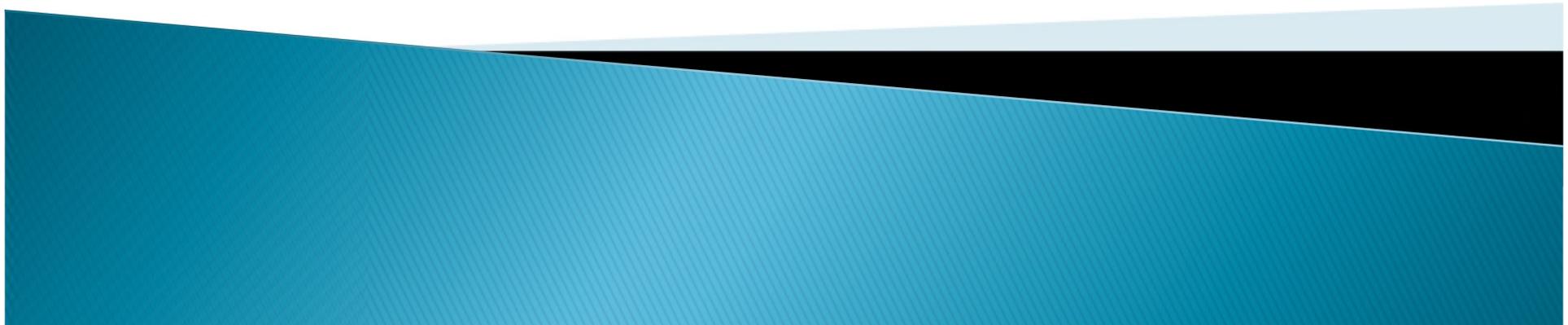




National Oesophago-Gastric Cancer Audit (NOGCA)

Nick Maynard, Surgical Lead for NOGCA

COSD Cancer Roadshow 2020



NOGCA Commissioned by HQIP as part of National Clinical Audit Programme

- ▶ High Grade Dysplasia
- ▶ OG cancer
 - Route to diagnosis and staging
 - Treatment plans
 - Waiting times for treatment
 - Curative surgery
 - Palliative care

National
Oesophago-Gastric Cancer
Audit
2019



An audit of the care received by people with oesophago-gastric cancer and oesophageal high grade dysplasia in England and Wales



AUGIS



DRAFT – 20 October. Not for circulation

<https://www.nogca.org.uk/>

OG cancer patients

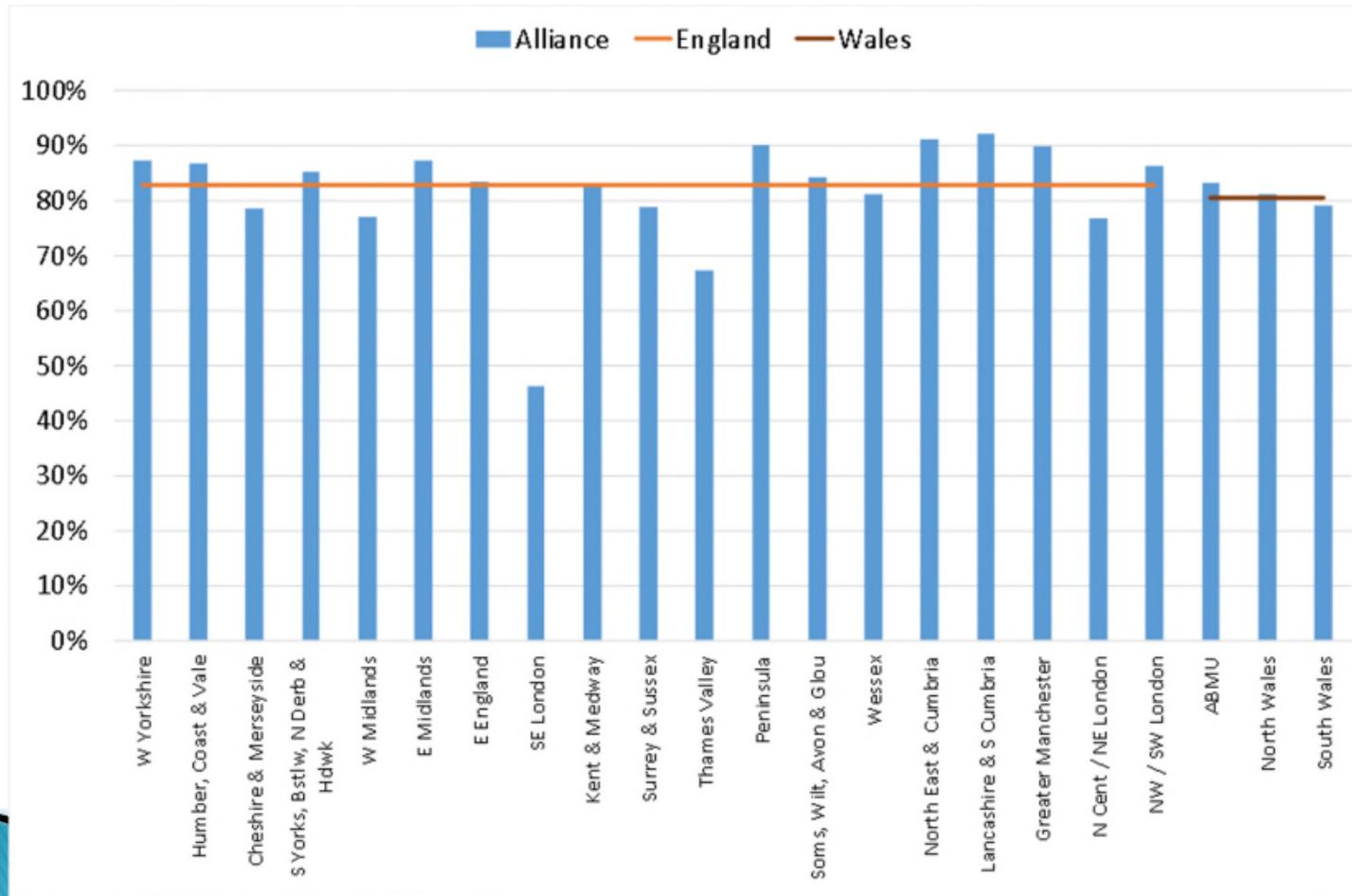
SCOPE OF 2019 Annual Report:

- ▶ Patients diagnosed from 1 April 2016 and 31 March 2018
- ▶ **Records were submitted on 21,417 patients**
- ▶ 20,080 being diagnosed at 132 NHS trusts in England
- ▶ 1,337 being diagnosed at 6 local health boards in Wales
- ▶ Linkage to other datasets: HES, PEDW, ONS, RTDS, SACT



Estimated case-ascertainment

Case ascertainment for the period April 2016 to March 2018:
82.5% in England (vs HES) and 80.5% in Wales (vs PEDW)



Route to diagnosis

Route to diagnosis	OES SCC	OES ACA Upper / Mid	OES ACA Lower (w SI,SII)	Stomach (w SIII)	Total
GP referral	70%	68%	69%	57%	66%
<i>Urgent / 2 wk wait</i>	65%	62%	63%	51%	60%
<i>Routine</i>	5%	6%	6%	6%	6%
Emergency adm.	10%	11%	10%	19%	13%
Other consultant	20%	22%	21%	24%	22%
Total cases	3,996	1,521	9,524	6,376	21,417
Missing values	50	33	183	121	387

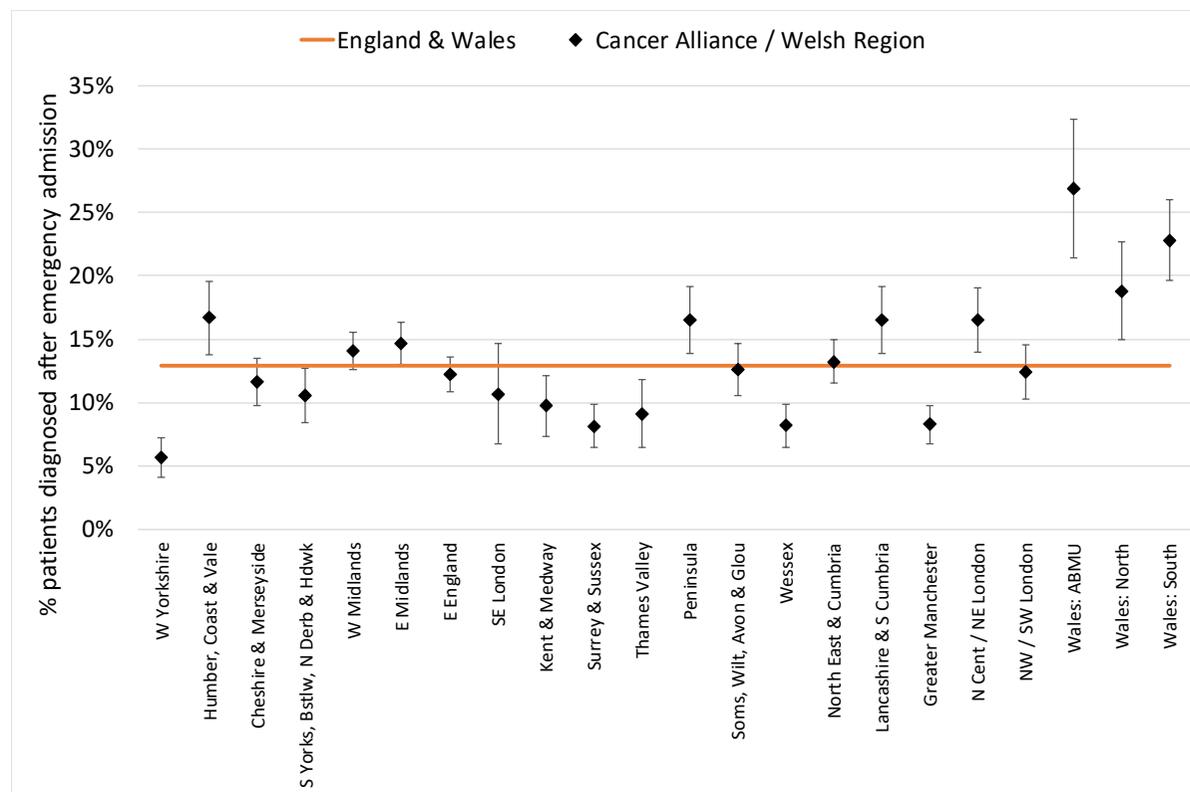


Diagnosis after emergency admission

RECOMMENDATION:

- Investigate reasons for diagnosis after emergency admission to identify opportunities for early detection

Adjusted rates by region
(Apr 2016 - Mar 2018)

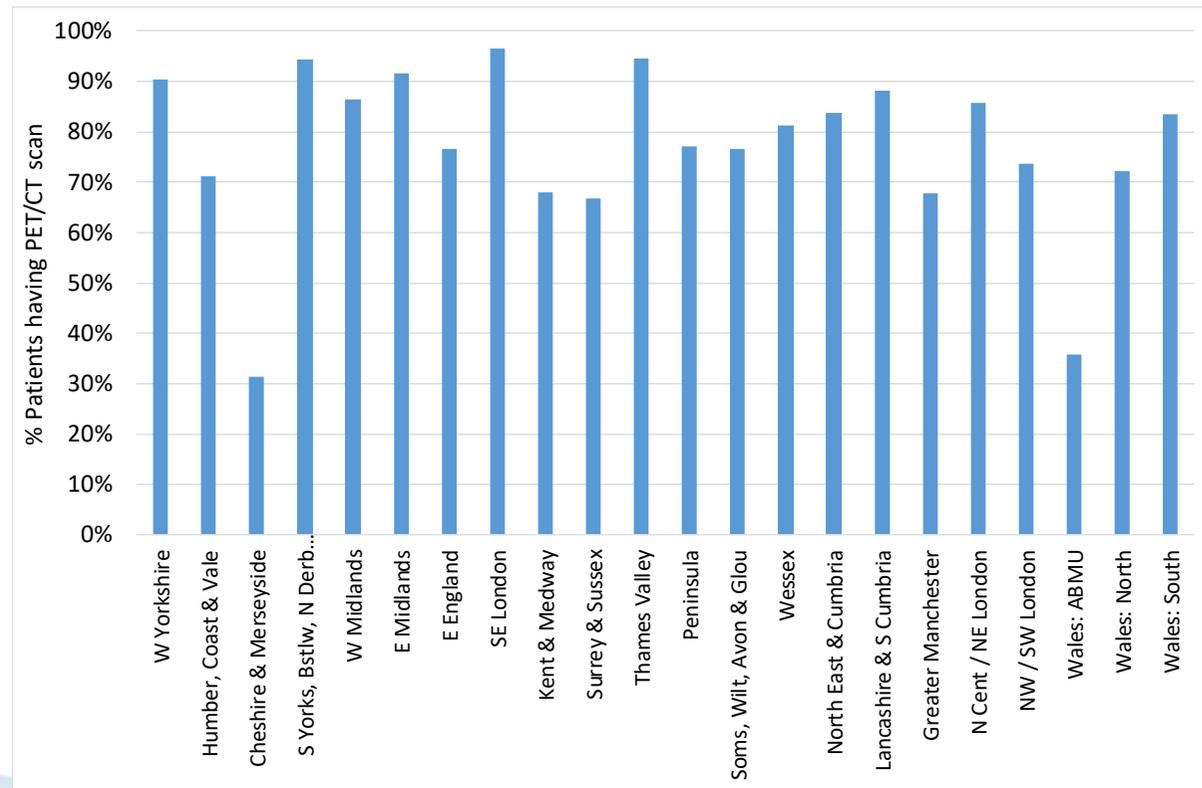


Staging investigations

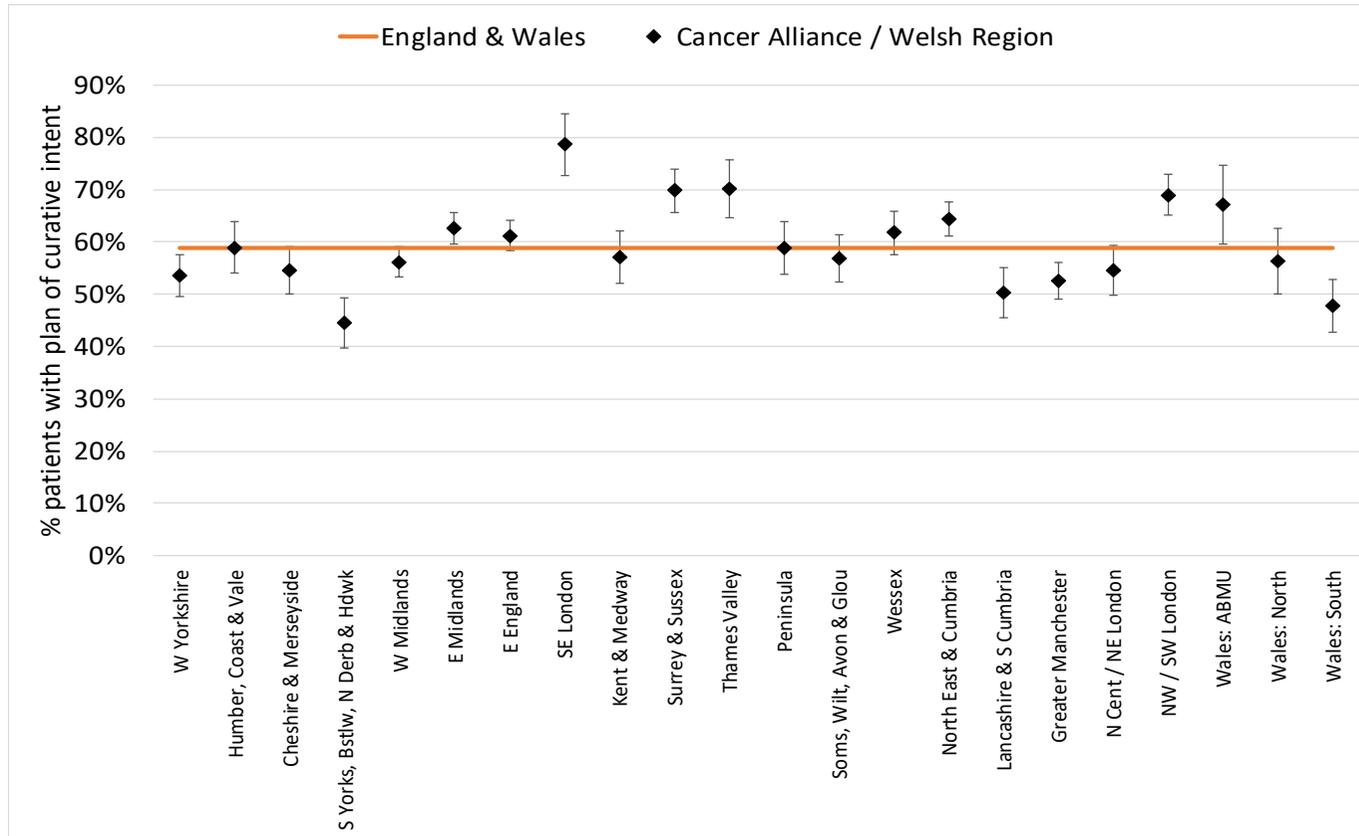
RECOMMENDATION:

- Ensure patients have staging investigations in line with national guidance – notably, all patients being considered for radical treatment have a PET-CT scan

Use of PET-CT among patients with OES cancer & had curative treatment (2016-2018)



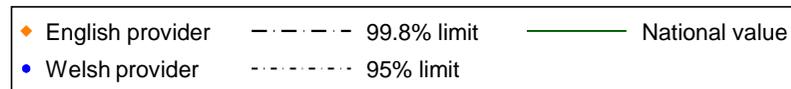
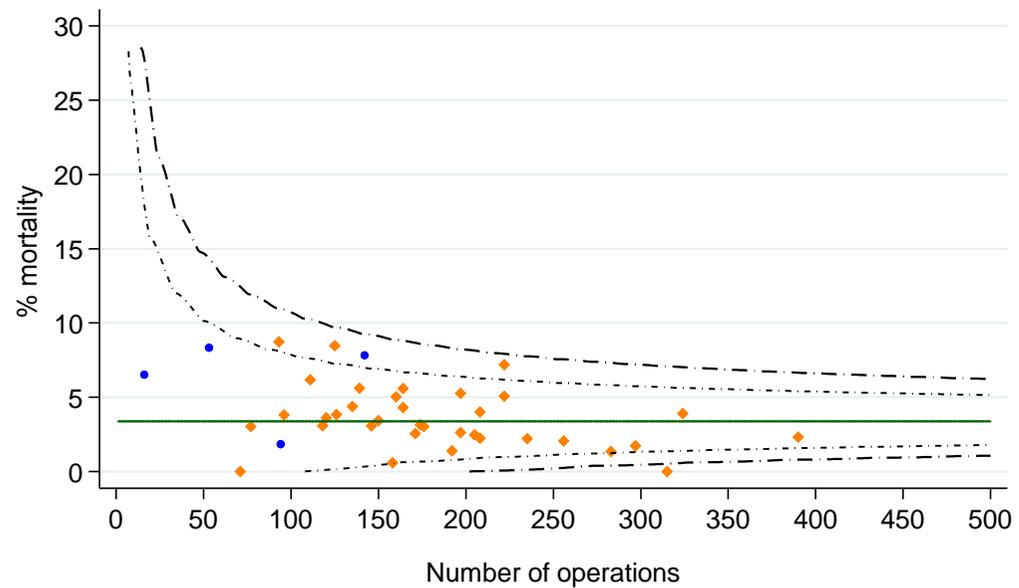
% Patients with curative treatment plans for patients with clinical stage 0-3 (period 2016-18)



Short-term curative surgical outcomes

	Oesophagectomy	Gastrectomy	Overall
30-day mortality (95% CI)	2.1% (1.7 to 2.6)	1.5% (1.0 to 1.9)	1.9% (1.6 to 2.3)
90-day mortality (95% CI)	3.8% (3.2 to 4.4)	2.5% (1.9 to 3.2)	3.4% (3.0 to 3.8)

Adjusted 90-day mortality
after curative surgery for
patients diagnosed between
April 2015 and March 2018



Enhanced recovery after surgery (ERAS)

Expected length of stay (days) for patients diagnosed in 2017/18

Postoperative pathway	Oesophagectomy		Gastrectomy	
	No CC	With CC	No CC	With CC
A protocolised ERAS with daily-documentation in medical notes?	11.6	20.3	9.3	18.0
A protocolised enhanced recovery without daily documentation in medical notes?	14.0	27.5	11.7	25.3
A standard (non-ERAS) surgical pathway	13.5	25.7	11.2	23.4



Pathology outcome indicators

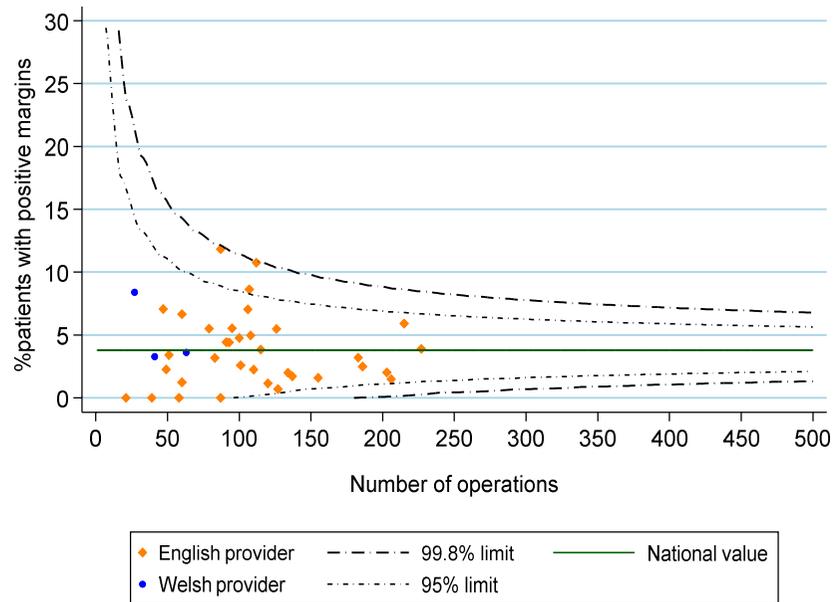
(April 2015 and March 2018)

Indicator	National average
Proportion of patients with 15 or more lymph nodes examined	84.4% OES: 86.1%; GAST: 81.1%
Proportion of patients with positive longitudinal margins- oesophagectomy	3.8%
Proportion of patients with positive circumferential margins-oesophagectomy	25.4%
Proportion of patients with positive longitudinal margins- gastrectomy	7.2%

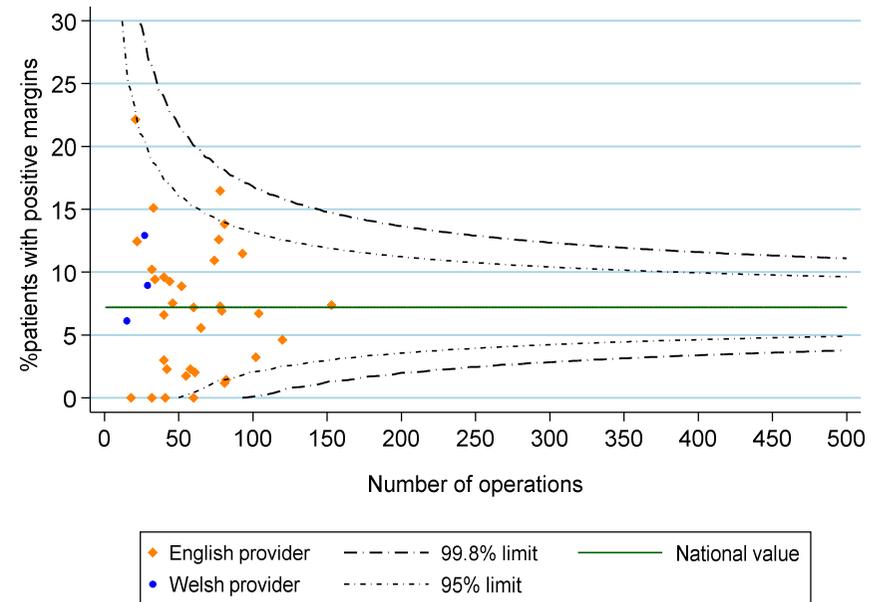


Adjusted rate of positive longitudinal margins (April 2015 and March 2018)

oesophagectomy



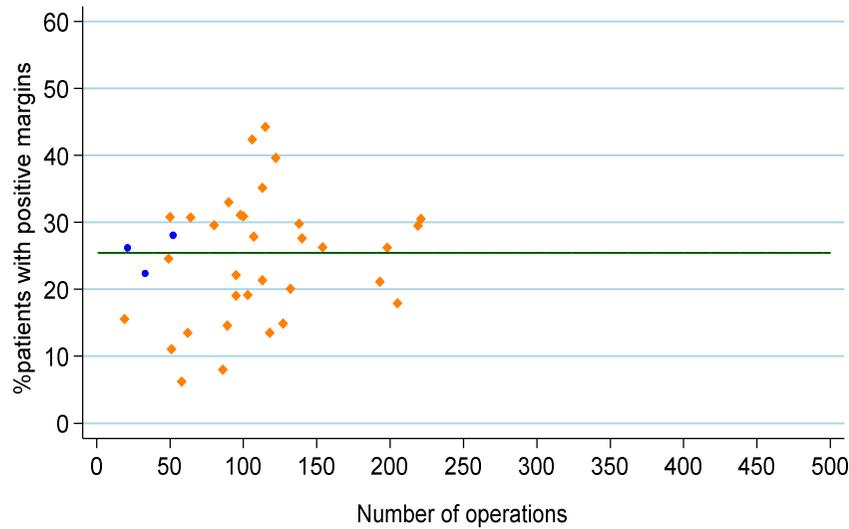
gastrectomy



Other pathology outcome indicators

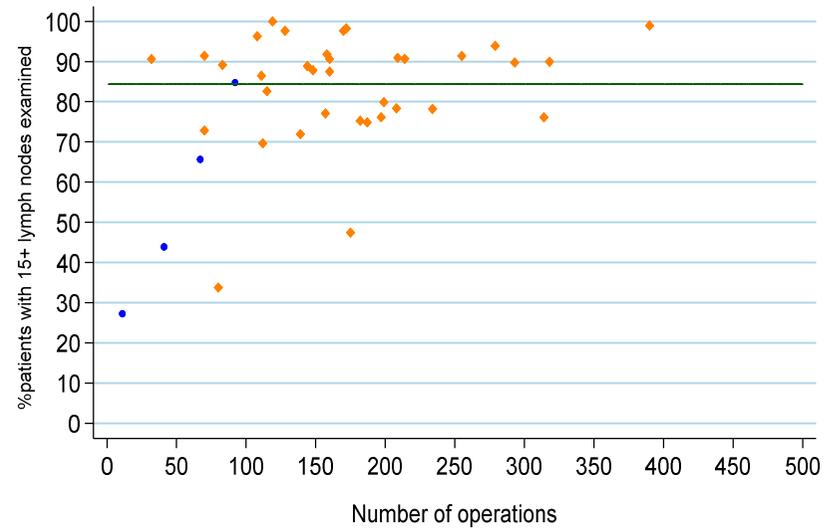
(April 2015 and March 2018)

Adjusted rate of OES circumferential margins



English provider Welsh provider National value

Unadjusted rate of lymph nodes



English provider Welsh provider National value



Palliative chemotherapy

RECOMMENDATION:

- Explore why patients receiving palliative chemotherapy were unable to complete the regimen

	OES SCC	OES ACA Upper/Mid	OES ACA Lower, SI-SII	Stomach (w SIII)
Chemotherapy	496 (51%)	238 (63%)	1,620 (71%)	974 (78%)
Radiotherapy	406 (42%)	129 (34%)	633 (27%)	268 (21%)
Chemo-radiotherapy	63 (7%)	11 (3%)	45 (2%)	12 (1%)

Outcome of chemotherapy

% Completed	53.2%	60.5%	55.5%	53.5%
% Patient died	7.8%	7.9%	7.6%	9.5%
% Progressive dis.	16.5%	16.4%	14.8%	13.5%
% Acute toxicity	9.2%	6.2%	8.9%	9.5%
% Other	13.3%	9.0%	13.3%	13.9%



What “Can We” and What “Have We” Measured Well

- Length of hospital stay
 - Operative time
 - Mortality
 - Survival
 - ± Q.O.L.
- Defined systems for documenting outcomes
- Evolving systems for assessing outcomes
 - pathological
 - complications (variable reporting)
- 

Reporting of Short-Term Clinical Outcomes after oesophagectomy

- Results from a systematic review
 - Blencowe et al *Annals of Surgery* 2012: 255; 658-66
- Rates variable due to no common agreement on definitions

Complications	Range of rates reported (%)
Anastomotic leak	0.0 to 35.0
Pneumonia	1.5 to 38.9
Recurrent laryngeal nerve injury	0.0 to 31.1



Reporting of Short-Term Clinical Outcomes after oesophagectomy – international consensus

- International effort to agree a system for defining perioperative complications associated with oesophagectomy (ESODATA)
- Results published in Ann Surg. 2015; 262(2): 286-94

[Ann Surg. 2015 Aug;262\(2\):286-94. doi: 10.1097/SLA.0000000000001098.](#)

International Consensus on Standardization of Data Collection for Complications Associated With Esophagectomy: Esophagectomy Complications Consensus Group (ECCG).

[Low DE¹](#), [Alderson D](#), [Ceconello I](#), [Chang AC](#), [Darling GE](#), [D'Journo XB](#), [Griffin SM](#), [Hölscher AH](#), [Hofstetter WL](#), [Jobe BA](#), [Kitagawa Y](#), [Kucharczuk JC](#), [Law SY](#), [Lerut TE](#), [Maynard N](#), [Pera M](#), [Peters JH](#), [Pramesh CS](#), [Reynolds JV](#), [Smithers BM](#), [van Lanschot JJ](#).

[+](#) Author information



Esodata Complications after Oesophagectomy – COSD v9

UPPER GI - TREATMENT - SURGERY - ESODATA							
To carry surgical complication details for Upper GI - Esophageal Database (ESODATA), as specified							
May be up to one occurrence per Core - Treatment - Surgery (0..1)							
Start of repeating item - Surgical Complications							
					0100	Gastrointestinal	
					0101	No post-operative complications	
					0102	Oesophagoenteric leak from anastomosis, staple line, or localised conduit necrosis	
					0103	Conduit necrosis/failure requiring surgery	
					0104	Ileus defined as small bowel dysfunction preventing or delaying enteral feeding	
					0105	Small bowel obstruction	
					0106	Feeding J-tube complication	
					0107	Pyloromyotomy/Pyloroplasty complication	
					0108	Clostridium Difficile infection	
					0109	GI bleeding requiring intervention or transfusion	
					0110	Pancreatitis	
					0111	Liver dysfunction	
					0112	Delayed conduit emptying requiring intervention or delaying discharge or requiring maintenance of ng drainage >7 days post-op	
					0113	Bowel ischaemia	
					0199	None	
					0200	Pulmonary	
					0201	Pneumonia	
					0202	Pleural effusion requiring additional drainage procedure	
					0203	Pneumothorax requiring intervention	
					0204	Atelectasis mucous plugging requiring bronchoscopy	
					0205	Respiratory failure requiring intubation	
					0206	Acute respiratory distress syndrome	
					0207	Acute aspiration	
					0208	Tracheobronchial injury	
					0209	Chest drain requirement for air leak for >10 days post-op	
					0299	None	

UG15010	UPPER GI - TREATMENT - SURGERY - ESODATA	SURGICAL COMPLICATIONS - INTERNATIONAL ESOPHAGEAL DATABASE (ESODATA)	<p>The types of complications as defined in the International Esophageal Database (ESODATA)</p> <p>This list has been compiled by the Esophageal Complications Consensus Group (ECCG)</p>	an4	<table border="1"> <tr><td>0300</td><td>Cardiac</td></tr> <tr><td>0301</td><td>Cardiac arrest requiring CPR</td></tr> <tr><td>0302</td><td>Myocardial infarction</td></tr> <tr><td>0303</td><td>Dysrhythmia atrial requiring intervention</td></tr> <tr><td>0304</td><td>Dysrhythmia ventricular requiring intervention</td></tr> <tr><td>0305</td><td>Congestive heart failure requiring intervention</td></tr> <tr><td>0306</td><td>Pericarditis requiring intervention</td></tr> <tr><td>0399</td><td>None</td></tr> <tr><td>0400</td><td>Thromboembolic</td></tr> <tr><td>0401</td><td>DVT (Deep Venous Thrombosis)</td></tr> <tr><td>0402</td><td>PE (Pulmonary Embolus)</td></tr> <tr><td>0403</td><td>Stroke (CVA)</td></tr> <tr><td>0404</td><td>Peripheral thrombophlebitis</td></tr> <tr><td>0499</td><td>None</td></tr> <tr><td>0500</td><td>Urologic</td></tr> <tr><td>0501</td><td>Acute renal insufficiency (defined as: doubling of baseline creatinine)</td></tr> <tr><td>0502</td><td>Acute renal failure requiring dialysis</td></tr> <tr><td>0503</td><td>Urinary tract infection</td></tr> <tr><td>0504</td><td>Urinary retention requiring reinsertion of urinary catheter, delaying discharge, or discharge with urinary catheter</td></tr> <tr><td>0599</td><td>None</td></tr> <tr><td>0600</td><td>Infection</td></tr> <tr><td>0601</td><td>Wound infection requiring opening wound or antibiotics</td></tr> <tr><td>0602</td><td>Central IV line infection requiring removal or antibiotics</td></tr> <tr><td>0603</td><td>Intrathoracic/Intra-abdominal abscess</td></tr> <tr><td>0604</td><td>Generalised sepsis</td></tr> <tr><td>0605</td><td>Other infections requiring antibiotics</td></tr> <tr><td>0699</td><td>None</td></tr> <tr><td>0700</td><td>Neurologic/Psychiatric</td></tr> <tr><td>0701</td><td>Recurrent nerve injury</td></tr> <tr><td>0702</td><td>Other neurologic injury</td></tr> <tr><td>0703</td><td>Acute delirium</td></tr> <tr><td>0704</td><td>Delirium tremens</td></tr> <tr><td>0799</td><td>None</td></tr> <tr><td>0800</td><td>Wound/Diaphragm</td></tr> <tr><td>0801</td><td>Thoracic wound dehiscence</td></tr> <tr><td>0802</td><td>Acute abdominal wall dehiscence/hernia</td></tr> <tr><td>0803</td><td>Acute diaphragmatic hernia</td></tr> <tr><td>0899</td><td>None</td></tr> <tr><td>0900</td><td>Other</td></tr> <tr><td>0901</td><td>Chyle leak</td></tr> <tr><td>0902</td><td>Chyle leak severity/type</td></tr> <tr><td>0903</td><td>Reoperation for thoracic bleeding</td></tr> <tr><td>0904</td><td>Reoperation for abdominal bleeding</td></tr> <tr><td>0905</td><td>Reoperation for reasons other than bleeding, anastomotic leak or conduit necrosis</td></tr> <tr><td>0906</td><td>Multiple organ dysfunction syndrome</td></tr> <tr><td>0999</td><td>None</td></tr> <tr><td>1000</td><td>Additional Complications</td></tr> <tr><td>1001</td><td>The patient had other complications that are not in the ECCG recommended complications list above?</td></tr> </table>	0300	Cardiac	0301	Cardiac arrest requiring CPR	0302	Myocardial infarction	0303	Dysrhythmia atrial requiring intervention	0304	Dysrhythmia ventricular requiring intervention	0305	Congestive heart failure requiring intervention	0306	Pericarditis requiring intervention	0399	None	0400	Thromboembolic	0401	DVT (Deep Venous Thrombosis)	0402	PE (Pulmonary Embolus)	0403	Stroke (CVA)	0404	Peripheral thrombophlebitis	0499	None	0500	Urologic	0501	Acute renal insufficiency (defined as: doubling of baseline creatinine)	0502	Acute renal failure requiring dialysis	0503	Urinary tract infection	0504	Urinary retention requiring reinsertion of urinary catheter, delaying discharge, or discharge with urinary catheter	0599	None	0600	Infection	0601	Wound infection requiring opening wound or antibiotics	0602	Central IV line infection requiring removal or antibiotics	0603	Intrathoracic/Intra-abdominal abscess	0604	Generalised sepsis	0605	Other infections requiring antibiotics	0699	None	0700	Neurologic/Psychiatric	0701	Recurrent nerve injury	0702	Other neurologic injury	0703	Acute delirium	0704	Delirium tremens	0799	None	0800	Wound/Diaphragm	0801	Thoracic wound dehiscence	0802	Acute abdominal wall dehiscence/hernia	0803	Acute diaphragmatic hernia	0899	None	0900	Other	0901	Chyle leak	0902	Chyle leak severity/type	0903	Reoperation for thoracic bleeding	0904	Reoperation for abdominal bleeding	0905	Reoperation for reasons other than bleeding, anastomotic leak or conduit necrosis	0906	Multiple organ dysfunction syndrome	0999	None	1000	Additional Complications	1001	The patient had other complications that are not in the ECCG recommended complications list above?	INTERNATIONAL ESOPHAGEAL DATABASE SURGICAL COMPLICATIONS	NAT AUDIT	Required 0..*
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End of repeating item - Surgical Complications																																																																																																								

UG15020	UPPER GI - TREATMENT - SURGERY - ESODATA	LEAK SEVERITY TYPE	Record the severity of the leak. Only required if option [1182 - Oesophagoenteric leak] is selected in data item UG15010	an1	1	Type I	CESOPHAGENTERIC LEAK SEVERITY TYPE	NAT AUDIT	Required 0.1
					2	Type II			
					3	Type III			
					9	Not Known (not recorded)			
UG15030	UPPER GI - TREATMENT - SURGERY - ESODATA	CONDUIT NECROSIS/FAILURE TYPE	Record the conduit necrosis/failure type. Only required if option [1183 - Conduit necrosis/failure requiring surgery] is selected in data item UG15010	an1	1	Type I	CESOPHAGECTOMY CESOPHAGEAL CONDUIT NECROSIS FAILURE TYPE	NAT AUDIT	Required 0.1
					2	Type II			
					3	Type III			
					9	Not Known (not recorded)			
UG15040	UPPER GI - TREATMENT - SURGERY - ESODATA	RECURRENT LARYNGEAL NERVE INJURY INVOLVEMENT TYPE	Record any recurrent laryngeal nerve injury involvement type. Only required if option [1781 - Recurrent nerve injury] is selected in data item UG15010	an1	1	Type II	RECURRENT LARYNGEAL NERVE INJURY INVOLVEMENT TYPE	NAT AUDIT	Required 0.1
					2	Type III			
					3	Type III			
					4	Type III			
					5	Type III			
					9	Not Known (not recorded)			
UG15050	UPPER GI - TREATMENT - SURGERY - ESODATA	CHYLE LEAK SEVERITY TYPE	Record any Chyle leak severity type. Only required if option [2002 - Chyle leak severity type] is selected in data item UG15010	an1	1	Type II	CHYLE LEAK SEVERITY TYPE	NAT AUDIT	Required 0.1
					2	Type III			
					3	Type III			
					4	Type III			
					5	Type III			
					9	Not Known (not recorded)			
UG15060	UPPER GI - TREATMENT - SURGERY - ESODATA	CALVEN-DINDO CLASSIFICATION of SURGICAL CLASSIFICATIONS	Record the overall grade as per the Calven-Dindo Classification of Surgical Classifications	an1	1	Grade I	CALVEN-DINDO CLASSIFICATION OF SURGICAL CLASSIFICATIONS	NAT AUDIT	Required 0.1
					2	Grade II			
					3	Grade III			
					4	Grade IIIa			
					5	Grade IIIb			
					6	Grade IV			
					7	Grade V			
					9	Not Known (not recorded)			
					Start of repeating item - Additional Complications				
UG15070	UPPER GI - TREATMENT - SURGERY - ESODATA	ADDITIONAL COMPLICATIONS	Did patient have any complications that is not in the EOCO recommended complications list above? Only required if option [1001 - The patient had other complications] is selected in data item UG15010	max an150			ADDITIONAL INTERNATIONAL ESOPHAGEAL DATABASE SURGICAL COMPLICATIONS	NAT AUDIT	Required 0.*
End of repeating item - Additional Complications									

UPPER GI - TREATMENT - SURGERY - OUTCOME MEASURES									
To carry surgery outcome measures for Upper GI - Esophageal Database (ESODATA), as specified									
May be up to one occurrence per Core - Treatment - Surgery (0.1)									
UG15110	UPPER GI - TREATMENT - SURGERY - OUTCOME MEASURES	CHANGE IN LEVEL OF CARE	Record if there was any change in the level of care required for the patient?	an1	1	No escalation in level of care required	ESCALATION IN LEVEL OF PATIENT CARE FOLLOWING DESOPHAGECTOMY INDICATOR		Required 0.1
					2	Required escalation in level of care (ICU, ITU / HDU)			
					9	Not Known (not recorded)			
UG15120	UPPER GI - TREATMENT - SURGERY - OUTCOME MEASURES	BLOOD PRODUCT UTILISATION	Record if there were any blood products required?	an1	1	Intra-operative transfusions	BLOOD PRODUCTS REQUIRED FOLLOWING DESOPHAGECTOMY INDICATION CODE		Required 0.1
					2	Post-operative transfusions			
					3	Intra and post-operative transfusions			
					8	Not Applicable (None - No transfusions)			
					9	Not Known (not recorded)			
UG15130	UPPER GI - TREATMENT - SURGERY - OUTCOME MEASURES	NUMBER OF UNITS TRANSFUSED	Record the number of units of blood transfused	an1	1	1-2 units	UNITS OF BLOOD TRANSFUSED FOLLOWING DESOPHAGECTOMY		Required 0.1
					2	3-4 units			
					3	5 or more units			
					9	Not Known (not recorded)			

UPPER GI - TREATMENT - SURGERY - OESOPHAGECTOMY								
To carry surgery procedure details, for Upper GI - Oesophagectomy as specified								
May be up to one occurrence per Core - Treatment - Surgery (0..1)								
UG15200	UPPER GI - TREATMENT - SURGERY - OESOPHAGECTOMY	SURGICAL APPROACH TYPE	Record the type surgical approach used during the Oesophagectomy	an1	1	Open Oesophagectomy	OESOPHAGECTOMY SURGICAL APPROACH TYPE	Required 0..1
					2	Minimally Invasive Oesophagectomy		
					9	Not Known (not recorded)		
UG15210	UPPER GI - TREATMENT - SURGERY - OESOPHAGECTOMY	OPEN APPROACH TYPE	Record the type of open surgical approach used during the Oesophagectomy	an1	1	Trans Thoracic Oesophagectomy	OPEN OESOPHAGECTOMY SURGICAL APPROACH TYPE	Required 0..1
					2	Trans Hiatal Oesophagectomy		
UG15220	UPPER GI - TREATMENT - SURGERY - OESOPHAGECTOMY	MINIMALLY INVASIVE APPROACH TYPE	Record the type of minimally invasive approach used during the Oesophagectomy	an1	1	Total Minimally Invasive	MINIMALLY INVASIVE OESOPHAGECTOMY SURGICAL APPROACH TYPE	Required 0..1
					2	Abdominal part minimally invasive		
					3	Chest part minimally invasive		
UG15230	UPPER GI - TREATMENT - SURGERY - OESOPHAGECTOMY	ANASTOMOSIS TYPE	Record the type of anastomosis used during the Oesophagectomy	an1	1	Neck anastomosis	OESOPHAGECTOMY ANASTOMOSIS TYPE	Required 0..1
					2	Chest anastomosis		
					3	None		
					8	Other		
					9	Not Known (not recorded)		
UG15240	UPPER GI - TREATMENT - SURGERY - OESOPHAGECTOMY	OESOPHAGEAL CONDUIT TYPE	Record the type of oesophageal conduit used during the Oesophagectomy	an1	1	Stomach	OESOPHAGECTOMY OESOPHAGEAL CONDUIT TYPE	Required 0..1
					2	Small bowel		
					3	Colon		
					4	None		
					8	Other		
					9	Not Known (not recorded)		
UG15250	UPPER GI - TREATMENT - SURGERY - OESOPHAGECTOMY	NECK DISSECTION	Record if there was any neck dissection during the Oesophagectomy	an1	Y	Neck dissection	OESOPHAGECTOMY NECK DISSECTION INDICATOR	Required 0..1
					N	No neck dissection		
					9	Not Known (not recorded)		



Conclusions

- ▶ Largest audit of OG cancer care worldwide
- ▶ ***Accurate data collection drives better outcomes!***
- ▶ Postoperative mortality rates have fallen

Table 9.10
Comparison of post-operative mortality figures from First and Second Audit

	Oesophagectomy		Gastrectomy	
	First Audit	Second Audit	First Audit	Second Audit
In-Hospital mortality	4.5%	2.9%	6.0%	2.2%
30 day mortality	3.8%	1.7%	4.5%	1.1%
90 day mortality	5.7%	3.2%	6.9%	2.8%

- ▶ Future ambitions
 - primary care
 - non-curative treatments, end of life care
 - quality of care - complications, minimum outcome standards

