ANZGOSA
Australia & New Zealand
Gastric & Oesophageal
Surgery Association

AUDIT

DATA REPORT

August 2014

Prepared for the

Australian and New Zealand Gastric and Oesophageal Surgical Association

by the Royal Australasian College of Surgeons

199 Ward St, North Adelaide, SA 5006
Phone (08) 8219 0918 | Fax (08) 8219 0999
Email anzgosa.audit@surgeons.org
Web http://www.surgeons.org/anzgosa

Acknowledgements and funding

This report was produced by the Royal Australasian College of Surgeons (RACS) for the Australian and New Zealand Gastric and Oesophageal Surgery Association (ANZGOSA).

- Data extraction and report development: Michelle Ogilvy, Senior Project Officer, Morbidity Audits, RACS
- Editorial Review: Katherine Economides, Manager, Morbidity Audits, RACS
- Clinical review: Associate Professor Sarah Thompson, Chair, ANZGOSA Scientific Research and Audit Committee
- Clinical review: Mr Ross Roberts, President, ANZGOSA

Funding for the audit is provided by Novartis Oncology.

Summary

This report provides an overview of audit activity, cases submitted to date, examples of automated reports and data output as at 31 July 2014.

Introduction

The ANZGOSA Audit is an ongoing quality assurance activity of the Australian and New Zealand Gastric and Oesophageal Surgical Association (ANZGOSA) aiming to evaluate, improve and maintain the quality of care provided by its members.

Audit data is collected and managed by the Royal Australasian College of Surgeons.

Data is collected on patients undergoing surgery for oesophago-gastric cancer or gastrointestinal stromal tumour (GIST). Participants can self-assess their performance and compare against peers. Data will also be used for research and analysis on treatment for these patients in Australia and New Zealand.

Background

The audit officially began data collection in 2010. It was inspired by the Sydney Upper Gastrointestinal Society Database. The aim was to expand data collection to the whole of Australia and New Zealand.

Methodology

The audit is voluntary, and access can be granted to any Full Member of ANZGOSA on request.

Cases can be submitted identified (patient full name and address included) or de-identified (patient is given a code, no name or address required). In either case, access by College staff shows identifying fields as encrypted (surname, first name and street address).

Data submission is through the audit online portal. Alternatively, surgeons entering similar data into an existing database, such as a hospital database, register or local audit, may be eligible for the institutional upload program.

'Data manager access' allows an approved third party, such as a data manager, assistant, or registrar, to have their own account for entering cases on behalf of a surgeon. These accounts are restricted by surgeon and hospital. This allows for situations where one data manager enters data for multiple surgeons (data manager only has to log in once) and where one surgeon has data entered by more than one data manager (for example a different data manager for public and private cases).

Reporting

Through the Reporting Suite, participants can self-assess their performance and compare against peers for:

- Outcomes
- Complications
- Length of Stay

Pages 5 and 6 provide aggregate data against these criteria.

The Reporting Suite also allows participants to export their cases, de-identified of patient details, into Excel format for further analysis. Custom analysis for quality assurance or research can be applied for under the audit's data request process.

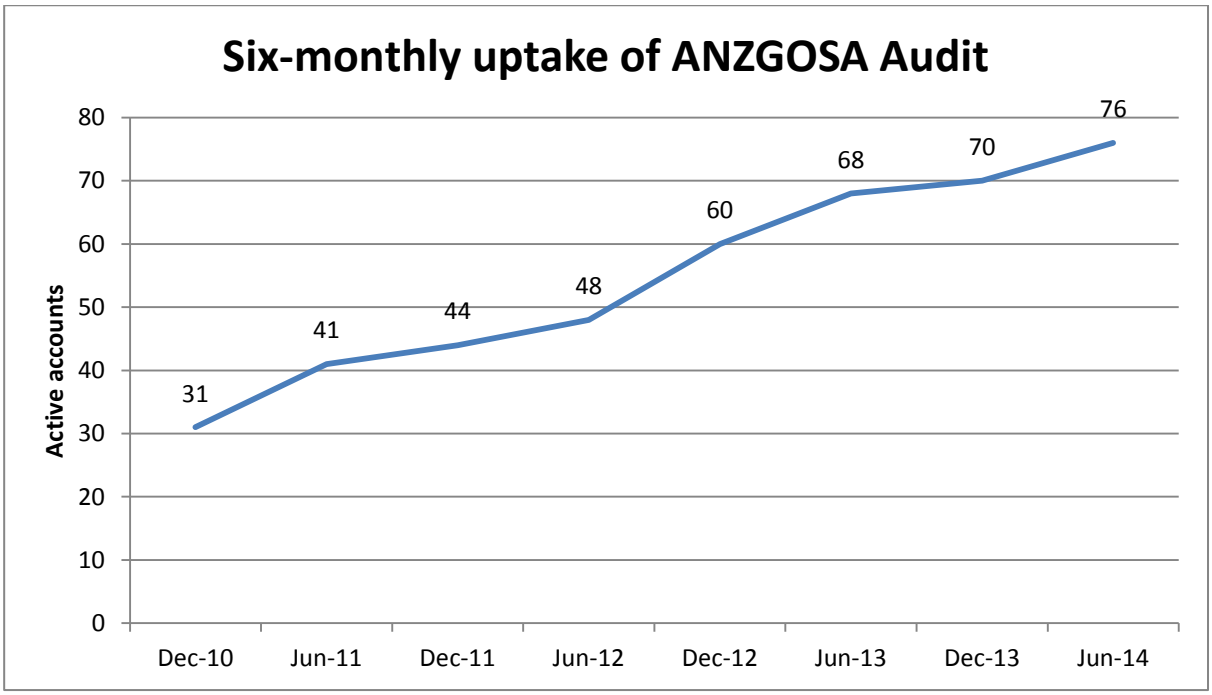
Approved for CPD

The audit is an approved audit in the Royal Australasian College of Surgeons Continuing Professional Development Program. Participants receive confirmation of participation in March of each year, acknowledging their contribution for the previous year.

Participation

The ANZGOSA Audit currently has 77 active user accounts. That is, accounts which are currently open for data collection.

The graph below shows the uptake of the ANZGOSA Audit over time. This is based on the number of surgeons who have requested an account to be opened (i.e. 'active accounts'), rather than the number of surgeons who have entered cases into that account.



Data collected

As at 31 July 2014, the database contained a total of 1469 cases. The database contains information on surgeries between 2002 and 2014.

Table 1 Number of cases (by surgery year and region)

Region	u/k	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	TOTAL
NSW	8						10	12	12	54	94	44	45	23	302
QLD										6	28	20	8	5	67
SA		31	43	33	33	28	32	39	36	48	42	68	50	1	484
TAS												6	3	3	12
VIC	1							3	11	45	69	56	57	17	259
WA	1									11	17	24	27	14	94
Australia	10	31	43	33	33	28	42	54	59	164	250	218	190	63	1218
New Zealand	1									4	10	19	29	6	69
India										1	15	78	75		169
Unknown	1									1	11				13
TOTAL	12	31	43	33	33	28	42	54	59	170	286	315	294	69	1469

Note: Unknown totals the number of cases where either region or surgery year is missing. There is a high concentration of South Australian cases in the database due to the uploaded data of historical records.

Table 2 Number of cases (by histological diagnosis)

Histological diagnosis	Number of cases
Adenocarcinoma	1062
Squamous Cell Carcinoma	147
Barrett's with HGD Dysplasia	14
Neuroendocrine	10
Lymphoma	3
Undifferentiated	3
Adeno Squamous Carcinoma	2
GIST	140
Other	30
No preoperative histological diagnosis	10
Unknown	48
TOTAL	**1469**

Note: Known totals number of cases where preoperative diagnosis is missing.

Table 3 Number of cases (by tumour site)

Tumour site	Number of cases
Hypopharynx	1
Proximal 1/3 Oesophagus	10
Middle 1/3 Oesophagus	85
Distal 1/3 Oesophagus	408
Siewert 1	179
Siewert 2	51
Siewert 3	71
Stomach - fundus	95
Stomach - body	246
Stomach - antrum	212
Stomach - pylorus	29
Small intestine	8
Unknown	74
TOTAL	**1469**

Note: Unknown totals number of cases where information on preoperative tumour site is missing.

Audit reports

Participants in the ANZGOSA Audit can access reports comparing their practice to results for the audit as a whole.

These reports can be filtered by Surgery date, Tumour type, Tumour site and Procedure performed.

Examples of the data represented in these reports follows. Note that patients treated outside Australia or New Zealand have been excluded, as have cases with missing information.

Table 4: Outcomes report

OUTCOME	ANZGOSA Audit [N=1289]
Intraoperative complications	54 (4%)
Postoperative complications	382 (30%)
Blood transfusion	172 (13%)
Return to theatre	129 (10%)
In-hospital death	25 (2%)
Readmission within 30 days	51 (4%)
30-day mortality	15 (1%)

Table 5: Postoperative complications report

POST-OPERATIVE COMPLICATIONS	ANZGOSA Audit [N=1289]
Total Surgical	**216 (17%)**
Anastomotic leak (Clinical)	63 (5%)
Anastomotic leak (Radiological)	24 (2%)
Wound infection	29 (2%)
Peritonitis	2 (0%)
Chylothorax	21 (2%)
Pancreatic Fistula	3 (0%)
Plural Effusion Requiring Drainage	34 (3%)
Abscess	5 (0%)
Bleeding	20 (2%)
Jejunal Tube Complication	13 (1%)
Other	73 (6%)
Total Non-Surgical	**257 (20%)**
Cardiac Ischaemic Event	19 (1%)
Cardiac Arrhythmia	76 (6%)
Other CVS	10 (1%)
LRTI Req Antibiotics	63 (5%)
DVT/PE	6 (0%)
Other pulmonary	57 (4%)
Hepatic	0 (0%)
Renal	28 (2%)
CNS	12 (1%)
Other	85 (7%)

Table 6: Length of stay report

LENGTH OF STAY		ANZGOSA Audit [N=1289]
Intubation	Mean	1 days
	Range	0-72 days
Initial post-operative ICU Stay	Mean	4 days
	Range	0-93 days
Post-operative hospital stay	Mean	16 days
	Range	0-489 days

Note: The audit will be initiating a data cleansing program in 2014 to investigate anomalous data entries such as the unusually high length of stays that can be seen in the ranges above.

Data Extract

Participants can also export their own data, de-identified of patient details, into an Excel spreadsheet for further analysis.

Audit output

Participants, and external researchers, can request analysis and tabulations from the ANZGOSA Audit. The following tables represent examples of the range of data that can be analysed from the audit. For a full list of data collected, see the Data Dictionary and/or Data Collection Form available from www.surgeons.org/anzgosa.

Table 7: Categories

Categories	Number of cases
Oesophageal cancer	488 (36%)
Oesophageal (OG) junction cancer	292 (21%)
Gastric cancer	443 (32%)
Gastrointestinal stromal tumour (GIST)	140 (10%)
No preoperative diagnosis	10 (1%)
Total	1373

Note: Diagnosis or tumour site information was missing in 96 cases. These cases have been excluded.

Table 8: Procedure performed (by category)

Procedure	TOTAL (n=1354)	Oesophageal (n=485)	OG Junction (n=290)	Gastric (n=440)	GIST (n=139)
Oesophagectomy	703 (52%)	466 (96%)	232 (80%)	2 (0%)	3 (2%)
Gastrectomy	476 (35%)	3 (1%)	49 (17%)	406 (92%)	18 (13%)
Local excision	136 (10%)	2 (0%)	0 (0%)	16 (4%)	118 (85%)
Resection abandoned	39 (3%)	14 (3%)	9 (3%)	16 (4%)	0 (0%)

Note: Procedure information is missing in 9 cases. These have been excluded.

Table 9: Procedure approach (by category)

Approach	TOTAL (n=1272)	Oesophageal (n=464)	OG Junction (n=273)	Gastric (n=408)	GIST (n=127)
Endoscopic	140 (11%)	11 (2%)	3 (1%)	40 (10%)	86 (68%)
Converted to open	214 (17%)	156 (34%)	49 (18%)	3 (1%)	6 (5%)
Open	918 (72%)	297 (64%)	221 (81%)	365 (89%)	35 (27%)

Note: Endoscopic includes oesophagectomy cases marked as 'thoracoscopy' or 'laparoscopy' with no open options, and gastrectomy or local excision cases marked as 'laparoscopic', and local excision cases marked as 'endoscopic resection'. Converted to open includes oesophagectomy cases with any of the endoscopic options and any of the open options, as well as gastrectomy or local excision cases marked as 'laparoscopic converted to open'. Open includes oesophagectomy cases marked as 'thoracotomy', 'laparotomy', 'cervical anastomosis' or 'left thoraco-abdominal' with no endoscopic options, as well as gastrectomy or local excision cases marked as 'open'. Procedure approach is missing for 91 cases. These have been excluded.

Table 10: Complications and patient outcome (by category)

Complication	TOTAL	Oesophageal	OG Junction	Gastric	GIST
Postoperative complication	**402/979 (41%)**	**175/291 (60%)**	**100/192 (52%)**	**112/381 (29%)**	**15/115 (13%)**
Anastomotic leak (Clinical)	73 (7%)	44 (15%)	16 (8%)	12 (3%)	1 (1%)
Anastomotic leak (Radiological)	25 (3%)	12 (4%)	7 (4%)	6 (2%)	0 (0%)
Wound infection	37 (4%)	12 (4%)	8 (4%)	16 (4%)	1 (1%)
Chylothorax	18 (2%)	12 (4%)	6 (3%)	0 (0%)	0 (0%)
Pleural effusion requiring drainage	31 (3%)	20 (7%)	8 (4%)	2 (1%)	1 (1%)
Bleeding	23 (2%)	5 (2%)	3 (2%)	14 (4%)	1 (1%)
Other surgical complication	97 (10%)	37 (13%)	14 (7%)	40 (10%)	6 (5%)
Cardiac arrhythmia	72 (7%)	41 (14%)	20 (10%)	11 (3%)	0 (0%)
LRTI req antibiotics	64 (7%)	28 (10%)	19 (10%)	15 (4%)	2 (2%)
Other pulmonary	62 (6%)	25 (9%)	21 (11%)	13 (3%)	3 (3%)
Renal	26 (3%)	12 (4%)	10 (5%)	3 (1%)	1 (1%)
Other non-surgical complication	118 (12%)	58 (20%)	31 (16%)	25 (7%)	4 (3%)
Unplanned return to theatre	126/1206 (10%)	64/433 (15%)	29/255 (11%)	28/398 (7%)	5/120 (4%)
Readmission within 30 days	53/787 (7%)	17/205 (8%)	11/137 (8%)	18/336 (5%)	7/109 (6%)
In-hospital death	26/828 (3%)	11/220 (5%)	11/151 (7%)	4/346 (1%)	0/111 (0%)
30-day mortality	14/1029 (1%)	5/339 (1%)	6/214 (3%)	3/364 (1%)	0/112 (0%)

Note: Postoperative complication is a multiple response question. Missing information—postoperative complications (384), unplanned return to theatre (157), readmission (576), in-hospital death (535), 30-day mortality (334),

Table 11: Postoperative length of stay (by category)

	TOTAL (n=1115)	Oesophageal (n=398)	OG Junction (n=233)	Gastric (n=367)	GIST (n=117)
Range	0–489 days	3–375 days	1–437 days	0–90 days	1–489 days
Mean	16 days	18 days	19 days	12 days	12 days
Median	12 days	13 days	13 days	10 days	5 days

Note: Length of stay information missing for 287 cases. These have been excluded.

Table 12: Length of stay (by surgical approach)

	TOTAL (n=1129)	Endoscopic (n=131)	Converted to open (n=197)	Open (n=801)
Range	0–489 days	0–489 days	3–375 days	1–437 days
Mean	16 days	11 days	18 days	16 days
Median	12 days	5 days	13 days	12 days

Note: Endoscopic includes oesophagectomy cases marked as 'thoracoscopy' or 'laparoscopy' with no open options, and gastrectomy or local excision cases marked as 'laparoscopic', local excision cases marked as 'endoscopic resection'. Converted to open includes oesophagectomy cases with any of the endoscopic options and any of the open options, as well as gastrectomy or local excision cases marked as 'laparoscopic converted to open'. Open includes oesophagectomy cases marked as 'thoracotomy', 'laparotomy', 'cervical anastomosis' or 'left thoraco-abdominal' with no endoscopic options, as well as gastrectomy or local excision cases marked as 'open'. Length of stay information was missing for 287 cases. These have been excluded.

Table 13: Planned chemotherapy (by category)

	TOTAL (n=1292)	Oesophageal (n=474)	OG Junction (n=281)	Gastric (n=417)	GIST (n=120)
Pre-surgery	433 (33%)	254 (53%)	118 (42%)	54 (13%)	7 (6%)
Post-surgery	177 (14%)	10 (2%)	19 (7%)	138 (33%)	10 (8%)
Pre- & post-surgery	188 (15%)	55 (12%)	67 (24%)	64 (15%)	2 (2%)
No chemotherapy	494 (38%)	155 (33%)	77 (27%)	161 (39%)	101 (84%)

Note: Chemotherapy information is missing in 71 cases. These cases have been excluded.

Table 14: Planned radiotherapy (by category)

	TOTAL (n=1216)	Oesophageal (n=457)	OG Junction (n=255)	Gastric (n=388)	GIST (n=116)
Pre-surgery	300 (25%)	215 (47%)	74 (29%)	11 (3%)	0 (0%)
Post-surgery	33 (3%)	8 (2%)	13 (5%)	12 (3%)	0 (0%)
Pre- & post-surgery	3 (0%)	1 (0%)	2 (1%)	0 (0%)	0 (0%)
No radiotherapy	880 (72%)	233 (51%)	166 (65%)	365 (94%)	116 (100%)

Note: Radiotherapy information is missing in 147 cases. These cases have been excluded.