86.7	87.7	13.3	12.0	0.0	16.0	26.3	26.3	0.0	12	63.2	10
100	100.0	100.0	100.0	25.0	25.0	100.0	50.0	25.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0
100	89.7	20.7	93.1	14.7	79.4	97.1	61.8	14.7	10.3	25.0	25.0	0.0	3.4	12.5	50.0	40.0	13	12.5	20
100	82.2	100.0	80.8	3.2	71.6	100.0	15.8	12.6	13.7	6.5	9.1	9.1	9.6	23.1	53.8	9.6	14	46.2	12
100	83.5	86.1	62.0	40.0	50.4	96.5	0.0	0.0	0.0	0.0	0.0	0.0	31.6	42.9	42.9	0.0	18	0.0	0
100	0.0	0.0	0.0	75.0	75.0	100.0	12.5	62.5	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0
100	0.0	0.0	0.0	38.1	52.4	100.0	4.8	4.8	0.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0
100	87.9	98.3	86.2	74.7	75.8	94.7	80.0	76.8	74.1	37.8	52.4	4.8	22.4	33.3	55.6	22.9	15	100.0	10
100	87.2	97.9	72.3	43.4	77.1	91.6	59.0	77.1	83.0	41.7	57.1	14.3	31.9	20.0	40.0	34.2	16	0.0	8

Organisation	Estimated expected number		Number submitted							
			All cases					Rectal tumours		
	Total	MR	Total	ST	MR	OM	LOS	Total	ST	MR
South West London Cancer Network										
Mayday Healthcare NHS Trust	**138**	111	**25**	22	20	22	21	**11**	9	8
Kingston Hospital NHS Trust	**185**	148								
St George's Healthcare NHS Trust	**112**	89	**17**	14	11	13	5	**8**	5	3
The Royal Marsden NHS Foundation Trust	**17**	13	**1**	0	0	0	0	**1**	0	0
Epsom and St Helier University Hospitals NHS Trust	**235**	188	**73**	63	56	57	0	**23**	22	18
Peninsula Cancer Network										
South Devon Health Care NHS Foundation Trust	**217**	173	**157**	136	110	131	127	**40**	30	22
Northern Devon Healthcare NHS Trust	**152**	121	**56**	45	23	41	42	**14**	10	1
Royal Cornwall Hospitals NHS Trust	**282**	225	**285**	210	46	198	66	**103**	71	8
Royal Devon and Exeter NHS Foundation Trust	**340**	272	**336**	258	220	250	254	**94**	72	57
Plymouth Hospitals NHS Trust	**283**	227	**317**	271	62	214	163	**89**	68	15
Dorset Cancer Network										
Dorset County Hospital NHS Foundation Trust	**137**	109	**174**	137	124	132	102	**49**	34	29
Poole Hospital NHS Foundation Trust	**182**	145	**207**	166	144	155	141	**50**	37	27
Royal Bournemouth and Christchurch Hospitals NHS Foundation Trust	**215**	172	**278**	213	192	204	187	**75**	52	42
Avon, Somerset & Wiltshire Cancer Network										
Weston Area Health NHS Trust	**127**	101	**114**	86	31	73	41	**40**	25	4
Yeovil District Hospital NHS Foundation Trust	**115**	92	**77**	59	29	53	55	**51**	39	12
University Hospitals Bristol NHS Foundation Trust	**128**	103	**179**	137	65	124	122	**47**	31	10
Taunton and Somerset NHS Foundation Trust	**218**	175	**189**	154	76	148	99	**56**	40	15
Royal United Hospital Bath NHS Trust	**258**	207	**276**	220	106	196	20	**120**	85	18
North Bristol NHS Trust	**302**	241	**293**	231	124	224	116	**100**	71	24
Three Counties Cancer Network										
Hereford Hospitals NHS Trust	**140**	112	**149**	118	109	102	112	**40**	32	26
Gloucestershire Hospitals NHS Foundation Trust	**457**	365	**3**	2	1	2	0	**2**	1	0
Thames Valley Cancer Network										
Heatherwood and Wexham Park Hospitals NHS Foundation Trust	**170**	136	**191**	0	0	0	0	**58**	0	0
Milton Keynes General Hospital NHS Foundation Trust	**98**	79	**39**	26	14	26	18	**16**	12	3
Great Western Hospitals NHS Foundation Trust	**163**	131	**180**	133	87	119	128	**41**	33	15
Oxford Radcliffe Hospitals NHS Trust	**370**	296	**128**	119	101	118	118	**64**	55	42
Buckinghamshire Hospitals NHS Trust	**240**	192	**59**	57	50	39	45	**22**	21	18
Royal Berkshire NHS Foundation Trust	**220**	176								
Central South Coast Cancer Network										
Isle of Wight Healthcare NHS Trust	**112**	89	**130**	106	95	82	97	**39**	29	23
Southampton University Hospitals NHS Trust	**302**	241	**2**	0	0	0	0	**2**	0	0
Portsmouth Hospitals NHS Trust	**327**	261	**485**	371	337	353	353	**136**	101	88
Winchester and Eastleigh Healthcare NHS Trust	**130**	104	**154**	123	115	113	87	**48**	35	31
Basingstoke & North Hampshire NHS Foundation Trust	**128**	103								
Salisbury NHS Foundation Trust	**137**	109	**159**	135	117	125	129	**48**	43	34
Royal West Sussex NHS Trust	**178**	143	**177**	57	44	44	53	**60**	20	14
Surrey, West Sussex & Hampshire Cancer Network										
Royal Surrey County Hospital NHS Trust	**123**	99	**92**	84	75	75	77	**29**	28	24
Frimley Park Hospital NHS Foundation Trust	**170**	136								
Ashford and St Peter's Hospitals NHS Trust	**165**	132								
Surrey and Sussex Healthcare NHS Trust	**150**	120								

	Data completeness %						Outcomes %												
	Age	Excision	Urgent	ASA	Supplied Dukes	Derived Dukes	MDT	Nurse	CT All	CT ST	MRI All	MRI ST	Preop RT	Urgent or Emergency	APER	Stoma	EMVI	Median no. of nodes	CRM	Median LOS (days)
	100	90.9	95.5	31.8	28.0	84.0	88.0	36.0	60.0	54.5	72.7	77.8	0.0	0.0	12.5	25.0	30.0	13	37.5	9
	100	78.6	100.0	71.4	58.8	70.6	88.2	23.5	47.1	50.0	25.0	40.0	0.0	14.3	33.3	66.7	9.1	20	33.3	9
	100	0.0	0.0	0.0	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0
	100	88.9	0.0	0.0	67.1	67.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	33.3	0.0	0	0.0	0
	100	87.5	100.0	100.0	22.3	89.8	99.4	84.7	89.2	89.7	62.5	66.7	20.0	27.2	4.5	36.4	17.3	12	95.5	7
	100	51.1	100.0	95.6	66.1	92.9	100.0	80.4	80.4	82.2	71.4	80.0	0.0	95.6	0.0	0.0	0.0	12	0.0	8
	100	21.9	65.7	28.1	9.1	29.5	79.6	3.2	0.4	0.0	14.6	12.7	0.0	16.7	12.5	12.5	0.0	17	37.5	10
	100	91.1	98.1	58.5	92.9	100.0	97.6	84.5	21.7	24.8	69.1	73.6	19.2	19.0	21.1	49.1	19.5	11	82.5	9
	100	22.9	78.6	8.1	18.6	22.4	91.2	0.9	5.0	5.2	29.2	33.8	0.0	22.1	13.3	20.0	0.0	8	0.0	10
	100	92.7	94.9	86.9	75.9	79.3	53.4	43.7	80.5	79.6	30.6	32.4	5.9	11.7	24.1	27.6	18.5	15	41.4	7
	100	92.8	94.0	72.9	78.7	82.6	95.7	72.0	84.1	86.1	78.0	86.5	8.1	13.3	11.1	33.3	24.3	14	48.1	9
	100	94.8	100.0	92.0	97.5	98.2	2.9	0.0	84.2	84.5	73.3	78.8	14.8	13.6	19.0	26.2	0.0	14	64.3	8
	100	38.4	39.5	46.5	38.6	67.5	63.2	10.5	11.4	8.1	42.5	40.0	0.0	12.8	0.0	0.0	0.0	12	0.0	9
	100	50.8	98.3	94.9	54.5	92.2	89.6	36.4	77.9	78.0	66.7	66.7	5.1	22.0	16.7	16.7	0.0	15	16.7	8
	100	50.4	56.9	32.1	25.1	44.7	91.6	15.6	40.2	37.2	70.2	74.2	0.0	32.1	30.0	40.0	0.0	12	10.0	8
	100	49.4	83.1	29.2	17.5	77.8	92.1	40.7	18.0	18.8	60.7	80.0	15.0	13.0	0.0	13.3	1.3	14	6.7	6
	100	50.0	95.5	0.0	73.2	96.4	100.0	0.0	19.9	19.1	50.8	50.6	11.5	81.4	0.0	0.0	0.0	14	5.6	8
	100	54.1	95.2	95.2	62.8	77.1	99.0	2.0	41.3	41.6	66.0	78.9	9.6	22.5	0.0	4.2	0.0	17	0.0	7
	100	95.8	99.2	93.2	89.9	94.6	94.0	77.2	85.2	84.7	77.5	87.5	28.1	28.0	23.1	42.3	20.2	10	100.0	10
	100	100.0	100.0	100.0	100.0	100.0	100.0	66.7	66.7	50.0	50.0	100.0	0.0	0.0	0.0	0.0	0.0	20	0.0	0
	100	0.0	0.0	0.0	23.0	25.1	99.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0
	100	53.8	100.0	80.8	69.2	74.4	41.0	35.9	0.0	0.0	37.5	33.3	0.0	3.8	66.7	66.7	0.0	0	0.0	7
	100	66.9	83.5	90.2	86.7	92.2	96.7	43.9	69.4	68.4	63.4	69.7	3.0	22.6	0.0	60.0	0.0	14	53.3	11
	100	87.4	99.2	99.2	53.9	81.3	75.8	43.8	71.1	70.6	76.6	81.8	5.5	13.4	23.8	28.6	23.8	17	57.1	8
	100	93.0	100.0	100.0	88.1	93.2	96.6	66.1	93.2	93.0	77.3	76.2	28.6	29.8	11.1	33.3	42.0	12	88.9	7
	100	95.3	96.2	84.0	32.3	81.5	98.5	76.2	76.2	76.4	74.4	82.8	20.7	58.5	26.1	43.5	20.0	11	56.5	12
	100	0.0	0.0	0.0	100.0	100.0	100.0	50.0	50.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0
	100	94.1	96.8	84.4	43.7	82.9	100.0	0.0	70.1	70.9	66.9	66.3	1.0	23.5	28.4	34.1	7.4	12	50.0	8
	100	94.3	100.0	69.9	12.3	78.6	5.8	2.6	87.0	88.6	45.8	48.6	14.3	9.8	35.5	45.2	28.7	13	74.2	7
	100	88.9	100.0	98.5	63.5	89.9	100.0	79.9	91.2	90.4	64.6	67.4	9.3	16.3	8.8	14.7	25.6	17	100.0	7
	100	80.7	98.2	93.0	89.8	95.5	23.7	0.0	83.6	84.2	40.0	40.0	14.3	33.3	21.4	21.4	11.4	8	71.4	13
	100	95.2	95.2	92.9	7.6	81.5	91.3	80.4	81.5	82.1	62.1	64.3	21.4	16.7	33.3	37.5	24.0	21	95.8	6

Organisation	Estimated expected number		Number submitted							
			All cases					Rectal tumours		
	Total	MR	Total	ST	MR	OM	LOS	Total	ST	MR
Sussex Cancer Network										
Worthing and Southlands Hospitals NHS Trust	**190**	152	**1**	1	1	1	0	**0**	0	0
East Sussex Hospitals NHS Trust	**285**	228	**3**	2	2	2	2	**0**	0	0
Brighton and Sussex University Hospitals NHS Trust	**212**	169	**12**	5	4	5	5	**2**	0	0
Kent & Medway Cancer Network										
Dartford and Gravesham NHS Trust	**93**	75	**14**	14	14	13	13	**1**	1	1
Medway NHS Trust	**165**	132	**60**	31	20	27	0	**22**	9	2
East Kent Hospitals NHS Trust	**360**	288	**10**	0	0	0	0	**5**	0	0
Maidstone and Tunbridge Wells NHS Trust	**232**	185	**4**	4	4	4	4	**0**	0	0
Greater Midlands Cancer Network										
Mid Staffordshire General Hospitals NHS Trust	**183**	147	**75**	0	0	0	0	**30**	0	0
University Hospital of North Staffordshire NHS Trust	**302**	241								
The Royal Wolverhampton Hospitals NHS Trust	**203**	163	**57**	51	50	41	43	**17**	14	13
Dudley Group of Hospitals NHS Trust	**253**	203	**170**	23	21	23	21	**44**	7	5
Shrewsbury and Telford Hospital NHS Trust	**303**	243	**312**	249	231	243	4	**98**	85	78
North of England Cancer Network										
South Tyneside NHS Foundation Trust	**130**	104	**131**	109	100	99	97	**46**	38	35
City Hospitals Sunderland NHS Foundation Trust	**210**	168	**180**	143	133	138	139	**60**	44	42
North Cumbria Acute Hospitals NHS Trust	**243**	195	**144**	104	93	98	84	**45**	31	24
Gateshead Health NHS Foundation Trust	**140**	112	**93**	63	56	56	22	**20**	12	8
The Newcastle Upon Tyne Hospitals NHS Foundation Trust	**285**	228	**213**	174	145	161	115	**68**	58	43
Northumbria Health Care NHS Foundation Trust	**343**	275	**210**	198	192	176	169	**68**	61	56
South Tees Hospitals NHS Trust	**283**	227	**255**	180	169	163	117	**93**	57	52
North Tees and Hartlepool NHS Trust	**230**	184	**205**	142	132	136	29	**62**	42	35
County Durham and Darlington NHS Foundation Trust	**357**	285	**397**	277	254	241	165	**131**	84	73
Anglia Cancer Network										
Bedford Hospital NHS Trust	**127**	101	**1**	0	0	0	0	**1**	0	0
The Queen Elizabeth Hospital King's Lynn NHS Trust	**152**	121	**169**	103	94	97	94	**66**	36	33
Peterborough and Stamford Hospitals NHS Foundation Trust	**213**	171	**204**	168	157	160	148	**55**	35	35
James Paget Healthcare NHS Foundation Trust	**180**	144	**219**	169	146	160	159	**63**	37	27
West Suffolk Hospitals NHS Trust	**162**	129	**88**	27	14	24	23	**42**	13	5
Cambridge University Hospitals NHS Foundation Trust	**253**	203	**15**	15	14	15	15	**12**	12	11
Norfolk and Norwich University Hospital NHS Trust	**452**	361	**146**	94	59	85	85	**56**	28	16
Ipswich Hospital NHS Trust	**255**	204								
Hinchingbrooke Health Care NHS Trust	**100**	80								
Essex Cancer Network										
Southend University Hospital NHS Foundation Trust	**233**	187	**211**	184	158	137	175	**53**	40	23
Basildon and Thurrock University Hospitals NHS Foundation Trust	**160**	128								
Essex Rivers Healthcare NHS Trust	**242**	193	**1**	1	1	1	1	**0**	0	0
Mid Essex Hospital Services NHS Trust	**147**	117	**1**	0	0	0	0	**1**	0	0
North Wales Cancer Network										
North West Wales NHS Trust	**0**	0	**226**	184	153	183	155	**72**	48	35
Conwy and Denbighshire NHS Trust	**0**	0	**213**	135	126	119	63	**62**	34	31
North East Wales NHS Trust	**0**	0	**140**	105	100	70	60	**46**	28	28
South West Wales Cancer Network										
Carmarthenshire NHS Trust	**0**	0	**179**	145	118	135	143	**55**	39	33
Swansea NHS Trust	**0**	0	**278**	246	199	234	243	**77**	65	46
Bro Morgannwg	**0**	0	**200**	162	145	157	141	**55**	36	33

Data completeness %						Outcomes %													
Age	Excision	Urgent	ASA	Supplied Dukes	Derived Dukes	MDT	Nurse	CT All	CT ST	MRI All	MRI ST	Preop RT	Urgent or Emergency	APER	Stoma	EMVI	Median no. of nodes	CRM	Median LOS (days)
100	100.0	100.0	0.0	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9	0.0	0
100	100.0	100.0	50.0	66.7	100.0	100.0	33.3	100.0	100.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	25	0.0	16
100	80.0	60.0	0.0	83.3	83.3	100.0	75.0	0.0	0.0	0.0	0.0	0.0	60.0	0.0	0.0	0.0	5	0.0	13
100	100.0	92.9	92.9	92.9	92.9	92.9	7.1	14.3	14.3	100.0	100.0	0.0	0.0	0.0	0.0	7.1	18	0.0	6
100	67.7	96.8	58.1	73.3	78.3	98.3	46.7	81.7	90.3	90.9	77.8	0.0	35.5	0.0	0.0	45.0	12	50.0	0
100	0.0	0.0	0.0	0.0	0.0	90.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0
100	100.0	75.0	100.0	25.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	11	0.0	7
100	0.0	0.0	0.0	0.0	0.0	66.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0
100	98.0	2.0	80.4	66.7	82.5	96.5	0.0	1.8	2.0	11.8	14.3	0.0	2.0	15.4	15.4	10.0	12	0.0	10
100	95.7	91.3	91.3	80.0	84.1	98.8	14.1	88.2	91.3	40.9	57.1	14.3	13.0	20.0	20.0	23.8	12	100.0	12
100	93.2	95.2	91.2	22.8	91.0	1.6	2.2	64.7	75.9	48.0	51.8	7.1	12.9	19.2	23.1	0.4	11	70.5	5
100	94.5	84.4	78.0	90.1	94.7	91.6	49.6	78.6	79.8	19.6	21.1	12.8	6.4	20.0	37.1	13.0	11	25.7	12
100	93.0	89.5	81.8	91.1	92.2	83.9	54.4	89.4	90.2	36.7	43.2	66.7	23.1	33.3	42.9	30.1	13	90.5	11
100	90.4	66.3	49.0	70.8	88.2	90.3	30.6	61.8	65.4	8.9	9.7	12.9	6.7	12.5	20.8	5.4	14	8.3	7
100	90.5	93.7	68.3	87.1	97.8	81.7	4.3	46.2	60.3	5.0	8.3	16.7	19.0	12.5	25.0	17.9	12	87.5	13
100	90.2	50.0	40.2	80.3	99.1	91.5	13.6	82.2	82.8	36.8	36.2	44.8	8.6	32.6	37.2	4.8	18	14.0	11
100	97.5	81.8	68.2	64.8	97.1	82.9	27.1	72.4	73.2	7.4	8.2	52.5	11.6	25.0	39.3	8.3	14	26.8	9
100	94.4	66.1	63.3	81.2	96.1	89.4	37.6	55.7	62.2	34.4	43.9	43.1	11.1	34.6	44.2	17.2	14	38.5	10
100	95.8	70.4	57.7	81.5	88.3	91.7	32.7	39.0	44.4	12.9	14.3	27.9	10.6	14.3	14.3	17.4	9	34.3	7
100	95.7	67.9	48.0	56.9	84.6	86.6	33.5	71.8	78.3	33.6	33.3	43.0	14.1	16.4	23.3	11.0	10	32.9	10
100	0.0	0.0	0.0	100.0	100.0	100.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0
100	91.3	97.1	82.5	72.8	78.7	2.4	0.0	67.5	67.0	40.9	58.3	66.7	11.7	42.4	57.6	9.6	6	78.8	10
100	94.0	100.0	91.7	23.0	74.0	100.0	0.0	74.0	78.6	69.1	80.0	0.0	9.5	31.4	60.0	0.0	13	65.7	9
100	87.6	98.8	69.8	48.4	82.6	93.6	70.8	55.3	53.8	19.0	24.3	13.5	26.0	22.2	55.6	22.6	11	55.6	11
100	51.9	85.2	85.2	84.1	88.6	96.6	25.0	1.1	0.0	50.0	53.8	0.0	25.9	0.0	0.0	0.0	13	20.0	9
100	100.0	93.3	80.0	20.0	86.7	93.3	93.3	100.0	100.0	75.0	75.0	75.0	13.3	72.7	81.8	50.0	13	100.0	10
100	66.0	91.5	72.3	41.8	64.4	96.6	56.2	54.1	57.4	25.0	28.6	0.0	14.9	0.0	31.3	0.0	11	0.0	8
100	88.0	98.4	94.6	80.6	90.5	100.0	31.3	95.7	95.1	73.6	70.0	22.5	18.5	21.7	47.8	31.6	0	87.0	11
100	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	11	0.0	7
100	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0
100	90.8	94.6	32.6	71.7	73.0	94.2	58.4	77.0	81.0	45.8	50.0	22.9	20.1	22.9	37.1	12.4	12	48.6	9
100	94.1	95.6	92.6	62.9	69.0	79.3	67.1	67.1	81.5	48.4	70.6	41.2	17.8	32.3	45.2	4.8	11	74.2	9
100	99.0	40.0	36.2	36.4	44.3	36.4	35.0	31.4	34.3	13.0	14.3	57.1	5.7	35.7	39.3	21.0	16	21.4	10
100	85.5	97.2	93.1	86.0	86.6	97.8	73.2	74.9	73.1	52.7	56.4	2.6	9.7	24.2	60.6	29.7	8	81.8	12
100	81.3	100.0	94.7	86.3	86.7	92.1	40.3	79.5	78.5	39.0	38.5	9.1	35.4	26.1	43.5	36.7	14	93.5	12
100	95.7	79.0	45.7	75.0	77.5	89.5	45.0	67.0	67.9	61.8	75.0	21.1	18.5	51.5	78.8	21.4	12	27.3	9

Organisation	Estimated expected number		Number submitted							
			All cases					Rectal tumours		
	Total	MR	Total	ST	MR	OM	LOS	Total	ST	MR
Ceredigion & Mid Wales NHS Trust	**0**	0	**53**	45	39	44	41	**17**	14	12
Pembrokeshire & Derwen NHS Trust	**0**	0	**102**	86	75	84	84	**25**	20	18
South East Wales Cancer Network										
Pontypridd & Rhondda NHS Trust	**0**	0	**142**	122	106	121	115	**47**	36	26
Gwent Healthcare NHS Trust	**0**	0	**372**	286	252	276	10	**123**	77	62
Cardiff & Vale NHS Trust	**0**	0	**210**	171	146	168	107	**72**	63	50
North Glamorgan NHS Trust	**0**	0	**138**	123	92	118	115	**50**	39	27
Republic of Ireland										
St James Hospital, Ireland	**0**	0	**207**	170	148	161	153	**56**	44	35
Southern Health and Social Care Trust, Ireland	**0**	0	**182**	138	133	135	137	**50**	36	35
Northern Ireland										
Belfast	**0**	0	**170**	162	151	158	160	**45**	40	31
Other										
Princess Grace Hospital	**0**	0	**4**	4	4	4	4	**2**	2	2

	Data completeness %						Outcomes %													
	Age	Excision	Urgent	ASA	Supplied Dukes	Derived Dukes	MDT	Nurse	CT All	CT ST	MRI All	MRI ST	Preop RT	Urgent or Emergency	APER	Stoma	EMVI	Median no. of nodes	CRM	Median LOS (days)
	100	91.1	95.6	75.6	86.8	86.8	90.6	22.6	66.0	77.8	5.9	7.1	0.0	17.8	41.7	41.7	20.5	11	16.7	13
	100	88.4	100.0	89.5	90.2	90.2	74.5	81.4	87.3	86.0	80.0	95.0	30.0	34.9	66.7	72.2	13.3	12	88.9	9
	100	88.5	96.7	8.2	83.1	85.2	83.8	22.5	55.6	54.1	59.6	69.4	19.4	9.0	26.9	61.5	29.2	10	23.1	9
	100	89.2	98.3	36.7	75.5	79.8	47.6	47.0	55.9	53.1	27.6	28.6	12.5	29.0	22.6	40.3	15.5	11	37.1	4
	100	87.7	87.1	39.2	64.8	71.9	83.8	41.0	51.4	51.5	36.1	39.7	36.5	15.2	26.0	32.0	26.7	13	88.0	8
	100	74.8	89.4	99.2	57.2	81.2	97.8	82.6	69.6	73.2	10.0	12.8	10.3	13.0	22.2	29.6	14.1	12	14.8	8
	100	88.2	96.5	85.9	87.0	93.2	100.0	86.5	92.8	95.3	83.9	90.9	43.2	14.1	34.3	40.0	33.1	15	97.1	11
	100	97.1	100.0	89.9	69.2	82.4	100.0	0.0	69.2	71.0	2.0	2.8	43.2	23.9	8.6	57.1	26.3	16	82.9	8
	100	95.7	100.0	100.0	0.0	43.5	100.0	80.6	5.3	5.6	48.9	50.0	41.5	23.5	45.2	61.3	26.5	15	90.3	9
	100	100.0	100.0	100.0	100.0	100.0	100.0	75.0	75.0	75.0	100.0	100.0	0.0	25.0	0.0	0.0	50.0	17	100.0	11

Appendix 2: Summary of 2007/8 data

Key: **MR** – Number of patients estimated/reported as undergoing a major resection **ST** – Number of patients reported as receiving any surgical treatment
OM – Number of patients eligible to be included in operative mortality calculations **LOS** – Number of patients eligible to be included in length of stay calculations

Organisation	Estimated expected number		Number submitted							
			All cases					Rectal tumours		
	Total	MR	Total	ST	MR	OM	LOS	Total	ST	MR
Lancashire & South Cumbria Cancer Network										
University Hospitals of Morecambe Bay NHS Trust	**175**	140	**213**	163	25	105	4	**73**	46	3
Blackpool, Fylde and Wyre Hospitals NHS Foundation Trust	**176**	141	**181**	144	108	139	138	**58**	40	19
Lancashire Teaching Hospitals NHS Foundation Trust	**165**	132	**167**	109	68	84	81	**75**	49	22
East Lancashire Hospitals NHS Trust	**190**	152	**78**	38	27	26	17	**41**	12	7
Greater Manchester & Cheshire Cancer Network										
The Mid Cheshire Hospitals NHS Trust	**94**	75	**41**	32	19	29	19	**11**	9	8
Christie Hospital NHS Foundation Trust	**19**	15	**23**	19	16	19	19	**12**	9	8
East Cheshire NHS Trust	**79**	63	**1**	1	1	1	1	**0**	0	0
University Hospitals of South Manchester NHS Foundation Trust	**101**	81	**89**	75	62	74	74	**24**	18	17
Salford Royal NHS Foundation Trust	**96**	77	**54**	38	24	32	33	**29**	18	8
Trafford Healthcare NHS Trust	**65**	52	**38**	32	30	21	28	**13**	10	8
Bolton Hospitals NHS Trust	**119**	95	**160**	101	91	100	96	**53**	33	32
Tameside and Glossop Acute Services NHS Trust	**95**	76	**125**	111	91	81	105	**27**	20	13
Wrightington, Wigan and Leigh NHS Trust	**126**	101	**79**	65	59	53	58	**28**	21	17
Central Manchester University Hospitals NHS Foundation Trust	**65**	52	**1**	0	0	0	0	**1**	0	0
Pennine Acute Hospitals NHS Trust	**348**	278	**129**	102	95	96	93	**45**	32	30
Stockport NHS Foundation Trust	**153**	122	**101**	57	48	53	47	**28**	16	11
Merseyside & Cheshire Cancer Network										
Wirral University Teaching Hospital NHS Foundation Trust	**169**	135	**186**	164	150	156	157	**34**	28	25
St Helens and Knowsley Hospitals NHS Trust	**136**	109	**169**	111	78	82	94	**58**	37	20
Aintree University Hospitals NHS Foundation Trust	**165**	132	**160**	124	105	116	116	**29**	23	17
Clatterbridge Centre For Oncology NHS Foundation Trust	**0**	0	**219**	0	0	0	0	**120**	0	0
Countess of Chester Hospital NHS Foundation Trust	**85**	68	**121**	118	80	96	94	**42**	41	26
Royal Liverpool and Broadgreen University Hospitals NHS Trust	**154**	123	**90**	38	32	30	29	**35**	11	7
Southport and Ormskirk Hospital NHS Trust	**119**	95								
Warrington and Halton Hospitals NHS Foundation Trust	**155**	124	**157**	151	126	132	140	**62**	59	46
Yorkshire Cancer Network										
Bradford Teaching Hospitals NHS Foundation Trust	**154**	123	**188**	139	126	137	119	**48**	33	26
York Hospitals NHS Foundation Trust	**174**	139	**218**	164	133	136	3	**62**	38	28
Harrogate and District NHS Foundation Trust	**93**	74	**95**	82	77	75	79	**37**	31	28
Airedale NHS Trust	**91**	73	**108**	91	85	89	85	**29**	23	19
Leeds Teaching Hospitals NHS Trust	**300**	240	**318**	229	214	213	182	**102**	68	59
Calderdale and Huddersfield NHS Foundation Trust	**151**	121	**85**	63	55	60	58	**32**	24	18
Mid Yorkshire Hospitals NHS Trust	**250**	200	**306**	224	197	219	186	**96**	69	53
Humber & Yorkshire Coast Cancer Network										
Northern Lincolnshire and Goole Hospitals NHS Foundation Trust	**175**	140	**66**	47	38	38	44	**26**	14	10
Hull and East Yorkshire Hospitals NHS Trust	**243**	194	**222**	202	191	137	149	**65**	58	51
Scarborough & North East Yorkshire Health Care NHS Trust	**106**	85								
North Trent Cancer Network										
Barnsley Hospital NHS Foundation Trust	**106**	85	**107**	57	52	45	1	**42**	24	19
Chesterfield Royal Hospital NHS Foundation Trust	**134**	107								
The Rotherham NHS Foundation Trust	**95**	76	**87**	85	81	85	85	**27**	27	24
Sheffield Teaching Hospitals NHS Foundation Trust	**241**	193	**257**	210	170	203	155	**63**	46	22
Doncaster and Bassetlaw Hospitals NHS Foundation Trust	**223**	178	**51**	44	39	43	28	**17**	14	13
Pan Birmingham Cancer Network										
Walsall Hospitals NHS Trust	**128**	102	**76**	76	69	66	67	**21**	21	16
Heart of England NHS Foundation Trust	**333**	266	**416**	328	272	316	311	**111**	87	62
University Hospital Birmingham NHS Foundation Trust	**341**	273	**218**	175	158	166	172	**76**	61	53
Sandwell and West Birmingham Hospitals NHS Trust	**151**	121	**116**	93	68	87	62	**32**	25	14

	Data completeness %						Outcomes %												
Age	Excision	Urgent	ASA	Supplied Dukes	Derived Dukes	MDT	Nurse	CT All	CT ST	MRI All	MRI ST	Preop RT	Urgent or Emergency	APER	Stoma	EMVI	Median no. of nodes	CRM	Median LOS (days)
100	24.5	90.8	2.5	10.8	52.6	93.9	1.9	1.4	1.8	61.6	60.9	4.3	53.4	0.0	0.0	4.0	11	33.3	6
100	83.3	100.0	95.8	62.4	77.9	93.9	66.9	39.8	41.0	77.6	87.5	15.0	20.1	15.8	36.8	19.4	12	52.6	8
100	62.4	76.1	45.0	54.5	55.1	80.2	1.2	2.4	0.0	58.7	63.3	36.7	19.3	4.5	4.5	0.0	9	50.0	12
100	73.7	97.4	36.8	38.5	39.7	66.7	47.4	12.8	18.4	29.3	41.7	0.0	31.6	14.3	14.3	0.0	14	0.0	11
100	59.4	100.0	100.0	80.5	85.4	87.8	85.4	78.0	78.1	63.6	77.8	66.7	37.5	37.5	62.5	15.8	11	25.0	12
100	84.2	100.0	94.7	87.0	100.0	60.9	60.9	91.3	94.7	100.0	100.0	77.8	5.3	75.0	100.0	31.3	12	100.0	13
100	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14	0.0	8
100	84.0	100.0	90.7	79.8	92.1	18.0	28.1	88.8	88.0	70.8	66.7	66.7	26.7	23.5	58.8	30.6	17	94.1	13
100	73.7	100.0	63.2	64.8	66.7	96.3	90.7	3.7	5.3	82.8	83.3	33.3	5.3	50.0	62.5	20.8	14	12.5	9
100	93.8	100.0	81.3	100.0	100.0	100.0	71.1	89.5	93.8	53.8	50.0	60.0	21.9	25.0	62.5	33.3	15	75.0	10
100	91.1	54.5	96.0	60.6	70.0	45.0	26.3	0.0	0.0	0.0	0.0	0.0	11.9	25.0	31.3	0.0	13	87.5	11
100	84.7	94.6	65.8	66.4	84.0	88.0	28.0	74.4	74.8	59.3	60.0	60.0	24.3	7.7	30.8	7.7	14	0.0	11
100	90.8	98.5	96.9	64.6	81.0	1.3	96.2	92.4	92.3	46.4	61.9	85.7	9.2	29.4	35.3	13.6	12	88.2	10
100	0.0	0.0	0.0	100.0	100.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0
100	95.1	99.0	98.0	86.0	89.9	89.1	72.9	86.0	86.3	55.6	62.5	34.4	31.4	26.7	36.7	29.5	11	96.7	13
100	86.0	64.9	77.2	34.7	76.2	59.4	53.5	78.2	84.2	28.6	43.8	6.3	7.0	36.4	54.5	35.4	12	36.4	9
100	92.7	95.1	82.9	16.1	86.0	95.2	70.4	57.5	57.9	52.9	57.1	46.4	16.5	8.0	44.0	17.3	13	80.0	7
100	73.0	96.4	87.4	81.7	91.1	94.7	72.8	17.8	19.8	43.1	51.4	48.6	36.0	0.0	0.0	2.6	13	15.0	8
100	86.3	94.4	86.3	7.5	77.5	94.4	70.6	55.0	58.9	55.2	56.5	82.6	9.7	23.5	41.2	14.3	17	82.4	11
100	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0
100	68.6	91.5	82.2	72.7	72.7	99.2	0.0	81.8	83.1	0.0	0.0	58.5	16.9	3.8	3.8	0.0	11	100.0	7
100	86.8	60.5	52.6	23.3	43.3	5.6	61.1	1.1	2.6	2.9	9.1	54.5	18.4	0.0	0.0	3.1	16	14.3	8
100	86.1	98.0	11.3	22.9	83.4	68.2	35.0	42.7	43.7	45.2	44.1	47.5	26.5	19.6	45.7	19.8	11	60.9	8
100	94.2	100.0	98.6	17.0	80.3	89.9	81.4	83.0	83.5	79.2	78.8	60.6	10.8	19.2	23.1	21.4	19	92.3	7
100	81.7	94.5	97.6	11.9	82.1	98.2	1.4	78.0	76.2	74.2	81.6	15.8	22.6	14.3	14.3	28.6	14	89.3	5
100	97.6	97.6	85.4	80.0	92.6	100.0	96.8	86.3	85.4	75.7	80.6	41.9	2.4	10.7	35.7	35.1	16	100.0	10
100	95.6	95.6	92.3	40.7	92.6	99.1	68.5	88.0	90.1	79.3	87.0	65.2	8.8	31.6	57.9	40.0	20	100.0	8
100	94.3	95.2	64.2	59.1	67.0	98.1	60.4	17.9	20.1	11.8	11.8	0.0	14.8	28.8	37.3	0.5	19	0.0	8
100	95.2	98.4	93.7	72.9	97.6	77.6	80.0	88.2	96.8	78.1	79.2	33.3	7.9	38.9	50.0	30.9	13	94.4	7
100	88.8	98.2	62.9	41.2	83.0	97.4	57.2	85.9	87.5	69.8	78.3	37.7	15.6	11.3	32.1	30.5	14	77.4	11
100	80.9	100.0	66.0	42.4	75.8	93.9	75.8	68.2	68.1	65.4	71.4	78.6	25.5	10.0	50.0	42.1	14	90.0	9
100	98.5	100.0	74.3	87.4	90.5	78.8	81.5	76.1	75.2	87.7	89.7	75.9	16.3	39.2	54.9	29.3	11	86.3	9
100	91.2	98.2	80.7	26.2	58.9	87.9	57.9	51.4	87.7	52.4	87.5	0.0	5.3	15.8	42.1	13.5	10	5.3	29
100	95.3	100.0	95.3	69.0	93.1	100.0	92.0	83.9	85.9	77.8	77.8	48.1	8.2	20.8	41.7	14.8	16	91.7	8
100	87.1	95.2	61.4	38.5	81.3	84.0	68.5	84.0	82.4	57.1	50.0	32.6	28.1	27.3	40.9	27.6	28	81.8	10
100	88.6	100.0	97.7	47.1	68.6	0.0	0.0	80.4	84.1	88.2	100.0	35.7	11.4	30.8	46.2	15.4	14	0.0	9
100	96.1	100.0	94.7	9.2	84.2	96.1	97.4	42.1	42.1	19.0	19.0	4.8	22.4	18.8	25.0	36.2	17	87.5	8
100	92.1	94.2	79.3	33.2	78.4	98.1	81.3	57.7	57.0	58.6	66.7	32.2	22.9	21.0	29.0	32.4	20	17.7	10
100	93.7	96.0	90.9	89.0	92.2	97.7	76.6	88.5	89.1	85.5	85.2	63.9	13.1	39.6	67.9	37.3	20	75.5	12
100	76.3	77.4	69.9	84.5	89.7	79.3	63.8	67.2	65.6	56.3	60.0	36.0	17.2	28.6	50.0	22.1	15	35.7	11

Organisation	Estimated expected number		Number submitted							
			All cases					Rectal tumours		
	Total	MR	Total	ST	MR	OM	LOS	Total	ST	MR
Arden Cancer Network										
South Warwickshire General Hospitals NHS Trust	**119**	95	115	86	75	80	80	**31**	24	21
University Hospitals Coventry And Warwickshire NHS Trust	**204**	163	214	131	113	121	124	**79**	52	40
George Eliot Hospital NHS Trust	**86**	69	96	74	62	63	59	**14**	12	8
Worcestershire Acute Hospitals NHS Trust	**276**	221	285	247	223	236	237	**57**	38	23
Mid Trent Cancer Network										
Sherwood Forest Hospitals NHS Foundation Trust	**143**	114	152	129	113	74	97	**50**	38	34
United Lincolnshire Hospitals NHS Trust	**334**	267								
Nottingham University Hospitals NHS Trust	**298**	238	301	200	160	172	4	**76**	34	21
Derby & Burton Cancer Network										
Burton Hospitals NHS Trust	**113**	90	8	1	1	1	1	**6**	0	0
Derby Hospitals NHS Foundation Trust	**195**	156	239	181	154	179	177	**63**	38	30
Leicestershire, Northamptonshire & Rutland Cancer Network										
Kettering General Hospital NHS Trust	**129**	103								
Northampton General Hospital NHS Trust	**133**	106	93	91	83	85	25	**29**	27	24
University Hospitals of Leicester NHS Trust	**341**	273	455	337	287	334	330	**138**	106	86
Mount Vernon Cancer Network										
Luton and Dunstable Hospital NHS Foundation Trust	**94**	75	140	73	63	67	0	**40**	23	19
West Hertfordshire Hospitals NHS Trust	**159**	127								
East and North Hertfordshire NHS Trust	**184**	147	220	169	160	167	154	**67**	50	46
West London Cancer Network										
The Hillingdon Hospital NHS Trust	**71**	57	91	88	81	86	85	**18**	18	15
Ealing Hospital NHS Trust	**41**	33	31	31	22	21	26	**7**	7	4
West Middlesex University Hospital NHS Trust	**46**	37	89	70	63	60	64	**22**	19	17
Chelsea and Westminster Hospital NHS Foundation Trust	**46**	37	87	65	55	52	49	**26**	14	12
North West London Hospitals NHS Trust	**170**	136	48	44	37	19	29	**9**	7	6
Imperial College Healthcare NHS Trust	**136**	109	139	108	93	95	98	**44**	33	27
North London Cancer Network										
Royal Free Hampstead NHS Trust	**70**	56	69	57	53	53	52	**16**	11	10
The Whittington Hospital NHS Trust	**56**	45	68	60	51	52	54	**9**	7	6
University College London Hospitals NHS Foundation Trust	**50**	40								
Barnet and Chase Farm Hospitals NHS Trust	**140**	112	122	95	86	71	83	**29**	20	14
The Princess Alexandra Hospital NHS Trust	**95**	76								
North Middlesex University Hospital NHS Trust	**51**	41								
North East London Cancer Network										
Barking, Havering and Redbridge Hospitals NHS Trust	**253**	202	158	114	94	109	110	**48**	29	24
Whipps Cross University Hospital NHS Trust	**79**	63	101	71	62	71	68	**28**	19	15
Newham University Hospital NHS Trust	**38**	30	55	38	28	36	32	**17**	14	5
Barts and The London NHS Trust	**71**	57	43	35	29	34	33	**15**	13	9
Homerton University Hospital NHS Foundation Trust	**30**	24	61	43	33	38	37	**17**	8	6
South East London Cancer Network										
Queen Elizabeth Hospital NHS Trust	**78**	62	113	29	26	17	0	**19**	0	0
Bromley Hospitals NHS Trust	**91**	73	3	0	0	0	0	**2**	0	0
Queen Mary's Sidcup NHS Trust	**68**	54	26	2	2	0	0	**6**	0	0
Guy's and St Thomas' NHS Foundation Trust	**49**	39	42	0	0	0	0	**12**	0	0
The Lewisham Hospital NHS Trust	**48**	38	56	30	14	15	15	**17**	6	2
King's College Hospital NHS Foundation Trust	**51**	41	124	2	2	1	1	**42**	1	1

	Data completeness %						Outcomes %												
Age	Excision	Urgent	ASA	Supplied Dukes	Derived Dukes	MDT	Nurse	CT All	CT ST	MRI All	MRI ST	Preop RT	Urgent or Emergency	APER	Stoma	EMVI	Median no. of nodes	CRM	Median LOS (days)
100	89.5	96.5	95.3	39.1	87.0	94.8	60.0	93.0	93.0	96.8	95.8	54.2	14.0	19.0	28.6	34.7	12	23.8	13
100	89.3	80.9	83.2	11.7	67.3	100.0	76.2	76.2	77.9	6.3	1.9	1.9	12.2	25.0	32.5	25.7	16	82.5	9
100	87.8	97.3	81.1	29.2	74.0	92.7	63.5	64.6	68.9	64.3	75.0	50.0	24.3	12.5	25.0	27.4	17	62.5	7
100	90.3	93.9	62.3	38.9	89.8	93.0	25.3	77.5	80.2	70.2	86.8	26.3	42.5	4.3	43.5	29.6	15	26.1	10
100	90.7	100.0	99.2	18.4	88.8	98.7	96.1	90.8	93.8	70.0	81.6	57.9	21.7	17.6	44.1	40.7	14	100.0	10
100	84.5	55.0	1.0	68.8	73.4	97.0	96.3	76.4	73.0	52.6	44.1	5.9	0.5	4.8	19.0	35.0	14	9.5	7
100	100.0	100.0	100.0	37.5	37.5	75.0	12.5	37.5	0.0	16.7	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	4
100	91.2	91.2	84.5	19.2	79.1	94.6	63.6	76.6	76.8	79.4	78.9	55.3	13.8	10.0	43.3	33.8	18	60.0	8
100	91.2	100.0	65.9	14.0	67.7	88.2	41.9	62.4	63.7	79.3	77.8	0.0	22.0	29.2	66.7	4.8	10	75.0	10
100	90.5	100.0	90.8	81.5	83.5	99.1	55.6	80.0	78.3	77.5	79.2	70.8	21.4	17.4	48.8	31.4	14	83.7	11
100	86.3	83.6	0.0	22.9	31.4	95.7	0.0	63.6	57.5	42.5	39.1	0.0	5.5	15.8	42.1	0.0	0	0.0	0
100	95.3	99.4	94.7	82.7	87.3	95.5	75.5	78.2	84.0	0.0	0.0	14.0	11.2	23.9	45.7	26.9	12	50.0	11
100	94.3	98.9	38.6	7.7	90.1	100.0	75.8	75.8	78.4	22.2	22.2	27.8	33.0	26.7	40.0	29.6	10	13.3	12
100	74.2	87.1	61.3	67.7	93.5	100.0	96.8	74.2	74.2	42.9	42.9	14.3	3.2	25.0	75.0	22.7	15	50.0	13
100	91.4	100.0	74.3	80.9	88.8	97.8	97.8	97.8	97.1	100.0	100.0	52.6	21.4	29.4	35.3	20.6	16	100.0	12
100	92.3	95.4	93.8	31.0	74.7	100.0	88.5	79.3	80.0	53.8	50.0	28.6	20.0	16.7	50.0	25.5	26	91.7	12
100	93.2	86.4	9.1	29.2	95.8	95.8	33.3	89.6	88.6	66.7	71.4	14.3	27.3	0.0	16.7	35.1	17	50.0	10
100	93.5	99.1	99.1	32.4	95.7	95.7	92.8	74.8	71.3	77.3	81.8	45.5	15.7	14.8	22.2	31.2	25	92.6	9
100	93.0	43.9	0.0	69.6	89.9	100.0	85.5	89.9	89.5	75.0	100.0	45.5	7.0	20.0	30.0	28.3	16	100.0	10
100	88.3	96.7	96.7	17.6	85.3	91.2	60.3	85.3	85.0	55.6	71.4	57.1	33.3	0.0	50.0	31.4	16	100.0	9
100	90.5	100.0	74.7	76.2	86.1	96.7	38.5	95.1	96.8	82.8	85.0	15.0	9.5	42.9	42.9	36.0	16	100.0	9
100	89.5	97.4	85.1	20.9	66.5	88.0	75.3	72.2	73.7	83.3	82.8	62.1	3.5	25.0	33.3	16.0	12	87.5	7
100	87.3	100.0	97.2	36.6	80.2	100.0	86.1	89.1	93.0	53.6	52.6	52.6	15.5	33.3	53.3	14.5	15	93.3	11
100	73.7	92.1	86.8	67.3	72.7	98.2	76.4	63.6	71.1	5.9	7.1	35.7	21.1	0.0	20.0	0.0	0	0.0	15
100	82.9	97.1	94.3	81.4	93.0	97.7	88.4	95.3	94.3	86.7	92.3	38.5	20.0	11.1	66.7	37.9	16	100.0	14
100	90.7	95.3	51.2	52.5	67.2	98.4	68.9	68.9	74.4	29.4	12.5	37.5	14.0	16.7	16.7	21.2	16	16.7	10
100	89.7	100.0	34.5	31.9	33.6	97.3	0.0	0.0	0.0	0.0	0.0	0.0	24.1	0.0	0.0	0.0	18	0.0	0
100	0.0	0.0	0.0	66.7	66.7	100.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0
100	100.0	0.0	0.0	65.4	73.1	96.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23	0.0	0
100	0.0	0.0	0.0	35.7	35.7	100.0	0.0	81.0	0.0	75.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0
100	56.7	83.3	90.0	58.9	64.3	96.4	53.6	92.9	90.0	70.6	66.7	0.0	23.3	0.0	0.0	21.4	15	0.0	5
100	100.0	100.0	100.0	0.8	1.6	4.0	97.6	1.6	100.0	2.4	100.0	100.0	50.0	100.0	100.0	100.0	32	0.0	10

Organisation	Estimated expected number		Number submitted							
			All cases					Rectal tumours		
	Total	MR	Total	ST	MR	OM	LOS	Total	ST	MR
South West London Cancer Network										
Mayday Healthcare NHS Trust	**104**	83	**88**	73	67	64	65	**22**	21	17
Kingston Hospital NHS Trust	**139**	111								
St George's Healthcare NHS Trust	**84**	67	**19**	16	15	14	0	**8**	8	7
The Royal Marsden NHS Foundation Trust	**13**	10	**11**	10	4	9	9	**4**	3	1
Epsom And St Helier University Hospitals NHS Trust	**176**	141	**140**	120	102	112	0	**35**	29	23
Peninsula Cancer Network										
South Devon Health Care NHS Foundation Trust	**163**	130	**112**	82	70	78	77	**39**	27	21
Northern Devon Healthcare NHS Trust	**114**	91	**99**	80	63	73	74	**25**	19	14
Royal Cornwall Hospitals NHS Trust	**211**	169	**298**	235	190	225	227	**84**	69	48
Royal Devon and Exeter NHS Foundation Trust	**255**	204	**311**	251	207	241	243	**88**	76	53
Plymouth Hospitals NHS Trust	**213**	170	**318**	259	166	230	223	**88**	68	32
Dorset Cancer Network										
Dorset County Hospital NHS Foundation Trust	**103**	82	**111**	80	71	79	58	**35**	21	17
Poole Hospital NHS Foundation Trust	**136**	109	**165**	117	102	106	102	**52**	26	20
Royal Bournemouth and Christchurch Hospitals NHS Foundation Trust	**161**	129	**208**	102	92	96	31	**51**	25	21
Avon, Somerset & Wiltshire Cancer Network										
Weston Area Health NHS Trust	**95**	76	**78**	64	49	55	39	**28**	20	13
Yeovil District Hospital NHS Foundation Trust	**86**	69	**63**	48	39	34	34	**35**	22	15
University Hospitals Bristol NHS Foundation Trust	**96**	77	**113**	90	58	86	33	**27**	20	9
Taunton and Somerset NHS Foundation Trust	**164**	131	**190**	95	46	89	54	**58**	25	5
Royal United Hospital Bath NHS Trust	**194**	155	**89**	74	61	69	36	**26**	21	17
North Bristol NHS Trust	**226**	181	**239**	209	174	202	135	**73**	59	45
Three Counties Cancer Network										
Hereford Hospitals NHS Trust	**105**	84	**118**	95	85	77	88	**46**	37	31
Gloucestershire Hospitals NHS Foundation Trust	**343**	274	**87**	77	68	71	39	**31**	22	17
Thames Valley Cancer Network										
Heatherwood and Wexham Park Hospitals NHS Foundation Trust	**128**	102	**154**	68	68	50	2	**43**	8	8
Milton Keynes General Hospital NHS Foundation Trust	**74**	59	**42**	10	4	6	5	**28**	4	0
Great Western Hospitals NHS Foundation Trust	**123**	98	**106**	71	56	68	68	**28**	26	17
Oxford Radcliffe Hospitals NHS Trust	**278**	222	**199**	199	141	199	199	**74**	74	41
Buckinghamshire Hospitals NHS Trust	**180**	144	**60**	53	47	46	50	**16**	14	11
Royal Berkshire NHS Foundation Trust	**165**	132								
Central South Coast Cancer Network										
Isle of Wight Healthcare NHS Trust	**84**	67	**79**	60	54	57	56	**22**	19	16
Southampton University Hospitals NHS Trust	**226**	181	**227**	170	145	169	42	**70**	43	37
Portsmouth Hospitals NHS Trust	**245**	196	**328**	274	249	259	259	**101**	85	80
Winchester and Eastleigh Healthcare NHS Trust	**98**	78	**104**	71	67	70	53	**31**	20	17
Basingstoke & North Hampshire NHS Foundation Trust	**96**	77	**106**	93	87	93	88	**36**	29	27
Salisbury NHS Foundation Trust	**103**	82	**137**	105	93	100	101	**35**	26	22
Royal West Sussex NHS Trust	**134**	107	**173**	151	106	133	134	**59**	48	29
Surrey, West Sussex & Hampshire Cancer Network										
Royal Surrey County Hospital NHS Trust	**93**	74	**64**	43	19	38	32	**24**	11	1
Frimley Park Hospital NHS Foundation Trust	**128**	102	**86**	74	69	74	67	**31**	20	20
Ashford and St Peter's Hospitals NHS Trust	**124**	99	**20**	0	0	0	0	**19**	0	0
Surrey and Sussex Healthcare NHS Trust	**113**	90	**151**	142	0	122	0	**49**	44	0

	Data completeness %						Outcomes %												
Age	Excision	Urgent	ASA	Supplied Dukes	Derived Dukes	MDT	Nurse	CT All	CT ST	MRI All	MRI ST	Preop RT	Urgent or Emergency	APER	Stoma	EMVI	Median no. of nodes	CRM	Median LOS (days)
100	94.5	97.3	60.3	55.7	77.3	90.9	59.1	76.1	82.2	90.9	90.5	0.0	5.5	0.0	5.9	32.8	11	64.7	7
100	93.8	25.0	25.0	47.4	52.6	36.8	5.3	10.5	6.3	25.0	25.0	0.0	6.3	14.3	14.3	0.0	0	0.0	0
100	50.0	100.0	20.0	36.4	90.9	81.8	90.9	18.2	10.0	25.0	0.0	0.0	0.0	0.0	0.0	25.0	24	0.0	10
100	85.0	0.0	0.0	65.7	65.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.1	30.4	0.0	0	0.0	0
100	93.9	100.0	100.0	17.0	74.1	99.1	70.5	92.0	92.7	64.1	63.0	44.4	13.4	4.8	19.0	5.7	15	85.7	6
100	83.8	96.3	81.3	76.8	99.0	100.0	79.8	73.7	73.8	76.0	78.9	26.3	95.0	0.0	0.0	0.0	13	0.0	8
100	81.7	98.7	67.2	71.1	73.8	99.3	78.2	0.0	0.0	20.2	17.4	1.4	14.0	0.0	4.2	1.1	17	77.1	7
100	88.8	98.8	61.0	92.9	96.1	96.8	77.5	88.4	88.0	77.3	78.9	17.1	22.7	30.2	54.7	30.0	14	94.3	8
100	65.3	76.8	81.5	75.5	80.2	95.0	8.8	51.9	55.2	75.0	76.5	7.4	18.5	0.0	6.3	0.0	15	59.4	9
100	90.0	60.0	66.3	66.7	75.7	85.6	44.1	55.0	60.0	14.3	19.0	9.5	11.3	17.6	23.5	22.5	15	47.1	8
100	92.3	98.3	56.4	37.0	83.6	99.4	77.6	87.3	88.0	44.2	38.5	23.1	16.2	15.0	40.0	34.3	15	50.0	8
100	93.1	100.0	90.2	64.4	87.0	88.9	2.4	83.7	85.3	70.6	76.0	20.0	8.8	19.0	28.6	0.0	14	71.4	9
100	81.3	85.9	42.2	73.1	89.7	93.6	20.5	75.6	81.3	60.7	75.0	20.0	15.6	0.0	0.0	0.0	14	23.1	8
100	85.4	95.8	89.6	82.5	96.8	100.0	1.6	88.9	93.8	80.0	81.8	13.6	75.0	6.7	6.7	5.1	17	6.7	7
100	66.7	100.0	41.1	64.6	85.0	97.3	8.8	69.0	67.8	25.9	25.0	5.0	56.7	0.0	11.1	0.0	14	22.2	6
100	49.5	61.1	33.7	62.1	70.0	98.9	28.4	7.4	6.3	77.6	76.0	16.0	5.3	0.0	0.0	0.0	15	40.0	5
100	82.4	100.0	14.9	86.5	95.5	100.0	0.0	40.4	37.8	61.5	71.4	23.8	39.2	0.0	0.0	0.0	15	11.8	8
100	84.7	89.5	94.3	75.7	81.2	99.6	0.4	52.3	53.6	58.9	59.3	1.7	23.0	2.2	2.2	0.0	16	31.1	5
100	93.7	96.8	95.8	83.1	89.8	96.6	81.4	85.6	85.3	78.3	78.4	51.4	20.0	25.8	45.2	10.6	10	93.5	11
100	92.2	96.1	98.7	49.4	93.1	74.7	79.3	86.2	89.6	71.0	81.8	18.2	19.5	17.6	35.3	51.5	20	88.2	9
100	100.0	0.0	0.0	0.0	0.0	98.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	10
100	40.0	80.0	70.0	26.2	26.2	83.3	0.0	0.0	0.0	28.6	75.0	0.0	80.0	0.0	0.0	0.0	0	0.0	6
100	78.9	97.2	80.3	84.9	94.3	96.2	47.2	84.9	84.5	46.4	46.2	23.1	29.6	0.0	47.1	0.0	15	82.4	12
100	78.9	100.0	100.0	25.6	93.0	77.9	60.8	72.4	72.4	66.2	66.2	0.0	11.6	22.0	31.7	33.3	17	80.5	7
100	88.7	100.0	100.0	98.3	98.3	100.0	88.3	91.7	94.3	87.5	100.0	35.7	24.5	0.0	27.3	23.4	12	100.0	6
100	90.0	65.0	68.3	43.0	82.3	91.1	68.4	57.0	53.3	72.7	73.7	52.6	6.7	31.3	50.0	11.1	14	6.3	12
100	85.9	100.0	100.0	90.3	91.6	78.4	0.0	74.9	77.1	52.9	60.5	25.6	18.2	24.3	29.7	14.5	13	32.4	8
100	94.9	95.6	85.8	20.1	86.9	0.3	0.0	89.3	89.1	63.4	63.5	23.5	16.4	23.8	28.8	19.7	13	13.8	6
100	97.2	100.0	74.6	16.3	79.8	68.3	43.3	91.3	91.5	38.7	50.0	5.0	9.9	5.9	29.4	28.4	16	94.1	7
100	97.8	100.0	25.8	19.8	91.5	85.8	49.1	72.6	71.0	100.0	100.0	0.0	8.6	7.4	14.8	19.5	14	92.6	8
100	90.5	98.1	98.1	56.2	88.3	100.0	76.6	93.4	93.3	85.7	92.3	7.7	21.0	13.6	27.3	28.0	17	95.5	6
100	71.5	82.8	83.4	89.0	96.5	93.1	38.7	74.6	77.5	67.8	66.7	37.5	10.6	3.4	44.8	0.0	12	69.0	8
100	44.2	81.4	58.1	32.8	73.4	82.8	48.4	56.3	60.5	20.8	18.2	9.1	7.0	0.0	0.0	5.3	20	0.0	6
100	93.2	100.0	97.3	40.7	87.2	87.2	39.5	69.8	75.7	74.2	100.0	0.0	6.8	5.0	70.0	15.9	13	80.0	6
100	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0
100	0.0	0.0	0.0	0.0	0.0	96.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0

Organisation	Estimated expected number		Number submitted							
			All cases					Rectal tumours		
	Total	MR	Total	ST	MR	OM	LOS	Total	ST	MR
Sussex Cancer Network										
Worthing and Southlands Hospitals NHS Trust	**143**	114	153	117	97	47	1	**47**	25	20
East Sussex Hospitals NHS Trust	**214**	171	263	210	151	181	187	**70**	49	33
Brighton and Sussex University Hospitals NHS Trust	**159**	127	89	69	44	66	7	**35**	22	16
Kent & Medway Cancer Network										
Dartford and Gravesham NHS Trust	**70**	56	75	71	70	71	70	**11**	10	9
Medway NHS Trust	**124**	99	19	1	1	0	0	**7**	1	1
East Kent Hospitals NHS Trust	**270**	216	196	0	0	0	0	**46**	0	0
Maidstone and Tunbridge Wells NHS Trust	**174**	139	84	70	65	70	69	**17**	13	9
Greater Midlands Cancer Network										
Mid Staffordshire General Hospitals NHS Trust	**138**	110	80	0	0	0	0	**24**	0	0
University Hospital of North Staffordshire NHS Trust	**226**	181								
The Royal Wolverhampton Hospitals NHS Trust	**153**	122	185	66	60	46	59	**65**	27	23
Dudley Group of Hospitals NHS Trust	**190**	152	129	100	86	90	84	**33**	27	21
Shrewsbury and Telford Hospital NHS Trust	**228**	182	236	187	183	184	3	**71**	57	54
North of England Cancer Network										
South Tyneside NHS Foundation Trust	**98**	78	97	77	67	71	70	**34**	24	19
City Hospitals Sunderland NHS Foundation Trust	**158**	126	124	86	78	80	82	**40**	27	21
North Cumbria Acute Hospitals NHS Trust	**183**	146	184	139	120	131	111	**50**	35	27
Gateshead Health NHS Foundation Trust	**105**	84	87	72	58	58	61	**26**	21	17
The Newcastle Upon Tyne Hospitals NHS Foundation Trust	**214**	171	185	135	113	129	128	**58**	41	30
Northumbria Health Care NHS Foundation Trust	**258**	206	253	193	174	178	181	**81**	61	52
South Tees Hospitals NHS Trust	**213**	170	230	187	171	181	171	**56**	46	43
North Tees and Hartlepool NHS Trust	**173**	138	212	149	129	146	119	**70**	50	40
County Durham and Darlington NHS Foundation Trust	**268**	214	399	247	212	231	218	**139**	94	79
Anglia Cancer Network										
Bedford Hospital NHS Trust	**95**	76	103	76	61	57	25	**33**	26	17
The Queen Elizabeth Hospital King's Lynn NHS Trust	**114**	91	51	32	25	29	23	**39**	20	16
Peterborough and Stamford Hospitals NHS Foundation Trust	**160**	128	103	0	0	0	0	**28**	0	0
James Paget Healthcare NHS Foundation Trust	**135**	108	179	138	120	137	133	**52**	33	23
West Suffolk Hospitals NHS Trust	**121**	97	122	0	0	0	0	**39**	0	0
Cambridge University Hospitals NHS Foundation Trust	**190**	152	207	188	176	185	185	**56**	49	40
Norfolk and Norwich University Hospital NHS Trust	**339**	271	396	301	238	289	257	**101**	75	59
Ipswich Hospital NHS Trust	**191**	153								
Hinchingbrooke Health Care NHS Trust	**75**	60	49	46	33	42	38	**17**	16	9
Essex Cancer Network										
Southend University Hospital NHS Foundation Trust	**175**	140								
Basildon and Thurrock University Hospitals NHS Foundation Trust	**120**	96	103	92	77	74	77	**32**	28	21
Essex Rivers Healthcare NHS Trust	**181**	145								
Mid Essex Hospital Services NHS Trust	**110**	88	7	5	5	5	1	**6**	5	5
North Wales Cancer Network										
North West Wales NHS Trust	**118**		125	102	89	102	93	**44**	32	28
Conwy and Denbighshire NHS Trust	**97**		96	69	65	55	63	**20**	13	11
North East Wales NHS Trust	**91**		90	71	64	55	67	**32**	26	23
South West Wales Cancer Network										
Carmarthenshire NHS Trust	**89**		86	64	49	60	63	**25**	17	12
Swansea NHS Trust	**143**		138	122	95	118	111	**37**	29	20
Bro Morgannwg	**116**		113	82	70	81	76	**38**	24	20

	Data completeness %						Outcomes %												
Age	Excision	Urgent	ASA	Supplied Dukes	Derived Dukes	MDT	Nurse	CT All	CT ST	MRI All	MRI ST	Preop RT	Urgent or Emergency	APER	Stoma	EMVI	Median no. of nodes	CRM	Median LOS (days)
100	85.5	89.7	0.0	60.8	84.3	97.4	9.8	0.0	0.0	78.7	80.0	0.0	14.5	0.0	5.0	0.0	12	0.0	32
100	74.8	97.6	39.5	71.5	85.2	90.9	58.2	44.1	45.2	50.0	57.1	6.1	29.0	0.0	3.0	0.0	16	57.6	10
100	63.8	91.3	17.4	59.6	84.3	100.0	46.1	9.0	8.7	34.3	40.9	4.5	82.6	0.0	0.0	0.0	13	6.3	5
100	100.0	100.0	94.4	93.3	97.3	90.7	4.0	88.0	87.3	90.9	90.0	10.0	15.5	0.0	0.0	12.9	17	11.1	7
100	100.0	100.0	100.0	68.4	73.7	94.7	5.3	94.7	100.0	57.1	100.0	0.0	0.0	0.0	0.0	0.0	21	100.0	0
100	0.0	0.0	0.0	0.0	0.0	73.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0
100	92.9	97.1	92.9	25.0	92.9	98.8	90.5	88.1	85.7	76.5	84.6	0.0	8.6	0.0	33.3	38.5	19	100.0	6
100	0.0	0.0	0.0	0.0	0.0	95.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0
100	92.4	66.7	12.1	74.1	87.0	28.6	0.0	12.4	12.1	10.8	22.2	11.1	12.1	0.0	4.3	0.0	15	0.0	12
100	89.0	93.0	94.0	59.7	88.4	93.0	80.6	77.5	81.0	63.6	70.4	14.8	20.0	19.0	19.0	18.6	13	71.4	9
100	97.9	98.4	98.4	22.5	93.6	21.6	55.1	75.8	92.5	54.9	66.7	3.5	11.2	22.2	37.0	24.0	15	16.7	11
100	87.0	72.7	75.3	73.2	74.2	93.8	35.1	69.1	72.7	52.9	58.3	0.0	10.4	0.0	31.6	10.4	10	42.1	11
100	91.9	91.9	86.0	83.1	83.1	88.7	55.6	79.8	76.7	32.5	37.0	0.0	17.4	4.8	33.3	23.1	11	85.7	9
100	87.1	77.0	67.6	81.0	81.5	79.3	47.3	79.9	83.5	60.0	68.6	37.1	8.6	0.0	33.3	5.0	12	22.2	6
100	84.7	90.3	83.3	79.3	82.8	94.3	72.4	65.5	69.4	57.7	52.4	33.3	15.3	5.9	41.2	32.8	14	76.5	6
100	84.4	57.8	85.9	87.6	88.1	95.7	64.9	83.2	84.4	70.7	73.2	0.0	6.7	3.3	26.7	22.1	20	76.7	8
100	93.3	93.8	62.7	68.4	68.4	70.4	25.7	77.5	80.3	42.0	45.9	0.0	8.3	7.7	44.2	17.8	10	65.4	9
100	92.5	68.4	78.6	87.8	88.3	92.6	71.7	68.7	68.4	51.8	58.7	32.6	11.8	0.0	37.2	20.5	14	51.2	8
100	89.9	67.1	62.4	69.3	76.9	90.6	54.2	62.7	67.1	47.1	50.0	16.0	10.1	7.5	27.5	27.1	10	55.0	7
100	91.5	66.8	56.3	72.7	75.2	77.2	52.4	52.6	51.4	46.0	51.1	28.7	9.7	2.5	29.1	8.0	11	46.8	8
100	82.9	28.9	1.3	58.3	69.9	93.2	34.0	44.7	44.7	69.7	61.5	3.8	10.5	5.9	5.9	0.0	16	0.0	14
100	87.5	93.8	21.9	7.8	7.8	88.2	13.7	19.6	28.1	5.1	10.0	0.0	6.3	18.8	18.8	0.0	0	0.0	8
100	0.0	0.0	0.0	24.3	24.3	98.1	0.0	23.3	0.0	10.7	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0
100	89.1	97.8	90.6	53.1	78.2	93.3	75.4	79.3	82.6	38.5	48.5	42.4	25.4	13.0	47.8	33.3	12	73.9	10
100	0.0	0.0	0.0	88.5	88.5	96.7	0.0	22.1	0.0	23.1	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0
100	97.3	98.9	81.4	15.5	94.2	51.2	78.3	83.1	82.4	66.1	73.5	53.1	17.0	17.5	37.5	46.6	14	97.5	6
100	81.4	98.3	67.1	64.9	69.7	96.5	56.1	38.9	35.5	5.9	6.7	30.7	15.9	1.7	25.4	0.4	11	3.4	9
100	71.7	89.1	91.3	89.8	93.9	98.0	91.8	73.5	73.9	82.4	87.5	62.5	8.7	0.0	33.3	0.0	11	22.2	9
100	84.8	100.0	10.9	28.2	90.3	15.5	84.5	83.5	81.5	31.3	32.1	28.6	6.5	19.0	19.0	11.7	10	85.7	7
100	100.0	100.0	80.0	0.0	28.6	57.1	57.1	100.0	100.0	33.3	40.0	20.0	0.0	40.0	40.0	0.0	17	40.0	6
100	93.1	100.0	67.6	88.8	89.6	100.0	84.0	86.4	89.2	47.7	53.1	53.1	10.8	14.3	28.6	12.4	13	67.9	10
100	94.2	100.0	100.0	99.0	99.0	93.8	89.6	78.1	75.4	45.0	61.5	46.2	26.1	36.4	54.5	12.3	11	72.7	10
100	93.0	97.2	95.8	84.4	84.4	95.6	95.6	80.0	78.9	68.8	69.2	73.1	18.3	17.4	56.5	25.0	26	43.5	9
100	78.1	100.0	100.0	77.9	77.9	96.5	61.6	81.4	82.8	64.0	82.4	5.9	18.8	33.3	83.3	40.8	8	83.3	12
100	79.5	98.4	98.4	82.6	84.8	92.8	69.6	87.7	88.5	21.6	24.1	17.2	30.3	25.0	25.0	25.3	14	65.0	10
100	90.2	91.5	86.6	77.9	78.8	96.5	40.7	82.3	86.6	65.8	70.8	66.7	12.2	40.0	65.0	22.9	17	65.0	9

Organisation	Estimated expected number		Number submitted							
			All cases					Rectal tumours		
	Total	MR	Total	ST	MR	OM	LOS	Total	ST	MR
Ceredigion & Mid Wales NHS Trust	**29**		32	27	23	26	27	**6**	3	3
Pembrokeshire & Derwen NHS Trust	**53**		51	46	43	46	46	**12**	9	9
South East Wales Cancer Network										
Pontypridd & Rhondda NHS Trust	**61**		62	55	50	54	55	**21**	18	15
Gwent Healthcare NHS Trust	**185**		175	143	118	138	37	**48**	32	24
Cardiff & Vale NHS Trust	**135**		136	110	79	100	63	**41**	35	19
North Glamorgan NHS Trust	**76**		79	72	56	63	59	**32**	30	20
Republic of Ireland										
St James Hospital, Ireland										
Beaumont Hospital, Dublin			105	96	84	90	91	**44**	41	32
Northern Ireland										
Belfast			121	103	98	99	100	**43**	37	34
Other										
Princess Grace Hospital										

Data completeness %						Outcomes %													
Age	Excision	Urgent	ASA	Supplied Dukes	Derived Dukes	MDT	Nurse	CT All	CT ST	MRI All	MRI ST	Preop RT	Urgent or Emergency	APER	Stoma	EMVI	Median no. of nodes	CRM	Median LOS (days)
100	85.2	100.0	96.3	84.4	84.4	93.8	100.0	84.4	85.2	50.0	66.7	0.0	7.4	33.3	66.7	17.4	8	66.7	12
100	93.5	100.0	97.8	88.2	88.2	94.1	88.2	96.1	95.7	91.7	100.0	44.4	30.4	44.4	55.6	14.0	17	100.0	6
100	92.7	98.2	80.0	80.6	83.9	100.0	72.6	82.3	81.8	61.9	61.1	0.0	9.1	46.7	66.7	48.0	11	100.0	9
100	88.8	93.0	16.1	86.9	90.3	33.7	1.7	85.1	87.4	56.3	62.5	28.1	26.6	20.8	25.0	20.3	13	4.2	8
100	75.5	78.2	37.3	65.4	68.4	93.4	83.8	37.5	37.3	34.1	37.1	25.7	16.4	26.3	42.1	30.4	14	89.5	13
100	80.6	81.9	97.2	78.5	83.5	97.5	88.6	53.2	51.4	18.8	16.7	6.7	13.9	30.0	55.0	17.9	14	25.0	8
100	90.6	99.0	83.3	28.6	84.8	12.4	87.6	93.3	93.8	84.1	82.9	51.2	12.5	12.5	21.9	17.9	12	96.9	14
100	97.1	100.0	100.0	0.0	48.8	100.0	74.4	3.3	2.9	55.8	62.2	48.6	11.7	41.2	44.1	20.4	16	88.2	10

Appendix 3: Colorectal cancer outcomes audit in Leicester

Colorectal cancer outcomes audit has been well established in Leicester since 2001. The data are quality assured by a data analyst who is also responsible for the upper GI cancer audit data and who, with the collaboration of one of the clinicians, analyses the data for the annual Leicester Colorectal Cancer Audit Meeting.

This meeting takes place in the early part of the year and looks, year on year, at the patients diagnosed with colorectal cancer in the preceding calendar year. All the members of the Leicester Colorectal Specialists Advisory Group, which includes consultant surgeons, radiologists, pathologists and colorectal clinical nurse specialists, and the colorectal trainees, are invited to attend the meeting. Data are presented showing outcomes of the group as a whole and also on an individual surgeon basis. The latter data were initially anonymously presented but after the first meeting results were surgeon-identifiable. The reasoning behind this is that everyone has become comfortable with this, no individual surgeon's outcomes are significantly different from the others and it was relatively easy to break the code on the basis of the numbers and types of operations done. This forum, in conjunction with the annual protocol review meeting and the annual research meeting that the group also run, gives us the opportunity to ensure that we all keep up to date with current developments, thus individual surgeons feel supported by their colleagues and wider teams.

As a unit, we compare our data with the national data, to which Leicester has consistently and comprehensively contributed. In terms of the headline data of 30-day post-operative mortality, re-admissions within 30 days of discharge, unplanned re-operations, anastomotic leak rates and permanent stoma rates our results have remained relatively constant over the 6 years the full audit has been running. We have also found that, as more data are gathered, the apparent year-on-year fluctuations in individual surgeons' results become less obvious.

There are now details of approximately 2600 patients on the database and the overall 30-day mortality rate is 7 per cent, being 4.5 per cent in the elective group and 17 per cent in the emergency group of patients. Individual surgeons' results vary between an elective 30-day mortality rate of 1.6 per cent for one of the surgeons, who happens to do a lower volume of cancer work, and 6.4 per cent. Equivalent emergency mortality rates are 9.4 per cent and 28.9 per cent. The overall clinical anastomotic leak rate is approximately 6 per cent in patients not having stomas, with no major differences between the individual surgeons. The overall unplanned re-admission rate is 5 per cent and the unplanned re-operation rate is also 5 per cent. The data have also shown a steady rise in the number of new diagnoses each year, from 432 in 2001 to 462 in 2007, the increase being mainly in the colonic cancer group. The number of patients presenting as emergencies has remained frustratingly constant at about 24 per cent of all new diagnoses, as has the number of patients presenting with metastatic disease, 19 per cent. Overall, 80 per cent of patients have had some form of surgery for their disease, with 87 per cent of these having a resection.

To date comparisons within the group have not revealed any outliers but there are procedures in place to examine further any such instance. All participants find the process reassuring, educational and ultimately of benefit to their patients.

MJ Kelly & J Jameson
For the Leicester Colorectal Specialists Advisory Group

Appendix 4: Examples of collection of high quality complete data

Bowel cancer audit – 'how I collect data in Portsmouth'

I have managed the audit of colorectal cancer at Portsmouth for the last ten years. Data capture has evolved over that time towards a more streamlined and efficient process. The introduction of MDT meetings and greater electronic access to information has helped the task of the data manager, as has the overall greater awareness and acceptance by the clinical community of the relevance of audit for both local and national knowledge.

There is a trend towards less individualisation of Hospital Trusts as national requirements need to be addressed, but each unit will still have its own best way of organising the process of audit, with a need to adapt to resources available. Not every hospital has the luxury of a data manager responsible for complete and accurate audit.

The starting point of the audit process begins with being able to ensure that all patients with bowel cancer are identified. At Portsmouth, the weekly MDT meeting (where the treatment of all patients with bowel cancer is discussed) is the primary source of audit data. Secondary sources of identification (plus a 'fail safe' mechanism to ensure all cancers have been identified at the MDT) include a report from the histopathology department listing all colorectal cancers.

As data manager I collect data for all parts of the audit process. Much of this information is accessible on electronic 'in-house' databases (staging, pathology, chemotherapy, radiotherapy, post operative length of stay and survival). Details of surgery are taken from the operation note; a proforma, which includes required audit data items, is used in Portsmouth.

With a streamlined systematic process of audit in place, collection of data should be routine and effortless. In practice this isn't always the case, information is not always readily available or accessible to the auditor for various reasons. Successful audit is reliant on finding ways to overcome any hurdles in the flow of information. This may be made easier with the increasing climate of acceptance that audit is here to stay, and that audit may have its uses as opposed to threats for the clinician. On a local level, results of audit data in Portsmouth provide information that may influence decisions on future clinical practice within the unit; eg the median length of stay in hospital is much shorter in patients having laparoscopic surgery as opposed to open surgery. This is not a logical assumption, but a verifiable reality in Portsmouth.

Karen Flashman

Bowel cancer audit – 'how I collect data in Swansea'

I have been collecting, inputting and analysing cancer data for the past 6 years. It all started in 2002 with our own in-house cancer data collection system, CANTORIS, monitoring all Cancer Standards and subsequently moving our data input to the All Wales Cancer Information System Cymru (CANISC). We started entering limited data only in 2003 and retrospective colorectal cancer data from April 2003. As the number of data fields have gradually increased and been developed within the Colorectal Dataset we have been moving slowly but surely towards prospective data collection. This allows us to include all information needed for National Bowel Cancer Audit Project (NBOCAP), and also Welsh Office directives and targets eg Service and Financial Framework (SaFF).

Identification of cancers

The process of data capture, for information and audit, begins with being able to ensure that all patients with bowel cancer are identified in a timely manner. I rely on 4 main sources for this:

1. Weekly pathology reports

Within the Cancer Information Department we have a weekly download of copy pathology reports for all the suspicious, in-situ and histologically-diagnosed cancers within the Trust. All new cancers are recorded into CANISC from these reports and then distributed to each site specific cancer co-ordinator.

2. Weekly multidisciplinary meeting (MDT)

All suspected and diagnosed cancer patients are discussed at a weekly MDT meeting with regard to their ongoing investigations and treatment pathway. This process helps to identify emergency admissions and any cancers diagnosed on imaging. It is part of my role to organise and attend these meetings, which facilitates the information and fact-finding process.

3. Monthly theatre reports

These reports can pick up any overlooked or incomplete data eg ASA grade, and also be another way to help to identify missed cancer patients. If the patient has only had a colostomy or ileostomy, and has then been referred onto the Cancer Centre, it is often because they have some form of malignancy. Further investigation, using other Trust systems and the consultant's secretaries will shine a light on the situation.

4. Urgent Suspected Cancers referrals

All our USC patients have their pathway tracked from point of referral to confirmed diagnosis. By working closely with our tracking clerk it is possible to start the information collection process in the early days and be ahead of the game and ensure no breach of the Welsh Assembly Government (WAG) Cancer SaFF Target.

Data collection

Every colorectal cancer identified from pathology or through clinical information is recorded on to a single A4 proforma data sheet. This has been designed for convenience of data collection and data entry, and includes a condensed version of the ACP dataset. Relevant information before each MDT is retrieved from the medical notes, if available, and helps to focus on incomplete data, which can then be requested at the meeting. However, this is time consuming and not always that comprehensive. Much of the information required is accessible on several different in-house systems and so, in theory, much can be achieved without actually moving from my department. The data items include mode of referral, clinic dates, waiting lists and inpatient admissions (iPM), pre-operative staging or investigative radiological investigations and reports (RADIS/PACS), histology reports (Wintegrate), and radiotherapy or chemotherapy activity from our Cancer Centre and oncology database. The details of surgery are initially collected by myself from the patient's case-notes and subsequently verified by the surgeon at the MDT and then on completion of a CANISC surgical procedure pro-forma specifically designed for this purpose.

Even though follow up information is not routinely collected, if and when any recurrence or progression of disease has been identified either radiologically of histopathologically at the multidisciplinary meeting, the information is recorded within CaNISC.

Collection of data as described should, in theory, be fairly routine and almost effortless, but as we all know this is not really the case. Without electronic feed of information between systems, and input from clinicians, secretaries, nurse specialists and MDT meetings to name but a few, it remains a continuous challenge.

Julie Cowling

Appendix 5: Local Action Plan (LAP) based on the recommendations of 2009 Annual Report

Recommendation	Achieved Y/N/P/ NK	Planned Action	Suggested Actions	Suggested Responsibility	Date Planned Actioned	Date issue resolves
Data Completeness and Quality						
The Trust participates in the National Bowel Cancer Audit			Contact local Cancer Network for audit advice. Visit www.ic.NHS.uk/canceraudits for information	Cancer Manager / Governance / MDT Clinical lead		
Data on all patients with bowel cancer submitted to the audit			Use MDT meetings to capture all cases discussed. Try to record cases in real time or near real time. Liaise with pathology departments to ensure all relevant data captured	MDT Chair		
All relevant data fields are completed for each patient and should include the 5 variables used for risk adjustment			Use proforma for data collection at MDT. Identify key person to quality assure data prior to submission. Data inputters understand clinical implications of data	Data Co-ordinator / Cancer Manager / Network Manager		
Actual completeness of at least 80 per cent should be achieved for key data fields			Refer to the essential dataset and ensure that these fields are collected for all relevant cases. Use 2009 audit report to identify data items not being completely collected.	MDT Chair / Data Co-ordinator / Cancer Manager / Network Manager / MDT Chair		
Process of Care						
All patients submitted to the audit are discussed at MDT			Liaise with cancer waiting times team to identify bowel cancer referrals. Liaise with radiology department to identify all imaging suspicious of bowel cancer. Liaise with pathology department to identify cases	MDT Chair / Bowel cancer clinical lead		
All patients with bowel cancer are seen by a cancer nurse specialist			Review the specialist nurse service and ensure that a clear referral process exists	MDT Chair / bowel cancer clinical lead / Clinical nurse specialist lead		
All patients with colon or rectal cancer should have pre-operative staging by a CT scan			Ensure all relevant pre-operative cases are submitted to the audit. Review protocols for availability of CT scanning	MDT Chair / Radiology lead		
Clinical Outcomes						
The number of lymph nodes removed and examined from each surgical specimen should be above the median of 12			Review of nodal harvest process for resection specimens	MDT / Colorectal pathology lead		
Post-operative mortality should be less than 20 per cent for emergency surgery and less than 7 per cent for elective surgery for colorectal cancer			Case note review of each post operative death for lessons learned	MDT Chair and Colorectal surgeons		
Permanent stoma rate should be kept to a minimum			Note permanent stoma rate and compare both with Network and national rates	Colorectal surgeons, Trust Management and Network Managers		
APER rates should be kept to a minimum			Review APER rate and compare with Network and national rates	Colorectal surgeons, Trust Management and Network Managers		
Laparoscopic surgery should be performed by adequately trained colorectal surgeons			Ensure adequate training	Colorectal surgical department and Trust management		
Reduce length of stay (median 8 days)			Explore all current initiatives eg pre-assessment, enhanced recovery pathways, laparoscopic approaches to surgery	Colorectal surgeons and clinical management teams		
Completion of the Royal College of Pathology minimum dataset			Look at the completion of the data items within the National Bowel Cancer Audit	MDT lead / Chair and the colorectal pathologists		

The NHS Information Centre for health and social care is working to make information more relevant and accessible to the public, regulators, health and social care professionals and policy makers, leading to improvements in knowledge and efficiency. The NHS IC is a NHS special health authority that collects, analyses and distributes data to reduce the burden on frontline staff, releasing more time for direct care.

National Bowel Cancer Audit report.

Printed copies of the Executive Summary for the 2009 Annual Report can be ordered by quoting reference number 20100209, or call The NHS Information Centre's Contact Centre on 0845 300 6016 or email bowelcancer@ic.nhs.uk

For further information about this report, email bowelcancer@ic.nhs.uk or contact:

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