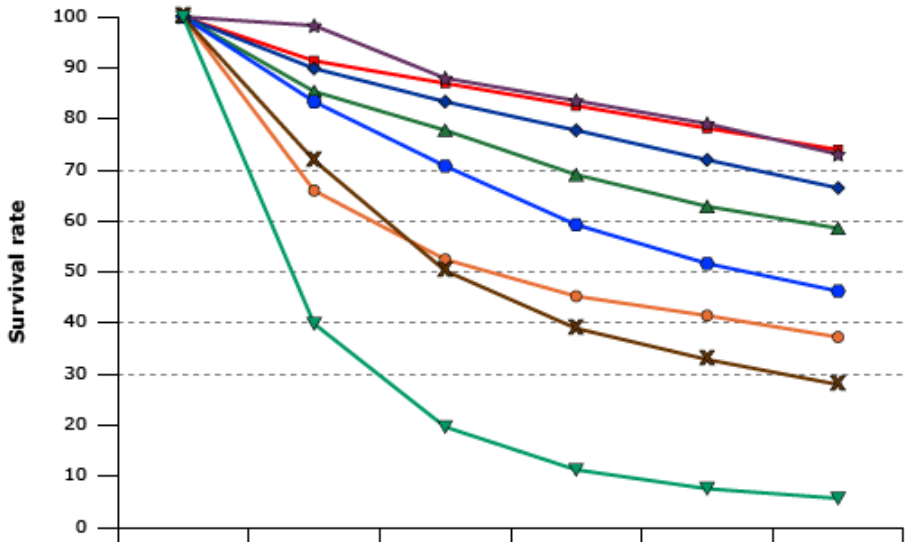
Anglia Cancer Network Liver Metastases Service Information Day 11th July 2011

Rory Harvey, Network Medical Director

Observed survival rates for 28,491 cases with adenocarcinoma of the colon



	0	1	2	3	4	5
I	100.0	91.4	87.0	82.6	78.2	74.0
IIA	100.0	89.9	83.4	77.8	72.0	66.5
IIB	100.0	85.4	77.8	69.1	62.9	58.6
IIC	100.0	66.0	52.5	45.3	41.5	37.3
IIIA	100.0	98.3	88.0	83.6	79.1	73.1
IIIB	100.0	83.4	70.8	59.3	51.7	46.3
IIIC	100.0	71.9	50.3	39.0	32.9	28.0
IV	100.0	39.9	19.7	11.3	7.6	5.7

Years from diagnosis

Data from the SEER 1973-2005 Public Use File diagnosed in years 1998-2000. Stage I includes 7417; Stage IIA, 9956; Stage IIB, 997; Stage IIC, 725; Stage IIIA, 868; Stage IIIB, 1492; Stage IIIC, 2000; and Stage IV, 5036.

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Results of hepatic resection for metastatic colorectal cancer

Author and year	Number of patients	5 yr OS, percent	Median survival, months
Hughes, KS; 1986	607	33	NR
Scheele, J; 1995	434	33	40
Nordlinger, B; 1996	1568	28	NR
Jamison, RL; 1997	280	27	33
Fong, Y; 1999	1001	37	42
Iwatsuki, S; 1999	305	32	NR
Choti, M; 2002	133	58	NR
Abdalla, E; 2004	190	58	NR
Fernandez, FG; 2004	100	58	NR
Wei, AC; 2006	423	47	NR
Rees, M; 2008	929	36	42.5
de Jong, M; 2009	1669	47	36
Morris, EJ; 2010	3116	44	NR

NR: not reported; OS: overall survival.

Anglia cancer network

- 1800 cases colorectal cancer per year
- Between 1100 and 1300 will present with or develop liver mets in any year (60-75%)
- 70% will have liver only disease; 800 to 950
- 20% will have resectable disease; 160 to 190 resections per year

Current activity (2009 – ERPHO)

- 62 Anglia Cancer Network patients underwent liver resections within Anglia Cancer Network Trusts
- 30 Anglia Cancer Network patients were referred to Trusts outside of the network for liver resections
- Currently 5 different referral pathways

Why replace low volume high quality services?

- Guidelines

Improving Outcomes in Colorectal Cancers 2004

- **Liver resection MDTs**
- Each Network should identify or establish a specialised MDT which has the expertise and facilities to provide surgery for patients with liver metastases in a Centre which serves a population of at least two million.
- **Surgical specialisation and patient throughput**
- One study examined liver resection for metastatic colorectal cancer.
- This found a highly significant association between higher hospital throughput and 30-day survival rates

Improving Outcomes in Colorectal Cancers 2004

- **Management of patients with localised liver or lung metastases**
- Patients with metastases confined to limited areas of the liver or lung,and who are sufficiently fit to undergo further treatment after resection of the primary tumour, should be referred to a specialist MDT for an opinion on their management. Any patient for whom resection or ablation of liver metastases might be appropriate should be discussed by a specialist liver resection MDT

- **Anticipated benefits**
- Surgery for metastases confined to the liver or lung can be curativewhen carried out by specialists with experience of this type of work.
- Although such resection is only appropriate for a minority of patients, it can increase five-year survival rates from close to zero to over 30%.

National Cancer Peer Review Programme
Manual for Cancer Services: Colorectal Measures
Publication date April 2011

- ‘no cancer network in England should be able to support more than one liver resection MDT on the basis of its own population, and some will have to refer to a team in a neighbouring network’
- ‘the network board in consultation with the NSSG is given the responsibility for review purposes of deciding the network configuration of the teams for anal cancer, local resection of early rectal cancer and resection of liver metastases’
- All the metastatectomies performed in the name of the liver resection MDT should be carried out in the same named hospital

Improving Outcomes: A Strategy for Cancer

January 2011

- As some cancers are more common than others, NICE has defined appropriate population and activity thresholds for different cancer services in a series of evidence-based cancer Improving Outcomes Guidance documents (IOGs). In order to ensure quality care for patients, these IOGs will continue to be a feature of all commissioned services.

Services to be Centralised

- Specialist MDT to which all suspected liver mets patients are referred
- Liver resection surgical service for liver mets patients
- Both the above to be hosted on the same site

Services Not Subject to Centralisation

- All non-surgical treatments
- All diagnostic procedures
- Surgical procedures involving the liver **other than liver resection** for liver mets patients
- Any surgical procedures involving the liver for non-liver mets patients

Why replace low volume high quality services?

- Guidelines
- Low volumes

The Effect of Provider Case Volume on Cancer Mortality

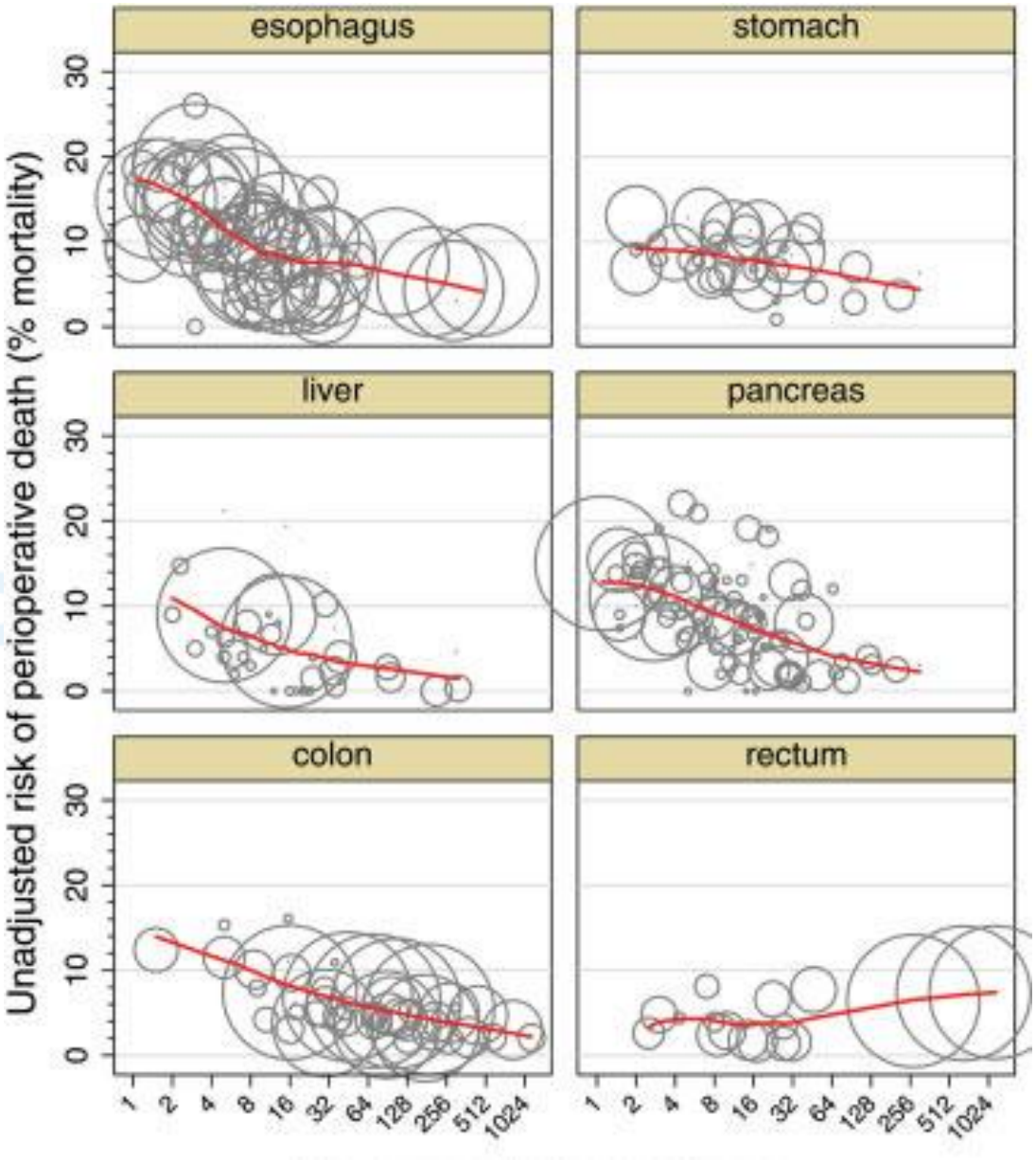
Systematic Review and Meta-analysis

TABLE 12. Summary Mortality Risk From Unadjusted Data

TUMOR	STUDIES	HOSPITALS	PATIENTS	DEATHS	EFFECT ON MORTALITY OF DOUBLING HOSPITAL CASE VOLUME OR (95% CI)	UPPER LIMIT LOWER QUARTILE, CASES/YEAR	LOWER QUARTILE MORTALITY, %	LOWER LIMIT UPPER QUARTILE, CASES/YEAR	UPPER QUARTILE MORTALITY, %	NNT*
Esophagus	24	3,405	45,822	4,177	0.81 (0.77-0.84)	3	16.7	18	6.7	10
Stomach	14	5,058	179,540	16,369	0.88 (0.86-0.91)	6	8.8	33	6.8	50
Liver	10	1,831	24,792	1,731	0.77 (0.72-0.83)	5	11.6	34	2.9	11
Pancreas	30	7,282	64,215	7,092	0.78 (0.73-0.84)	3	12.8	20	5.3	13
Colon†	13	7,309	575,235	31,896	0.90 (0.88-0.92)	18	9.8	175	3.6	16
Rectum†	5	562	88,005	5,503	1.07 (1.01-1.14)	8	4.8	46	7.2	—
All colon, rectum, and colon and rectum (not otherwise defined)	27	10,239	797,971	42,304	0.91 (0.89-0.93)	16	7.5	135	4.7	36

OR indicates odds ratio; 95% CI, 95% confidence interval; NNT, number needed to treat.

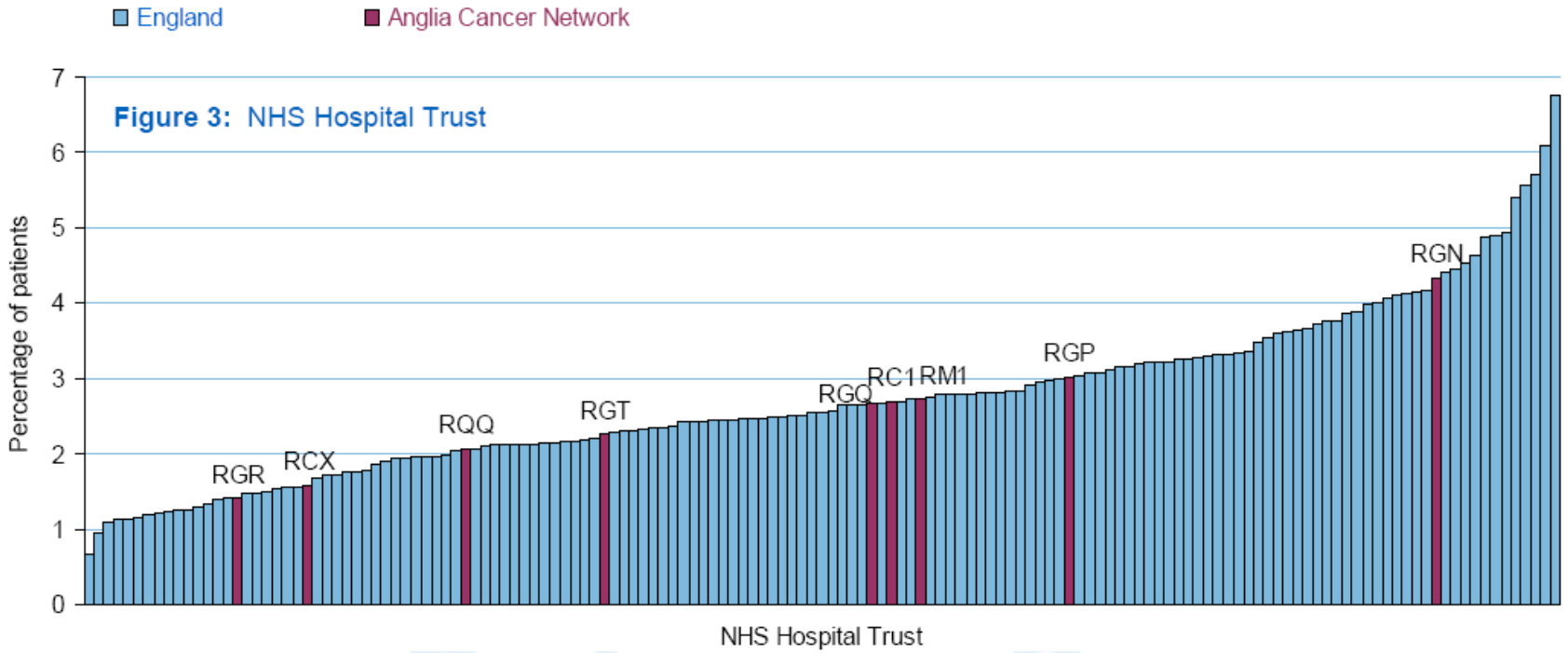
*Patients needed to be moved from a lower quartile hospital to an upper quartile hospital to prevent 1 volume-associated death (calculated by 100/[lower quartile mortality–upper quartile mortality]).


esophagus
stomach
liver
pancreas
colon
rectum
Unadjusted risk of perioperative death (% mortality)
0
10
20
30
1
2
4
8
16
32
64
128
256
512
1024

Why replace low volume high quality services?

- Guidelines
- Low volumes
- Variation in access

Unacceptable variation



Why replace low volume high quality services?

- Guidelines
- Low volumes
- Variation in access
- Quality assured network services

Network Objectives

- Equity of access to expert opinion and surgery
- Continuous improvement in outcomes for patients
  - Reducing 30 day mortality rates
  - Increasing 1, 2 and 5 year survival rates
  - Active research program
- Provision of data to support ongoing development of the service
- Sustainable service
  - Links to training
  - Attracts national and international workforce