

8

Chapter

Surgery for Oral Cavity Cancer

Infocus – access and flows for
public & private patients

2002-2011

Queensland Health

Queensland Cancer Control
Safety and Quality Partnership

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Cancer Surgery in Queensland: Infocus - access and flows for public & private patients 2002-2011

Chapter 8: Oral Cavity Cancer

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Oral Cavity cancer clinical lead
Ben Panizza

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Introduction

In 2014 an estimated 270 new cases of invasive oral cavity cancer will be diagnosed among Queensland residents¹. With the ageing population, the number of new cases is expected to reach 330 by 2021¹.

Oral cavity cancer is a chapter in the *Cancer Surgery in Queensland: Infocus - access and flows for public & private patients 2002-2011* series and should be read in conjunction with the background document, available at <https://qccat.health.qld.gov.au/>

Surgery is a critical component of the curative treatment of oral cavity cancer. This chapter is focused on two dimensions of access to cancer care services – surgery rates and patient flows. It provides population wide information on rates of surgery provision and flows based on patient Hospital and Health Service (HHS) of residence. The chapter contains information on oral cavity cancer surgery in Queensland from 2002 - 2011 and reflections on the trends in the data observed over the most recent three year time period 2009 - 2011.

For the first time, a population profile for oral cavity cancer surgery in Queensland and the HHSs is described including the characteristics of oral cavity cancer patients who receive surgery. Importantly, it provides information on the number and demographic characteristics of oral cavity cancer patients who do not receive surgery and where they live according to HHS of residence.

The baseline information provided in this chapter will inform the planning and funding of cancer services, provide HHSs with locally meaningful information and contribute to our understanding of variation in oral cavity cancer surgery across Queensland. This information enables Queensland to compare themselves with other Australian states and territories, internationally and published literature.

This chapter is framed around five important questions relevant to cancer surgery in Queensland.

1. How many Queenslanders who are newly diagnosed with oral cavity cancer have a surgical procedure as a result of their diagnosis?
2. What are the characteristics of Queenslanders who have a surgical procedure as a result of their oral cavity cancer diagnosis and those that do not have a surgical procedure?
3. What types of surgery are performed for patients who are diagnosed with oral cavity cancer?
4. What number of surgeries is performed by HHSs for Queenslanders newly diagnosed with oral cavity cancer?
5. Where do patients receive their surgery?

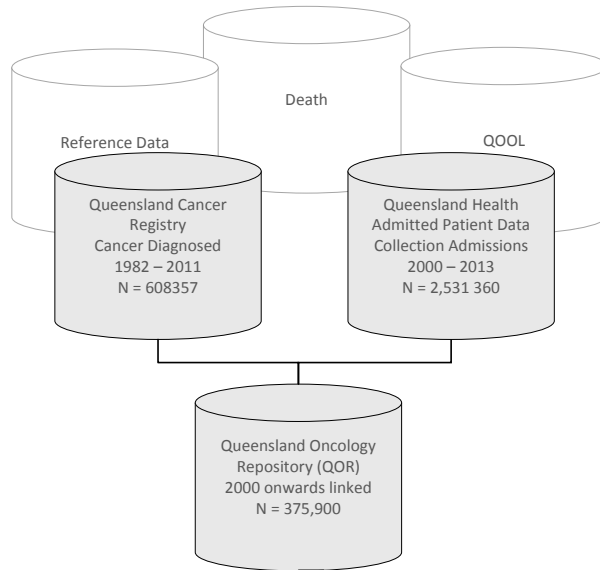
Data sources and methods

Key to QCCAT's program of work is our ability to link population based cancer information on an individual patient basis, using a master linkage key specifically developed by our team. This matched and linked data is housed in the Queensland Oncology Repository (QOR), a resource managed by QCCAT. This centralised repository, QOR, compiles and collates data from a range of source systems including Queensland Cancer Registry, hospital admissions data, death data, treatment systems, public and private pathology, hospital clinical data systems and QOOL. QOR contains approximately 32 million records between 1982 – 2013. Our matching and linking processes provide the 375 900 matched and linked records of cancer patients between 2000 – 2011, which are the starting point for this analysis. This chapter is structured around four cohorts of patients: **Queensland Cancer Cohort; Oral Cavity Cancer Cohort; Oral Cavity Surgery Cohort** and the **No Surgery Cohort**.

¹ Queensland Health. *Oncology Analysis System (OASys)*. Queensland Cancer Control Analysis Team: Brisbane; 2014. <https://qccat.health.qld.gov.au/OASys>. Accessed 01/08/2014

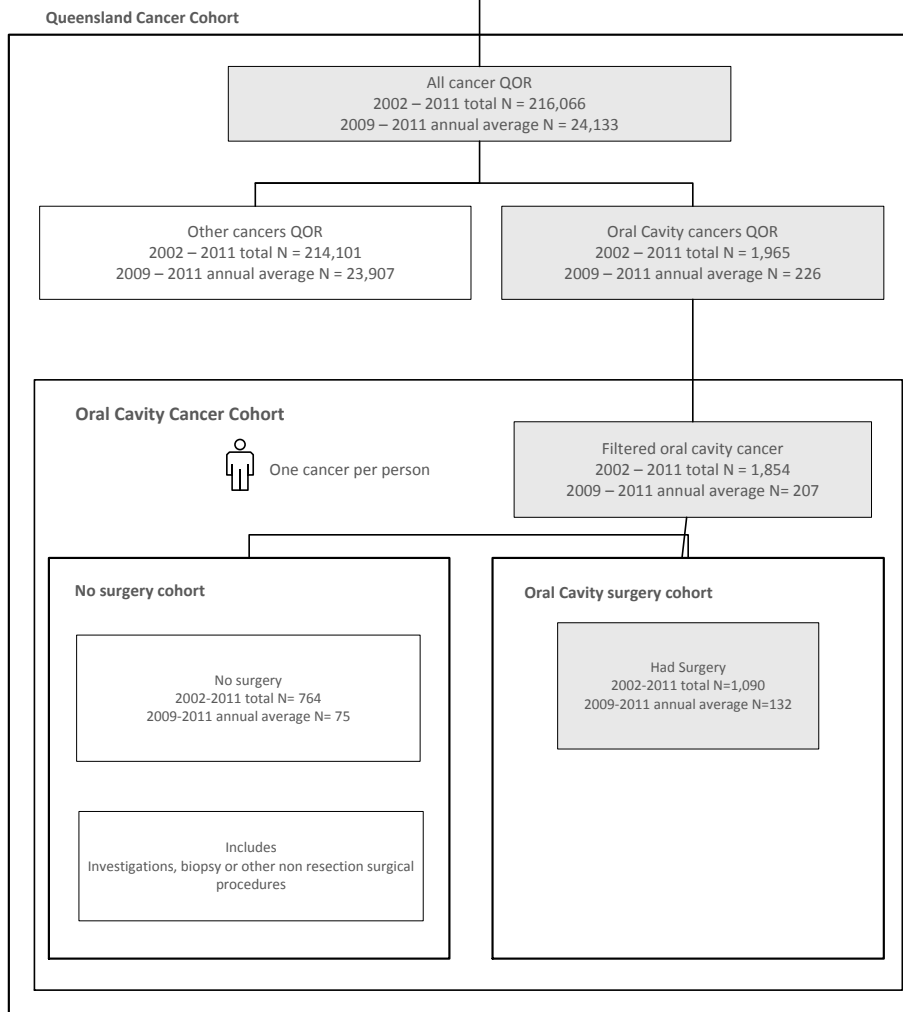
How the cohorts were identified

2002 – 2011 AND 2009 – 2011 ANNUAL AVERAGE
PUBLIC & PRIVATE HOSPITAL PATIENTS



Queensland Oncology Repository
QOR consolidates patient information for Queensland and contains data on invasive, benign and uncertain cancers, patient demographics, surgery, chemotherapy, radiotherapy and death. QOR also contains data collected by clinicians at MDT meetings

Sophisticated matching and linking is performed to identify all persons with cancer who had surgery



Queensland Cancer Cohort
Includes: Queensland Invasive Cancer incidence
Discharged patients from public or private hospitals
Queensland residents
All ages

Oral Cavity surgery cohort
Filtered cases
Potential duplicate records
If 2 or more diagnosis of same cancer earliest retained

- Rules**
- 1.If the surgery happened > 1 month before the date of diagnosis then the surgery is excluded
 2. If two of the same types of surgery happened on the same day count the surgery once

No surgery cohort
Includes Qld residents of all ages diagnosed with oral cavity cancer who did not undergo surgery in the surgical cohort time period, as defined by the procedures on page 4.

Time periods

Time period – 01 December 2001 to 31 December 2012

Diagnosis year - 01 January 2002 to 31 December 2011

Cancer definitions - the site and morphology of the cancers have been coded according to the International Classification of Diseases for Oncology, 3rd edition (ICD-O-3).

Site	ICD-0-3	Morphology
Malignant neoplasm of other and unspecified parts of tongue	C02	All
Dorsal surface of tongue	C02.0	
Border of tongue	C02.1	
Ventral surface of tongue	C02.2	
Anterior two-thirds of tongue, part unspecified	C02.3	
Lingual tonsil	C02.4	
Overlapping lesion of tongue	C02.8	
Tongue, unspecified	C02.9	
Malignant neoplasm of gum	C03	All
Upper gum	C03.0	
Lower gum	C03.1	
Gum, unspecified	C03.9	
Malignant neoplasm of floor of mouth	C04	All
Anterior floor of mouth	C04.0	
Lateral floor of mouth	C04.1	
Overlapping lesion of floor of mouth	C04.8	
Floor of mouth, unspecified	C04.9	
Malignant neoplasm of palate	C05	All
Hard palate	C05.0	
Soft palate	C05.1	
Uvula	C05.2	
Overlapping lesion of palate	C05.8	
Palate, unspecified	C05.9	
Malignant neoplasm of other and unspecified parts of mouth	C06	All
Cheek mucosa	C06.0	
Vestibule of mouth	C06.1	
Retromolar area	C06.2	
Overlapping lesion of other and unspecified parts of mouth	C06.8	
Mouth, unspecified	C06.9	

Exclusions

The following exclusions apply:

- Non Queensland residents
- People not admitted to a hospital in Queensland for invasive oral cavity cancer
- Patients with primary lip cancer

Identification and categorisation of cancer related procedures

A oral cavity surgery performed up to one month prior to or within twelve months following a cancer diagnosis was included. The following process was used to assign a oral cavity surgery to patients with cancer

- Potential cancer related procedures were identified for oral cavity from the Australian Classification of Health Interventions (ACHI) International Classification of Diseases (ICD-10-AM) 7th Edition, 2010
- Identified procedures were reviewed by an expert clinician for completeness and accuracy

The following tables outlines the number of oral cavity procedures performed on Queensland residents (both public and private hospitals). The 'All cancers' row indicates the total number of each procedure performed by a HHS for any cancer. The 'Oral Cavity cancer' column represents the number of procedures undertaken for patients diagnosed with oral cavity cancer which is the cohort for this report.

Total number of surgeries performed by HHS performing procedure

YEAR OF DIAGNOSIS 2002 – 2011
PUBLIC & PRIVATE HOSPITAL PATIENTS

	HHS performing surgery	Queensland	Cairns and Hinterland	Central Queensland	Central West	Children's Health Queensland	Darling Downs	Gold Coast	Mackay	Metro North	Metro South	North West	South West	Sunshine Coast	Townsville	West Moreton	Wide Bay
Partial excision of tongue	All Cancers	587	12	16			38	51	5	257	125			18	39	18	8
	Oral Cavity Cancer	450	7	8			25	37	1	212	100			14	27	12	7
Excision of lesion of tongue	All Cancers	640	38	20	1	1	38	56	15	256	121	4		20	37	16	17
	Oral Cavity Cancer	390	29	12			19	28	5	177	73	1		11	20	12	3
Total excision of tongue	All Cancers	17					2	1		6	7					1	
	Oral Cavity Cancer	12					1	1		6	4						
Radical excision of intraoral lesion	All Cancers	483	1				38	34	1	190	161				35	23	
	Oral Cavity Cancer	374	1				27	28	1	161	117				28	11	
Excision of other lesion of mouth	All Cancers	573	27	12			45	47	9	249	117	1	1	13	24	18	10
	Oral Cavity Cancer	343	9	5			35	25	3	162	73	1		3	10	13	4
Local excision or destruction of lesion of bony palate	All Cancers	115	4	5		1	4	12	3	41	33			3	2	5	2
	Oral Cavity Cancer	54	2	1			4	5	1	24	15			1	1		
Uvulectomy	All Cancers	35	4	2			2	2		13	4			3	3	2	
	Oral Cavity Cancer	15	2				1			7				2	1	2	
Uvulectomy with partial palatotomy	All Cancers	17	1				1	3	3	4	3				1	1	
	Oral Cavity Cancer	4	1							2	1						
Uvulectomy with partial palatotomy and tonsillectomy	All Cancers	9		1				1		2	2				2	1	
	Oral Cavity Cancer	3						1		1	1						
Excision of submandibular gland	All Cancers	454	11	12		2	26	41	13	148	99	1	1	27	47	15	11
	Oral Cavity Cancer	87	2	1			3	10	2	47	12				9	0	1
Removal of submandibular gland	All Cancers	29	0	1			2	1	1	16	4				3	1	
	Oral Cavity Cancer	15	0	1			1	1	1	10	1					1	
Partial excision of parotid gland	All Cancers	1166	24	21			102	120	9	341	335	1		86	77	32	18
	Oral Cavity Cancer	27					1	1		18	5				1	1	
Total excision of parotid	All Cancers	232	4	4			21	29		57	73			6	12	20	6
	Oral Cavity Cancer	5								2				1	1	1	
Total excision of parotid gland with preservation of facial nerve	All Cancers	314								1	1						
	Oral Cavity Cancer	3						1		1	1						
Excision of lesion of salivary gland	All Cancers	27	2	1			1	2		7	9			1	3		1
	Oral Cavity Cancer	2									2						
Excision of sublingual gland	All Cancers	31		1				2		20	4			1	2	1	
	Oral Cavity Cancer	18								13	3				1	1	

The following tables outlines the relevant oral cavity procedures included in this report for Queensland residents (both public & private) diagnosed with invasive oral cavity cancer:

ICD-10-AM	PROCEDURE/GROUPING
EXCISION	
30272-00	Partial excision of tongue
90135-00	Excision of lesion of tongue
41779-01	Total excision of tongue
30275-00	Radical excision of intraoral lesion
90141-01	Excision of other lesion of mouth
90141-00	Local excision or destruction of lesion of bony palate
41810-01	Uvulectomy
41787-00	Uvulectomy with partial palatotomy
41787-01	Uvulectomy with partial palatotomy and tonsillectomy
30256-00	Excision of submandibular gland
30255-00	Removal of submandibular ducts
30253-00	Partial excision of parotid gland
30247-00	Total excision of parotid gland
30250-00	Total excision of parotid gland with preservation of facial nerve
90138-00	Excision of lesion of salivary gland
30259-00	Excision of sublingual gland
LYMPH NODE DISSECTION	
31435-00	Radical excision of lymph nodes of neck
31423-01	Regional excision of lymph nodes of neck
31423-00	Excision of lymph node of neck
RECONSTRUCTION/REPAIR	
45562-01	Innervated free flap
45562-00	Noninnervated free flap
52324-00	Reconstruction of mouth using direct tongue flap, single or first stage
45676-00	Other repair of mouth
30052-04	Closure of fistula of mouth
90136-00	Other repair of tongue
90142-01	Other repair of palate
45837-00	Submucosal vestibuloplasty
45837-01	Open vestibuloplasty
52327-00	Reconstruction of mouth using direct tongue flap, second stage
TRACHEOSTOMY	
41881-00	Open tracheostomy, temporary
41880-00	Percutaneous
41881-01	Open tracheostomy, permanent

Surgery rate for oral cavity cancer

ANNUAL AVERAGE YEAR OF DIAGNOSIS 2009 – 2011

PUBLIC & PRIVATE HOSPITAL PATIENTS

EVER HAD
MUTUALLY
EXCLUSIVE

7

Oral Cavity

Characteristic	Annual Average		Had Excision		No Excision	
	Oral cavity cancer cohort	(Qld %)	n	(row %)	n	(row %)
Queensland	207	(100%)	132	(64%)	75	(36%)
Gender						
Male	131	(64%)	82	(62%)	50	(38%)
Female	75	(36%)	50	(67%)	26	(34%)
Age Group						
< 55	57	(28%)	43	(74%)	16	(28%)
55-64	61	(29%)	40	(66%)	20	(34%)
65-74	47	(23%)	28	(60%)	19	(40%)
75-84	28	(14%)	16	(55%)	13	(47%)
85+	14	(7%)	6	(41%)	9	(63%)
Indigenous Status						
Indigenous	6	(3%)	3	(59%)	2	(41%)
Non-Indigenous	184	(89%)	120	(65%)	64	(35%)
Not Stated/Unknown	17	(8%)	9	(53%)	9	(51%)
Socioeconomic Status						
Affluent	30	(14%)	20	(69%)	10	(33%)
Middle	139	(67%)	88	(63%)	51	(37%)
Disadvantaged	37	(18%)	24	(63%)	14	(37%)
Unknown	1	(0%)			1	(100%)
Remoteness						
Major City	126	(61%)	82	(65%)	44	(35%)
Inner Regional	48	(23%)	30	(61%)	19	(39%)
Outer Regional	29	(14%)	19	(64%)	10	(36%)
Remote & Very Remote	2	(1%)	1	(57%)	2	(86%)
Qld Unknown	1	(0%)			1	(100%)
Diagnosis Basis						
Histology	201	(97%)	132	(66%)	69	(34%)
Cytology	1	(0%)			1	(100%)
Clinical	4	(2%)			4	(100%)
Other	1	(0%)			1	(100%)
Comorbidity						
0	171	(83%)	113	(66%)	57	(34%)
1	25	(12%)	13	(51%)	13	(51%)
2+	11	(5%)	6	(53%)	6	(53%)

In the interest of completeness, annual average numbers have been included with fewer than 16 cases. Numbers < 16 should be interpreted with caution due to poor reliability of calculations based on small numbers. Annual average numbers have been rounded up to the nearest whole number for those with less than one, therefore the totals may not add up.

Surgery rate for oral cavity cancer by patient residence

ANNUAL AVERAGE YEAR OF DIAGNOSIS 2009 – 2011
PUBLIC & PRIVATE HOSPITAL PATIENTS

EVER HAD
MUTUALLY
EXCLUSIVE

	Annual Average		Had Excision		No Excision	
	Oral cavity cancer cohort	(Qld %)	n	(row %)	n	(row %)
Queensland	207	(100%)	132	(64%)	75	(36%)
HHS (patient residence)						
Metro North	44	(21%)	30	(67%)	15	(33%)
Metro South	40	(19%)	27	(68%)	13	(34%)
Gold Coast	23	(11%)	14	(61%)	10	(42%)
Sunshine Coast	19	(9%)	11	(61%)	8	(43%)
Wide Bay	14	(7%)	8	(55%)	7	(48%)
Darling Downs	13	(6%)	8	(66%)	5	(39%)
Cairns and Hinterland	12	(6%)	9	(70%)	4	(30%)
Townsville	12	(6%)	7	(63%)	4	(37%)
Central Queensland	10	(5%)	6	(55%)	5	(52%)
West Moreton	9	(4%)	5	(62%)	4	(46%)
Mackay	7	(4%)	5	(68%)	2	(32%)
South West	1	(1%)	1	(75%)	1	(75%)
North West	1	(0%)	1	(100%)	2	(200%)
Central West	1	(0%)	1	(100%)		
Torres Strait and Cape York	1	(0%)	1	(100%)		
Qld Unknown	1	(0%)			1	(100%)

In the interest of completeness, annual average numbers have been included with fewer than 16 cases. Numbers < 16 should be interpreted with caution due to the poor reliability of calculations based on small numbers. Annual average numbers have been rounded up to the nearest whole number for those with less than one. For example if a HHS performed one surgery from 2009 - 2011 the annual average will be rounded up to one to reflect that this HHS is performing surgery. Therefore the totals may not add up.

Type of definitive surgery for oral cavity cancer

ANNUAL AVERAGE YEAR OF DIAGNOSIS 2009 – 2011
PUBLIC & PRIVATE HOSPITAL PATIENTS

DEFINITIVE
SURGERY
MUTUALLY
EXCLUSIVE

Characteristic	Annual Average		Had Excision		Excision with lymph node dissection and reconstruction/repair		Excision with reconstruction/repair		Excision with lymph node dissection		Excision only	
	Oral cavity cancer cohort	(Qld %)	n	(col %)	n	(row %)	n	(row %)	n	(row %)	n	(row %)
Queensland	207	(100%)	132	(64%)	13	(10%)	25	(19%)	28	(21%)	66	(50%)
Gender												
Male	131	(64%)	82	(62%)	9	(11%)	16	(20%)	17	(21%)	40	(49%)
Female	75	(36%)	50	(38%)	4	(9%)	8	(17%)	11	(23%)	26	(52%)
Age Group												
< 55	57	(28%)	43	(32%)	7	(16%)	7	(17%)	11	(27%)	19	(45%)
55-64	61	(29%)	40	(31%)	4	(11%)	9	(23%)	7	(18%)	19	(48%)
65-74	47	(23%)	28	(21%)	2	(7%)	6	(22%)	5	(19%)	15	(52%)
75-84	28	(14%)	16	(12%)			3	(17%)	4	(26%)	9	(57%)
85+	14	(7%)	6	(4%)	1	(18%)			1	(18%)	5	(88%)
Indigenous Status												
Indigenous	6	(3%)	3	(3%)	1	(30%)	1	(30%)	1	(40%)	1	(30%)
Non-Indigenous	184	(89%)	120	(91%)	12	(10%)	24	(20%)	26	(22%)	58	(48%)
Not Stated/Unknown	17	(8%)	9	(7%)	1	(11%)	1	(11%)	1	(11%)	7	(81%)
Socioeconomic Status												
Affluent	30	(14%)	20	(15%)	1	(5%)	2	(11%)	5	(26%)	12	(57%)
Middle	139	(67%)	88	(67%)	10	(11%)	19	(21%)	18	(21%)	41	(47%)
Disadvantaged	37	(18%)	24	(18%)	2	(8%)	4	(15%)	5	(20%)	13	(56%)
Unknown	1	(0%)										
Remoteness												
Major City	126	(61%)	82	(62%)	9	(11%)	18	(21%)	17	(21%)	39	(47%)
Inner Regional	48	(23%)	30	(22%)	3	(9%)	5	(16%)	7	(24%)	15	(52%)
Outer Regional	29	(14%)	19	(14%)	2	(9%)	2	(11%)	4	(20%)	11	(61%)
Remote & Very Remote	2	(1%)	1	(1%)			1	(75%)	1	(75%)	1	(75%)
Qld Unknown	1	(0%)										
Comorbidity												
0	171	(83%)	113	(86%)	11	(10%)	20	(18%)	26	(23%)	56	(50%)
1	25	(12%)	13	(10%)	2	(13%)	3	(24%)	2	(16%)	6	(47%)
2+	11	(5%)	6	(5%)	1	(17%)	2	(28%)	1	(17%)	4	(61%)

In the interest of completeness, annual average numbers have been included with fewer than 16 cases. Numbers < 16 should be interpreted with caution due to poor reliability of calculations based on small numbers. Annual average numbers have been rounded up to the nearest whole number for those with less than one, therefore the totals may not add up.

Type of definitive surgery for oral cavity cancer by patient residence

AVERAGE YEAR OF DIAGNOSIS 2009 – 2011

PUBLIC & PRIVATE HOSPITAL PATIENTS

DEFINITIVE
SURGERY
MUTUALLY
EXCLUSIVE

	Annual Average		Had Excision		Excision with lymph node dissection and reconstruction/repair		Excision with reconstruction/repair		Excision with lymph node dissection		Excision only	
	Oral cavity cancer cohort	(Qld %)	n	(col %)	n	(row %)	n	(row %)	n	(row %)	n	(row %)
Queensland	207	(100%)	132	(64%)	13	(10%)	25	(19%)	28	(21%)	66	(50%)
HHS (patient residence)												
Metro North	44	(21%)	30	(22%)	4	(15%)	4	(15%)	6	(21%)	15	(49%)
Metro South	40	(19%)	27	(20%)	2	(7%)	7	(25%)	5	(20%)	13	(48%)
Gold Coast	23	(11%)	14	(11%)	1	(10%)	3	(24%)	3	(21%)	6	(45%)
Sunshine Coast	19	(9%)	11	(9%)	1	(12%)	3	(24%)	3	(24%)	5	(41%)
Wide Bay	14	(7%)	8	(6%)	1	(13%)	1	(13%)	1	(17%)	5	(65%)
Darling Downs	13	(6%)	8	(6%)	1	(12%)	1	(12%)	3	(32%)	4	(44%)
Cairns and Hinterland	12	(6%)	9	(7%)	1	(12%)	1	(15%)	2	(19%)	5	(58%)
Townsville	12	(6%)	7	(6%)	1	(14%)	1	(14%)	1	(14%)	5	(68%)
Central Queensland	10	(5%)	6	(4%)			2	(41%)	2	(29%)	2	(41%)
West Moreton	9	(4%)	5	(4%)	1	(19%)	1	(19%)	1	(19%)	2	(44%)
Mackay	7	(4%)	5	(4%)	1	(20%)			1	(20%)	3	(67%)
South West	1	(1%)	1	(1%)					1	(100%)	1	(100%)
North West	1	(0%)	1	(1%)								
Central West	1	(0%)	1	(1%)			1	(100%)				
Torres Strait and Cape York	1	(0%)	1	(1%)					1	(100%)		
Qld Unknown	1	(0%)										

In the interest of completeness, annual average numbers have been included with fewer than 16 cases. Numbers < 16 should be interpreted with caution due to the poor reliability of calculations based on small numbers. Annual average numbers have been rounded up to the nearest whole number for those with less than one. For example if a HHS performed one surgery from 2009 - 2011 the annual average will be rounded up to one to reflect that this HHS is performing surgery. Therefore the totals may not add up.

Type of definitive surgery for oral cavity cancer by HHS performing surgery

AVERAGE YEAR OF DIAGNOSIS 2009 – 2011

PUBLIC & PRIVATE HOSPITAL PATIENTS

DEFINITIVE
SURGERY
MUTUALLY
EXCLUSIVE

	Performing Surgery		Excision with lymph node dissection and reconstruction/repair		Excision with reconstruction/repair		Excision with lymph node dissection		Excision only	
	n	(col %)	n	(row %)	n	(row %)	n	(row %)	n	(row %)
Queensland	136	(100%)	13	(10%)	25	(18%)	28	(21%)	66	(48%)
HHS (performing surgery)										
Metro North	65	(48%)	7	(56%)	11	(45%)	15	(52%)	29	(44%)
Metro South	29	(21%)	3	(21%)	7	(30%)	5	(18%)	14	(21%)
Gold Coast	13	(9%)	1	(8%)	3	(14%)	2	(8%)	6	(9%)
Townsville	11	(8%)	1	(8%)	1	(5%)	2	(6%)	7	(10%)
Darling Downs	8	(6%)	1	(8%)	1	(4%)	3	(12%)	3	(4%)
West Moreton	4	(3%)			1	(4%)	1	(4%)	2	(4%)
Cairns and Hinterland	3	(2%)							3	(4%)
Sunshine Coast	2	(1%)					1	(4%)	1	(2%)
Central Queensland	1	(1%)							1	(2%)
Wide Bay	1	(1%)							1	(2%)

*The Mackay, North West, Torres Strait & Cape York, South West, Central West and Qld Unknown HHSs did not perform oral cavity cancer surgery.

In the interest of completeness, annual average numbers have been included with fewer than 16 cases. Numbers < 16 should be interpreted with caution due to the poor reliability of calculations based on small numbers. Annual average numbers have been rounded up to the nearest whole number for those with less than one. For example if a HHS performed one surgery from 2009 - 2011 the annual average will be rounded up to one to reflect that this HHS is performing surgery. Therefore the totals may not add up.

Characteristics of patients receiving oral cavity surgery by patient residence

ANNUAL AVERAGE YEAR OF DIAGNOSIS 2009 – 2011

PUBLIC & PRIVATE HOSPITAL PATIENTS

	Annual Average		Characteristic									
	Had Excision	(Qld %)	Male n (row %)	Median Age at Diagnosis yrs	Disadvantaged n (row %)	Indigenous n (row %)	One or more comorbidities n (row %)	Private n (row %)	Emergency n (row %)			
Queensland	132	(64%)	82 (62%)	60 yrs	24 (18%)	3 (3%)	19 (14%)	46 (35%)	2 (1%)			
HHS (patient residence)												
Metro North	30	(22%)	18 (60%)	61 yrs	3 (11%)	1 (3%)	6 (19%)	13 (44%)	1 (3%)			
Metro South	27	(20%)	16 (59%)	59 yrs	5 (17%)	1 (4%)	3 (11%)	7 (26%)	1 (4%)			
Gold Coast	14	(11%)	9 (64%)	59 yrs			1 (7%)	7 (50%)				
Sunshine Coast	11	(9%)	7 (59%)	60 yrs	1 (9%)		2 (21%)	4 (35%)	1 (9%)			
Cairns and Hinterland	9	(7%)	6 (69%)	58 yrs	2 (23%)	1 (12%)	1 (12%)	3 (38%)				
Wide Bay	8	(6%)	4 (57%)	63 yrs	7 (91%)	1 (13%)	1 (13%)	2 (22%)				
Darling Downs	8	(6%)	5 (56%)	64 yrs	3 (36%)	1 (12%)	2 (24%)	3 (40%)				
Townsville	7	(6%)	5 (68%)	57 yrs	1 (14%)		1 (14%)	2 (23%)				
Central Queensland	6	(4%)	4 (65%)	59 yrs	1 (18%)	1 (18%)	1 (18%)	2 (29%)				
West Moreton	5	(4%)	4 (75%)	62 yrs	1 (19%)		1 (19%)	1 (25%)				
South West	5	(4%)	3 (60%)	60 yrs	1 (20%)		1 (20%)	1 (20%)				
Central West	1	(1%)	1 (100%)	58 yrs				1 (100%)				
Torres Strait and Cape York	1	(1%)	1 (100%)	82 yrs			1 (100%)	1 (100%)				
North West	1	(1%)	1 (100%)	36 yrs	1 (100%)	1 (100%)		1 (100%)				

DEFINITIVE
SURGERY
MUTUALLY
EXCLUSIVE

*No patients from Qld Unknown were reported as undergoing oral cavity surgery

In the interest of completeness, annual average numbers have been included with fewer than 16 cases. Numbers < 16 should be interpreted with caution due to the poor reliability of calculations based on small numbers. Annual average numbers have been rounded up to the nearest whole number for those with less than one. For example if a HHS performed one surgery from 2009 - 2011 the annual average will be rounded up to one to reflect that this HHS is performing surgery. Therefore the totals may not add up.

Tracheostomy rate for oral cavity cancer

ANNUAL AVERAGE YEAR OF DIAGNOSIS 2009 – 2011
PUBLIC & PRIVATE HOSPITAL PATIENTS

EVER HAD
MUTUALLY
EXCLUSIVE

Characteristic	Annual Average		Tracheostomy		No Tracheostomy	
	Had Excision	(Qld %)	n	(row %)	n	(row %)
Queensland	132	(100%)	11	(8%)	121	(92%)
Gender						
Male	82	(62%)	9	(11%)	73	(89%)
Female	50	(38%)	2	(4%)	48	(96%)
Age Group						
< 55	43	(32%)	4	(9%)	39	(91%)
55-64	40	(31%)	4	(10%)	36	(90%)
65-74	28	(21%)	2	(7%)	26	(93%)
75-84	16	(12%)	1	(9%)	14	(91%)
85+	6	(4%)	1	(18%)	5	(82%)
Indigenous Status						
Indigenous	3	(3%)	1	(30%)	2	(70%)
Non-Indigenous	120	(91%)	10	(8%)	110	(92%)
Not Stated/Unknown	9	(7%)	1	(11%)	8	(89%)
Socioeconomic Status						
Affluent	20	(15%)	2	(8%)	19	(92%)
Middle	88	(67%)	7	(8%)	81	(92%)
Disadvantaged	24	(18%)	2	(8%)	22	(92%)
Unknown						
Remoteness						
Major City	82	(62%)	7	(8%)	76	(92%)
Inner Regional	30	(22%)	3	(9%)	27	(91%)
Outer Regional	19	(14%)	1	(5%)	18	(95%)
Remote & Very Remote	1	(1%)	1	(75%)		
Qld Unknown						
Diagnosis Basis						
Histology	132	(100%)	11	(8%)	121	(92%)
Cytology						
Clinical						
Other						
Comorbidity						
0	113	(86%)	9	(8%)	105	(92%)
1	13	(10%)	1	(8%)	12	(92%)
2+	6	(5%)	1	(17%)	5	(83%)

In the interest of completeness, annual average numbers have been included with fewer than 16 cases. Numbers < 16 should be interpreted with caution due to poor reliability of calculations based on small numbers. Annual average numbers have been rounded up to the nearest whole number for those with less than one, therefore the totals may not add up.

Tracheostomy rate for oral cavity cancer by patient residence

ANNUAL AVERAGE YEAR OF DIAGNOSIS 2009 – 2011
PUBLIC & PRIVATE HOSPITAL PATIENTS

EVER HAD
MUTUALLY
EXCLUSIVE

	Annual Average		Tracheostomy		No Tracheostomy	
	Had Excision	(Qld %)	n	(row %)	n	(row %)
Queensland	132	(100%)	11	(8%)	121	(92%)
HHS (patient residence)						
Metro North	30	(22%)	2	(8%)	27	(92%)
Metro South	27	(20%)	3	(10%)	24	(90%)
Gold Coast	14	(11%)	1	(7%)	13	(93%)
Sunshine Coast	11	(9%)	1	(9%)	10	(91%)
Wide Bay	8	(6%)	1	(13%)	7	(87%)
Darling Downs	8	(6%)	1	(12%)	7	(88%)
Cairns and Hinterland	9	(7%)	1	(12%)	8	(88%)
Townsville	7	(6%)	1	(14%)	6	(86%)
Central Queensland	6	(4%)	1	(18%)	5	(82%)
West Moreton	5	(4%)	1	(19%)	4	(81%)
Mackay	5	(4%)	1	(20%)	4	(80%)
South West	1	(1%)			1	(100%)
North West	1	(1%)	1	(100%)		
Central West	1	(1%)			1	(100%)
Torres Strait and Cape York	1	(1%)			1	(100%)
Qld Unknown						

Tracheostomy rate for oral cavity cancer by HHS performing surgery

ANNUAL AVERAGE YEAR OF DIAGNOSIS 2009 – 2011
PUBLIC & PRIVATE HOSPITAL PATIENTS

EVER HAD
MUTUALLY
EXCLUSIVE

	Annual Average		Tracheostomy		No Tracheostomy	
	Had Excision	(col %)	n	(row %)	n	(row %)
Queensland	132	(100%)	11	(8%)	121	(92%)
HHS (performing surgery)						
Metro North	62	(47%)	4	(41%)	58	(48%)
Metro South	29	(22%)	4	(38%)	25	(20%)
Gold Coast	12	(9%)	1	(9%)	11	(9%)
Townsville	11	(8%)	1	(9%)	10	(8%)
Darling Downs	8	(6%)	1	(9%)	7	(5%)
West Moreton	4	(3%)			4	(4%)
Cairns and Hinterland	3	(2%)			3	(2%)
Sunshine Coast	2	(1%)			2	(1%)
Central Queensland	1	(1%)			1	(1%)
Wide Bay	1	(1%)			1	(1%)

*The Mackay, North West, Torres Strait & Cape York, South West, Central West and Qld Unknown HHSs did not perform oral cavity surgery.

In the interest of completeness, annual average numbers have been included with fewer than 16 cases. Numbers < 16 should be interpreted with caution due to the poor reliability of calculations based on small numbers. Annual average numbers have been rounded up to the nearest whole number for those with less than one, therefore the totals may not add up.

Patient flows



10 year oral cavity cancer patient flows for surgery

YEAR OF DIAGNOSIS 2002 – 2011 (COL% ROW %)

PUBLIC & PRIVATE HOSPITAL PATIENTS

Hospitals performing surgery* HHS (patient residence)	HHS of surgery					
	Metro North 8	Metro South 7	Gold Coast 5	Sunshine Coast 4	Wide Bay 2	Darling Downs 4
Metro North	201~ (40% 90%)	20 (8% 9%)	1 (1% 0%)	1 (6% 0%)		
Metro South	92 (18% 38%)	144 (55% 60%)	1 (1% 0%)			
Gold Coast	18 (4% 14%)	19 (7% 15%)	92 (98% 71%)			
Sunshine Coast	58 (11% 67%)	11 (4% 13%)		17 (94% 20%)		
Wide Bay	50 (10% 76%)	10 (4% 15%)			6 (100% 9%)	
Darling Downs	8 (2% 11%)	3 (1% 4%)				60 (88% 83%)
Cairns and Hinterland	19 (4% 28%)	16 (6% 24%)				
Townsville	2 (0% 4%)	15 (6% 28%)				
Central Queensland	33 (7% 69%)	4 (2% 8%)				
West Moreton	4 (1% 8%)	7 (3% 14%)				5 (7% 10%)
Mackay	13 (3% 41%)	6 (2% 19%)				
South West	1 (0% 20%)					3 (4% 60%)
North West	3 (1% 50%)					
Central West	3 (1% 50%)	1 (0% 17%)				
Torres Strait and Cape York	1 (0% 14%)	4 (2% 57%)				
Qld Unknown						
Queensland	506~	260	94	18	6	68
Qld (%)	(46%)	(24%)	(9%)	(2%)	(1%)	(6%)
Annual Average	51	26	9	2	1	7

*the number of hospitals within a HHS performing oral cavity surgery

~Using Metro South as an example:

223 – Total number of patients who lived in Metro South.

506 – Total number of oral cavity surgeries that Metro South performed.

201 – Number of patients who had oral cavity surgery in Metro South and lived in Metro South.

40% – Of the 506 patients who had oral cavity surgery in Metro South 201 also lived in Metro South (201/506 = 40%) .

90% – Of the 223 patients who lived in Metro South 201 had oral cavity surgery in Metro South (201/223 = 90%).

10 year oral cavity cancer patient flows for surgery

YEAR OF DIAGNOSIS 2002 – 2011 (COL% ROW %)
PUBLIC & PRIVATE HOSPITAL PATIENTS

EVER HAD
1 SURGERY:
1 PATIENT

HHS of surgery						Qld 45	n %
Cairns and Hinterland 4	Townsville 3	Central Queensland 2	West Moreton 3	Mackay 2	North West 1		
							223~ (20%)
			2 (5% 1%)				239 (22%)
							129 (12%)
							86 (8%)
							66 (6%)
			1 (3% 1%)				72 (7%)
22 (96% 32%)	11 (18% 16%)						68 (6%)
	36 (58% 68%)						53 (5%)
		11 (100% 23%)					48 (4%)
			34 (89% 68%)				50 (5%)
	10 (16% 31%)			3 (100% 9%)			32 (3%)
			1 (3% 20%)				5 (0%)
	2 (3% 33%)				1 (100% 17%)		6 (1%)
	2 (3% 33%)						6 (1%)
1 (4% 14%)	1 (2% 14%)						7 (1%)
23 (2%)	62 (6%)	11 (1%)	38 (3%)	3 (0%)	1 (0%)		1090 (100%)
2	6	1	4	0	0		

2011 oral cavity cancer patient flows for surgery

YEAR OF DIAGNOSIS 2011 (COL% ROW%)

PUBLIC & PRIVATE HOSPITAL PATIENTS

	Metro North 5	Metro South 4	Gold Coast 4	Sunshine Coast 2	Wide Bay 1	Darling Downs 3
Hospitals performing surgery*						
HHS (patient residence)						
Metro North	27~ (40% 90%)	3 (10% 10%)				
Metro South	10 (15% 37%)	17 (57% 63%)				
Gold Coast	1 (1% 8%)	2 (7% 17%)	9 (100% 75%)			
Sunshine Coast	7 (10% 54%)	3 (10% 23%)		3 (100% 23%)		
Wide Bay	4 (6% 44%)	2 (7% 22%)			3 (100% 33%)	
Darling Downs	1 (1% 9%)					9 (90% 82%)
Cairns and Hinterland	5 (7% 42%)	3 (10% 25%)				
Townsville						
Central Queensland	7 (10% 88%)					
West Moreton	1 (1% 17%)					1 (10% 17%)
Mackay	4 (6% 80%)					
South West						
North West						
Central West						
Torres Strait and Cape York						
Qld Unknown						
Queensland	67~	30	9	3	3	10
Qld (%)	(47%)	(21%)	(6%)	(2%)	(2%)	(7%)

*the number of hospitals within a HHS performing oral cavity surgery

~Using Metro South as an example:

30 – Total number of patients who lived in Metro South.

67 – Total number of oral cavity surgeries that Metro South performed.

27 – Number of patients who had oral cavity surgery in Metro South and lived in Metro South.

40% – Of the 67 patients who had oral cavity surgery in Metro South 27 also lived in Metro South (27/67 = 40%) .

90% – Of the 30 patients who lived in Metro South 27 had oral cavity surgery in Metro South (27/30 = 90%).

2011 oral cavity cancer patient flows for surgery

YEAR OF DIAGNOSIS 2011 (COL%. ROW%)
PUBLIC & PRIVATE HOSPITAL PATIENTS

EVER HAD
1 SURGERY:
1 PATIENT

HHS of surgery				Qld	
Cairns and Hinterland	Townsville	Central Queensland	West Moreton	n	%
2	2	1	2	26	
				30~	(21%)
				27	(19%)
				12	(8%)
				13	(9%)
				9	(6%)
			1 (20% 9%)	11	(8%)
2 (100% 17%)	2 (15% 17%)			12	(8%)
	10 (77% 100%)			10	(7%)
		1 (100% 13%)		8	(6%)
			4 (80% 67%)	6	(4%)
	1 (8% 20%)			5	(3%)
2 (1%)	13 (9%)	1 (1%)	5 (3%)	143	(100%)

Surgery rates



10 year surgery rates for oral cavity cancer by patient residence

YEAR OF DIAGNOSIS 2002 – 2011
PUBLIC & PRIVATE HOSPITAL PATIENTS

EVER HAD
1 SURGERY:
1 PATIENT

	Oral cavity cancer cohort		Had Excision	Year of Diagnosis																				
				2002		2003		2004		2005		2006		2007		2008		2009		2010		2011		
	N	(col %)	n	(row %)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)		
Queensland	1854	(100%)	1090	(59%)	60	(44%)	80	(54%)	88	(54%)	120	(62%)	92	(53%)	121	(58%)	133	(63%)	129	(63%)	124	(61%)	143	(67%)
HHS (patient residence)																								
Metro North	379	(20%)	223	(59%)	13	(45%)	21	(57%)	14	(54%)	22	(56%)	21	(55%)	23	(55%)	20	(57%)	34	(68%)	25	(68%)	30	(65%)
Metro South	378	(20%)	239	(63%)	11	(48%)	16	(52%)	24	(67%)	28	(61%)	20	(50%)	24	(62%)	35	(80%)	27	(69%)	27	(63%)	27	(73%)
Gold Coast	194	(10%)	129	(66%)	8	(67%)	10	(59%)	11	(52%)	15	(94%)	13	(76%)	15	(71%)	15	(71%)	16	(76%)	14	(58%)	12	(50%)
Sunshine Coast	154	(8%)	86	(56%)	5	(45%)	6	(67%)	6	(43%)	9	(60%)	9	(47%)	11	(61%)	6	(50%)	11	(58%)	10	(56%)	13	(68%)
Wide Bay	125	(7%)	66	(53%)	4	(36%)	4	(44%)	7	(64%)	6	(55%)	7	(70%)	5	(33%)	10	(63%)	6	(43%)	8	(53%)	9	(69%)
Darling Downs	124	(7%)	72	(58%)	3	(30%)	7	(70%)	6	(55%)	6	(55%)	5	(38%)	11	(58%)	9	(75%)	8	(57%)	6	(67%)	11	(73%)
Cairns and Hinterland	111	(6%)	68	(61%)	5	(50%)	3	(43%)	5	(45%)	10	(67%)	4	(67%)	6	(55%)	9	(64%)	8	(73%)	6	(46%)	12	(92%)
Townsville	102	(6%)	53	(52%)	3	(33%)	1	(25%)	1	(17%)	6	(55%)	6	(67%)	9	(60%)	5	(38%)	4	(67%)	8	(50%)	10	(77%)
Central Queensland	83	(4%)	48	(58%)	2	(40%)	4	(80%)	3	(60%)	4	(44%)	3	(50%)	5	(71%)	10	(67%)	4	(44%)	5	(56%)	8	(62%)
West Moreton	81	(4%)	50	(62%)	3	(75%)	5	(83%)	3	(50%)	8	(80%)			7	(64%)	8	(57%)	5	(56%)	5	(71%)	6	(60%)
Mackay	61	(3%)	32	(52%)	1	(17%)	1	(25%)	3	(60%)	4	(50%)	3	(43%)	3	(75%)	2	(40%)	4	(44%)	6	(100%)	5	(71%)
Torres Strait and Cape York	18	(1%)	7	(39%)	1	(100%)	1	(25%)	2	(40%)							1	(50%)	1	(100%)	1	(100%)		
North West	15	(1%)	6	(40%)					1	(50%)	1	(100%)	1	(33%)	1	(100%)	2	(50%)						
South West	9	(0%)	5	(56%)							1	(100%)			1	(100%)					3	(75%)		
Central West	9	(0%)	6	(67%)	1	(100%)	1	(50%)	2	(100%)							1	(50%)	1	(100%)				
Qld Unknown	11	(1%)																						

Note: %'s for each year are used to show the percentage of patients who had surgery out of the total number of incidences for that year of oral cavity cancer. For example in Queensland in 2002 there were 60 patients who had oral cavity surgery which is 44% of the total incidences of oral cavity cancer in 2002.

10 year surgery rates for oral cavity cancer by HHS performing surgery

YEAR OF DIAGNOSIS 2002 – 2011
PUBLIC & PRIVATE HOSPITAL PATIENTS

	Had Excision		Year of Diagnosis																			
	n	(row %)	2002		2003		2004		2005		2006		2007		2008		2009		2010		2011	
			n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)
Queensland	1090	(100%)	60	(100%)	80	(100%)	88	(100%)	120	(100%)	92	(100%)	121	(100%)	133	(100%)	129	(100%)	124	(100%)	143	(100%)
HHS (performing surgery)																						
Metro North	506	(46%)	34	(57%)	42	(53%)	34	(39%)	51	(43%)	48	(52%)	54	(45%)	57	(43%)	62	(48%)	57	(46%)	67	(47%)
Metro South	260	(24%)	5	(8%)	14	(18%)	24	(27%)	37	(31%)	29	(32%)	28	(23%)	37	(28%)	31	(24%)	25	(20%)	30	(21%)
Gold Coast	94	(9%)	5	(8%)	7	(9%)	6	(7%)	10	(8%)	7	(8%)	10	(8%)	12	(9%)	15	(12%)	13	(10%)	9	(6%)
Darling Downs	68	(6%)	3	(5%)	7	(9%)	6	(7%)	6	(5%)	3	(3%)	13	(11%)	7	(5%)	7	(5%)	6	(5%)	10	(7%)
Townsville	62	(6%)	5	(8%)	2	(3%)	7	(8%)	3	(3%)	2	(2%)	3	(2%)	8	(6%)	7	(5%)	12	(10%)	13	(9%)
West Moreton	38	(3%)	3	(5%)	5	(6%)	2	(2%)	5	(4%)			4	(3%)	6	(5%)	3	(2%)	5	(4%)	5	(3%)
Cairns and Hinterland	23	(2%)	3	(5%)	2	(3%)	3	(3%)	3	(3%)			3	(2%)	1	(1%)	4	(3%)	2	(2%)	2	(1%)
Sunshine Coast	18	(2%)			1	(1%)	2	(2%)	2	(2%)	2	(2%)	4	(3%)	2	(2%)			2	(2%)	3	(2%)
Central Queensland	11	(1%)	1	(2%)			2	(2%)	1	(1%)			2	(2%)	2	(2%)			2	(2%)	1	(1%)
Wide Bay	6	(1%)					2	(2%)							1	(1%)					3	(2%)
Mackay	3	(0%)	1	(2%)					1	(1%)	1	(1%)										
North West	1	(0%)							1	(1%)												

EVER HAD
1 SURGERY:
1 PATIENT

*The Torres Strait & Cape York, South West, Central West and Qld Unknown HHSs did not perform oral cavity cancer surgery.

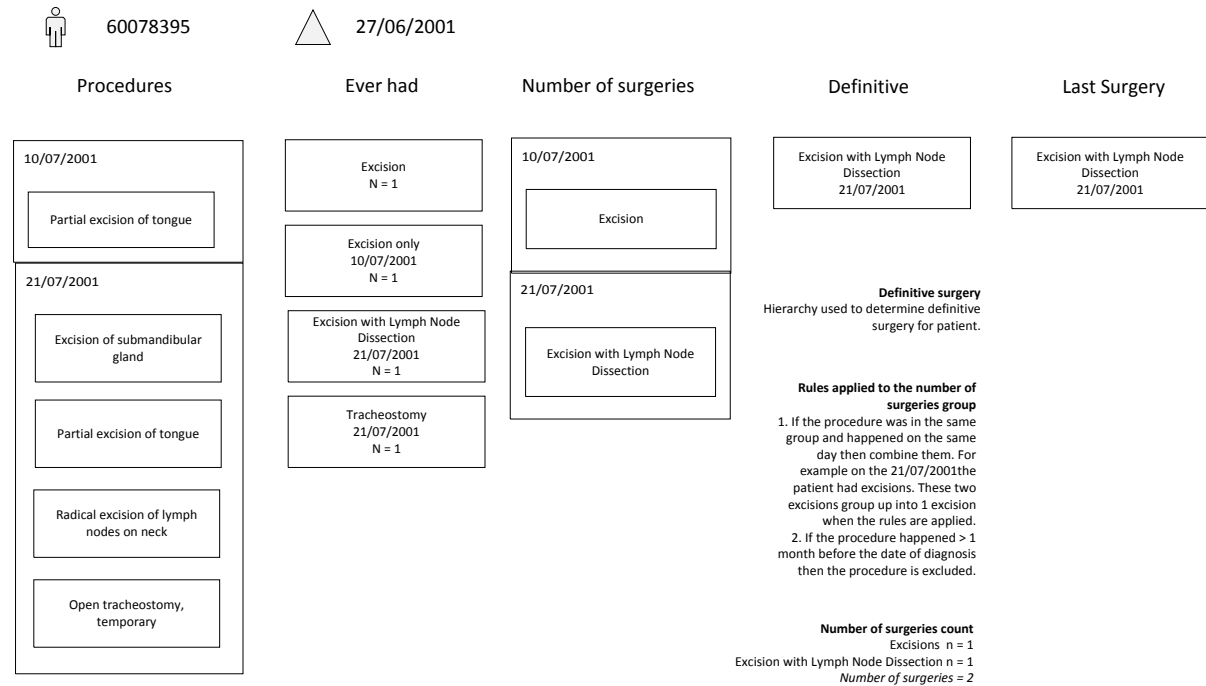
Note: %'s for each year are used to show the percentage of patients who had surgery out of the total number of surgeries for that year for oral cavity cancer. For example in Queensland in 2002 Metro North performed 57% of the total oral cavity cancer surgeries.

Technical appendix



How different counting rules can be applied to a patient

The calculations of surgery counts were defined for each data sheet and were tailored to each cancer. Below are 5 examples of how the counting rules are applied.



Counts of surgery across groups for patients diagnosed with oral cavity cancer from 2002 to 2011

SURGERY	NO OF PROCEDURES	EVER HAD*	NUMBER OF SURGERIES*	DEFINITIVE**	LAST SURGERY*
Excision with lymph node dissection and reconstruction/repair	2504	95	282	95	88
Excision with reconstruction/repair	4324	155	155	155	148
Excision with lymph node dissection	6184	281	282	280	246
Excision only	13498	640	760	560	484
Total	26510	1171	1479	1090	966

*Rules applied to surgical cohort

- Procedure 1 month before or any time after patient diagnosis
- If the same surgery happened on the same day than the surgery is only counted once. For example: a patient has 2 excisions on the 21/07/2001. The count of excisions is 1.

+Rules applied to definitive surgery cohort

- Hierarchy used to determine definitive surgery for patient. For example if a patient had a excision with lymph node dissection, excision with reconstruction/repair and an excision only the patients definitive surgery will be excision with reconstruction/repair.

Oral Cavity surgery hierarchy

1. Excision with lymph node dissection and reconstruction/repair
2. Excision with reconstruction/repair
3. Excision with lymph node dissection
4. Excision only
5. Tracheostomy

Definitions

Annual average

Annual average refers to the sum of numbers divided by the number of years being reported. In this report annual average numbers have been rounded up to the nearest whole number for those with less than 1.

Chargeable status - public and private

On admission to hospital, an eligible patient must elect to be either a public or private patient.

A public patient is a patient who:

- Elects to be treated as a public patient, and so cannot choose the doctor who treats them, or
- Is receiving treatment in a private hospital under a contract arrangement with a public hospital or health authority.

A private patient is a patient who, by choosing the doctor who will treat them (provided the doctor has 'right of private practice' or is a general practitioner/specialist with admitting rights) has elected to be treated as a private patient.

Cohort

Queensland cancer cohort

Queenslanders who were identified in Queensland Oncology Repository as being diagnosed with cancer between 1 January 2002 and 31 December 2011.

Oral cavity cancer cohort

Queenslanders who were diagnosed with oral cavity cancer between 1 January 2002 and 31 December 2011.

Oral cavity cancer surgery cohort

Anyone in the oral cavity cancer cohort who had any of the identified cancer related procedures, one month before or within twelve months of diagnosis as outlined on page 4.

No surgery cohort

Anyone in the oral cavity cancer cohort who did not undergo surgery as an admitted patient in the surgical cohort time period, as defined by the procedures outlined on page 4.

Col %

Percentage of the column total

Comorbidity

A clinical condition that has the potential to significantly affect a cancer patient's prognosis after diagnosis with cancer.

Comorbidity is derived from hospital admissions data following the Quan algorithm¹ for classifying ICD-10 coded conditions, modified to exclude metastasis, which is represented by a separate and distinct metastasis dimension.

Comorbidity is limited to conditions coded in any admission episode between 12 months before and 12 months after the date of cancer diagnosis.

For any given cancer diagnosis, comorbidity is restricted to conditions other than the primary cancer. For example: a breast cancer can be a comorbidity to a lung cancer diagnosis and vice versa, if they are diagnosed within 12 months of each other.

Benign tumours are not considered comorbidities.

Co-morbidity list

AIDS	Acute myocardial	Cancer
Cerebrovascular disease	Congestive heart failure	Chronic obstructive pulmonary disease
Dementia	Diabetes	Diabetes + complications
Hemiplegia or Paraplegia	Mild liver disease	Moderate/severe liver disease
Peptic ulcer	Peripheral vascular disease	Renal disease
Rheumatoid disease		

Definitive surgery

The highest ranked surgery the patient ever had defined by the oral cavity cancer surgery hierarchy outline on page 23.

Diagnosis Basis

Confirmation of cancer through clinical or histological tests

Elective Status*Emergency Admission*

A patient admitted to hospital at short notice because of clinical need or if alternative care is not available.

Elective Admission

A patient who is admitted into hospital for treatment from the waiting list.

Ever had surgery

Patients are counted once within the surgical groups but can be across multiple groups. For example: a patient had two excisions with lymph node dissection, one excision only and one excision with reconstruction/repair. The patient would be counted as one excision with lymph node dissection, one excision only and one excision with reconstruction/repair.

Had surgery

Includes Queensland residents of all ages diagnosed with invasive oral cavity cancer in the surgical cohort time period who underwent surgery as defined by the procedures outlined on pages 4 and 5. If the patient had multiple surgeries on the same day that fall in the same group then the surgery is counted once. For example if a patient had two excisions only on the same day the excision is counted once.

Hospital and Health Service (HHS)

For residence considerations, the Hospital and Health Service is a geographic area defined by a collection of Statistical Local Areas (SLA). For public hospitals and health service facilities, the term Hospital and Health Service is synonymous with a group of Queensland Health facilities and staff responsible for providing and delivering health resources and services to an area which may consist of one or more residential areas.

Queensland Unknown residence includes addresses reported as overseas, unknown or not fixed.

Indigenous Status

A measure of whether a person identifies as being of Aboriginal or Torres Strait Islander origin.

Last Surgery

The last surgery the patient ever had. To be included in this group the patient underwent one of the surgical procedures outlined on page 4.

Median age

The age that divides a population into two halves: one older than the median, the other younger than the median.

No surgery

Includes Queensland residents of all ages diagnosed with invasive oral cavity cancer who did not undergo surgery as an admitted patient in the surgical cohort time period, as defined by the procedures outlined on page 4.

Number of procedures

Includes Queensland residents of all ages diagnosed with invasive oral cavity cancer who underwent a relevant oral cavity cancer procedure. The procedure could have occurred at any time with no counting rules applied as outlined on page 2.

Patient flows

Col% is used to show the distribution of residence for the total group of patients who were operated on by a single HHS. Row% is used to show the proportion of patients residing in a given HHS who also receive their surgery in the same HHS, and what proportion had their surgery in another HHS.

Qld %

Percentage of the Queensland total.

Remoteness

The relative remoteness of residence at time of diagnosis, based on the Australian Standard Geographical Classification (ASGC). This document classifies remoteness into four groups: Major City, Inner Regional, Outer Regional, and Remote/Very remote.

Row %

Percentage of the row total

Sex

Refers to the biological and physiological characteristics that define men and women.

Socioeconomic status

Socioeconomic classification is based on the Socio-Economic Indexes for Areas (SEIFA), a census-based measure of social and economic well-being developed by the Australian Bureau of Statistics (ABS) and aggregated at the level of Statistical Local Areas (SLA).

The ABS uses SEIFA scores to rank regions into ten groups or deciles numbered 1 to 10, with 1 being the most disadvantaged group and 10 being the most affluent group. This ranking is useful at the national level, but the number of people in each decile often becomes too small for meaningful comparisons when applied to a subset of the population. For this reason, this document further aggregates SEIFA deciles into 3 socioeconomic groups:

SEIFA Group	Decile	Percentage of population (approximate)
Affluent	1-2	20%
Middle	3-8	60%
Disadvantaged	9-10	20%

The proportion of cases in each group will vary depending on the subset of the population being examined. For example, the proportion in the Disadvantaged group may be higher than 20% when the data is limited to cancers that are more common in poor compared to rich people.

For more information

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