



Queensland Cancer Quality Index

2003-2017

Technical Appendix

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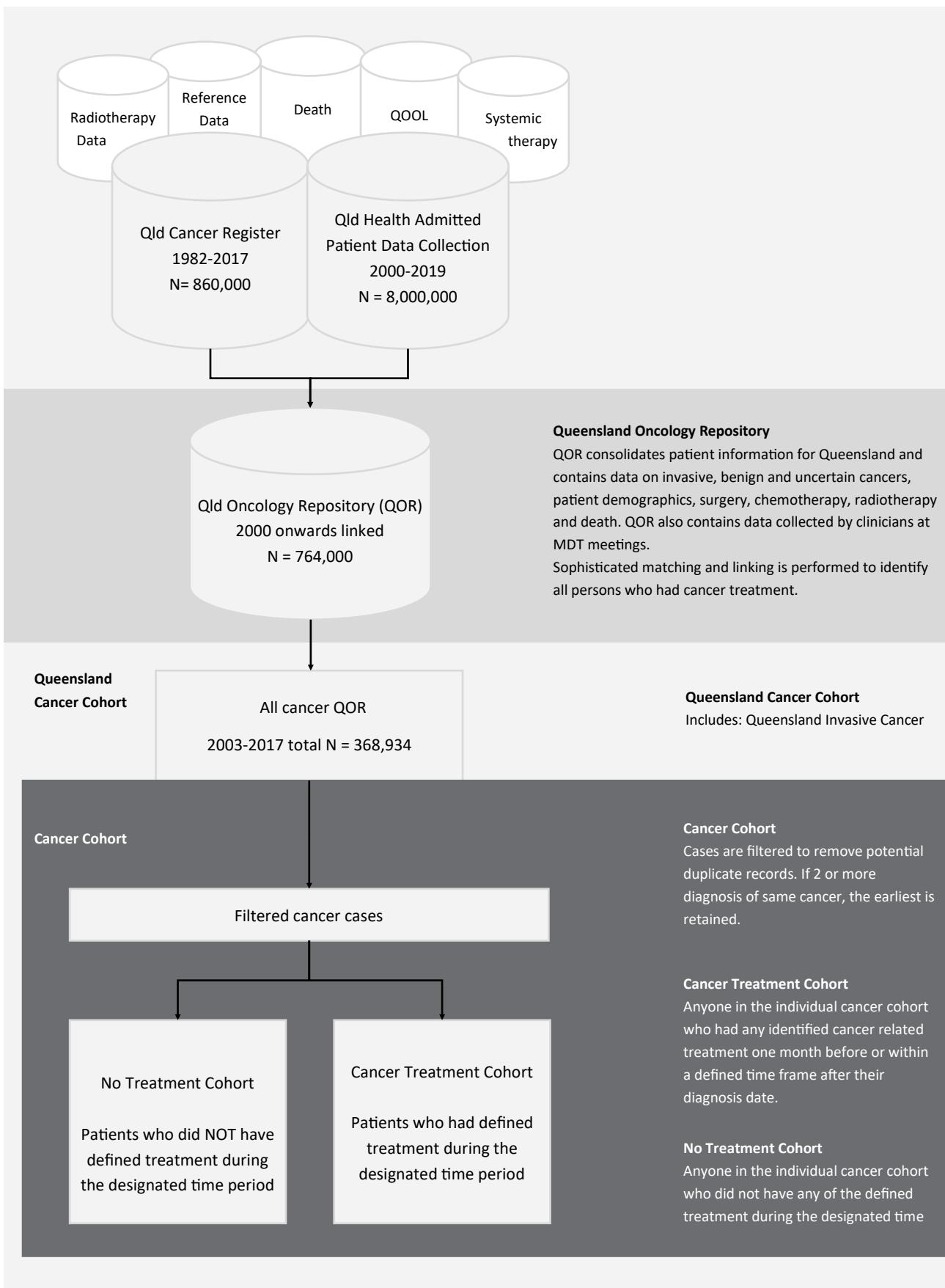
The Cancer Index Indicators

Quality Dimension	Indicator	Description	Calculation
1 Effective	1.1 Survival	What percentage of people with cancer are living 5 years after their diagnosis?	Percentage of people who would have survived if cancer was the only cause of death
	1.2 Queenslanders receiving Multidisciplinary Teams review (for cancer care)	How many Queenslanders with cancer receive multidisciplinary team (MDT) review?	Percentage of cancer patients receiving MDT review
	1.3 Queenslanders receiving cancer surgery	How many Queenslanders with cancer receive surgery?	Percentage of cancer patients receiving surgery
	1.4 Queenslanders receiving radiotherapy	How many Queenslanders with cancer receive radiotherapy	Percentage of cancer patients receiving radiotherapy
	1.5 Queenslanders receiving systemic therapy	How many Queenslanders with cancer receive intravenous systemic therapy	Percentage of cancer patients receiving intravenous systemic therapy
2 Efficient	2.1 Hospital Stay	How long do people receiving cancer surgery stay in hospital?	Median time in days between the admission and discharge date of cancer surgery
3 Safe	3.1 In-Hospital mortality	What percentage of patients die in-hospital after cancer surgery?	Percentage of patients who die in-hospital following cancer surgery
	3.2 30 day mortality	What percentage of patients die within 30 days of their cancer surgery?	Percentage of patients who die ≤ 30 days following cancer surgery
	3.3 90 day mortality	What percentage of patients die within 90 days of their cancer surgery?	Percentage of patients who die ≤ 90 days following cancer surgery
	3.4 1 year survival	What percentage of patients are alive one year after cancer surgery?	Percentage of patients still alive 1 year after cancer surgery
	3.5 2 year survival	What percentage of patients are alive two years after cancer surgery?	Percentage of patients still alive 2 years after cancer surgery
4 Accessible	4.1 Timeliness	What percentage of public compared to private patients received their first cancer treatment within 30 days of diagnosis?	Percentage of patients whose time from diagnosis to first cancer treatment is ≤ 30 days
	4.2 Remoteness	What percentage of patients living outside a major city received their first cancer treatment?	Percentage of rural and remote patients receiving their cancer treatment
	4.3 Time to first treatment ≤ 30 days	What percentage of patients living outside major city receiving their first cancer treatment within 30 days of diagnosis?	Percentage of rural and remote patients whose time from diagnosis to cancer treatment is ≤ 30 days
5 Equitable	5.1 Over 75 years	What percentage of patients aged ≥75 years received first cancer treatment within 30 days of diagnosis?	Percentage of older patients whose time from diagnosis to first cancer treatment is ≤ 30 days
	5.2 Indigenous	What percentage of indigenous patients received first cancer treatment within 30 days of diagnosis?	Percentage of indigenous patients whose time from diagnosis to first cancer treatment is ≤ 30 days
	5.3 Socio-economically disadvantaged	What percentage of socioeconomically disadvantaged patients received first cancer treatment within 30 days of diagnosis?	Percentage of socio-economically disadvantaged patients whose time from diagnosis to first cancer treatment is ≤ 30 days

Data sources and methods

Key to Cancer Alliance's program of work is the ability to match and link population based cancer information on an individual patient basis. This matched and linked data is housed in the Queensland Oncology Repository (QOR), a resource managed by Cancer Alliance. QOR consolidates cancer information for the state and contains data on cancer diagnoses from the Queensland Cancer Register (QCR) and deaths, Queensland Hospital Admissions Data Collection (QHAPDC), surgery, radiation therapy and intravenous systemic therapy. QOR also includes data collected in QOOL™ by clinicians at multidisciplinary team (MDT) meetings across the state. QOR contains approximately 50 million records between 1982 - 2017. Our matching and linking processes provide the 730,000+ matched and linked records of cancer patients between 2003 – 2017 which provide the data for The Cancer Index.

How the cohorts were identified



Time periods

DIAGNOSIS YEAR

Cancer Site	ICD-O-3; Morphology	Time Period
<i>The site and morphology of all cancers has been coded according to the International Classification of Diseases for Oncology, 3rd Edition (ICD-O-3)</i>		
Breast	C50	01 January 2003 to 31 December 2017
Colorectal: colon/rectal	C18-C20, C218	01 January 2003 to 31 December 2017
CNS and brain: brain	C70-C71	01 January 2003 to 31 December 2017
Gynaecological: cervical/ovarian/uterine/vulva	C51, C53, C54, C56	01 January 2003 to 31 December 2017
Head and neck: hypopharynx/larynx/major salivary glands/nasal cavity and paranasal sinuses/nasopharynx/oral cavity/oropharynx/other pharynx	C00-C14, C30-C32	01 January 2003 to 31 December 2017
Hepatobiliary: pancreatic/biliary tract & small intestine (including duodenum)/liver	C17, C22, C24, C25	01 January 2003 to 31 December 2017
Lung: non-small cell lung	C33-C34; NSCLC (C34)	01 January 2003 to 31 December 2017
Prostate	C61	01 January 2003 to 31 December 2017
Oesophago-gastric	C15, C16	01 January 2003 to 31 December 2017
Urological: bladder/testicular	C62, C67	01 January 2003 to 31 December 2017

CANCER TREATMENT YEAR

Cancer Site	Time Period
Breast	01 January 2000 to 31 July 2019
Colorectal: colon/rectal	01 January 2000 to 31 July 2019
CNS and brain: brain	01 January 2000 to 31 July 2019
Gynaecological: cervical/ovarian/uterine/vulva	01 January 2000 to 31 July 2019
Head and neck: hypopharynx/larynx/major salivary glands/nasal cavity and paranasal sinuses/nasopharynx/oral cavity/oropharynx/other pharynx	01 January 2000 to 31 July 2019
Hepatobiliary: pancreatic/biliary tract & small intestine (including duodenum)/liver	01 January 2000 to 31 July 2019
Lung: non-small cell lung	01 January 2000 to 31 July 2019
Prostate	01 January 2000 to 31 July 2019
Oesophago-gastric	01 January 2000 to 31 July 2019
Urological: bladder/testicular	01 January 2000 to 31 July 2019

Exclusions

The following exclusions apply:

- Non Queensland residents
- Other conditions that patients may have had similar surgery for, e.g. gastrectomy for gastric ulcer

Identifying cancer patients

The number of new cases of cancers is generally higher than the number of persons with cancer. This is because one person can have two or more cancers and may be counted under two or more different cancer groups. Only primary invasive cancers are included in The Index. A primary cancer is one that occurs for the first time in a site or tissue (called the primary site) and is therefore not an extension, a recurrence or a metastasis of a pre-existing tumour.

The following examples illustrate the rules for identifying and counting cancer patients for this report:

- If a person has cancers in two different sites, then that person counts as 2 cases. For example if a woman was diagnosed with cancers in both the breast and rectum then she counts as 2 cases of cancer and will be included in both the breast and rectal cancer groups.
- If a person was diagnosed on two or more occasions with cancers in the same site, then that person counts as only one cancer case and the date of diagnosis will be based on the earliest diagnosis.

Identification and categorisation of

Potential cancer related procedures were identified from the Australian Classification of Health Interventions (ACHI) International Classification of Diseases (ICD-10-AM) 11th Edition, 2019. The identified procedures were reviewed by expert clinicians for completeness and accuracy and then categorised into cancer surgery groups. See page 6 for more information.

Linking cancer treatment to a

Each cancer diagnosed in a calendar year was matched and linked to one or many surgery records. This produces a list of all the surgeries performed for each cancer diagnosis. The surgeries are then categorised according to clinically developed rules which are specific to each indicator. Therefore a single cancer incidence and subsequent surgeries may be counted in a number of ways. For example a person diagnosed with colon cancer in 2006, had a colectomy in 2006 and an anterior resection in 2007. The colectomy would be used in the Accessible dimension and the anterior resection would be used in the Safe dimension.

System therapy treatment is generated when treatment occurs from 30 days prior to diagnosis to 365 days after diagnosis.

Radiotherapy treatment is generated when treatment occurs from 30 days prior to diagnosis to 365 days after diagnosis.

Cancer surgery groups

BREAST CANCER SURGERY

Breast Cancer Surgery

Excision of lesion

3153600 Complete excision of lesion without guidewire

3150000 Complete excision of lesion with guidewire

Mastectomy

3151800 Total mastectomy (unilateral)

3151801 Total mastectomy (bilateral)

3152400 Subcutaneous mastectomy (unilateral)

3152401 Subcutaneous mastectomy (bilateral)

BRAIN CANCER SURGERY

Brain Cancer Surgery

3970300 Biopsy of brain via burr holes

4090301 Biopsy of brain via neuroendoscopy

3970600 Biopsy of brain via osteoplastic craniotomy

3970302 Biopsy of cerebral meninges via burr holes

3970602 Biopsy of cerebral meninges via osteoplastic craniotomy

4080300 Intracranial stereotactic localisation

3971203 Removal of intraventricular lesion

3970901 Removal of lesion of brain stem

3970902 Removal of lesion of cerebellum

3971200 Removal of lesion of cerebral meninges

3970900 Removal of lesion of cerebrum

3971204 Removal of other intracranial lesion

3964000 Removal of lesion involving anterior cranial fossa

3964200 Removal of lesion involving anterior cranial fossa with clearance of paranasal sinus extension

3964600 Removal of lesion involving anterior cranial fossa with radical clearance of paranasal sinus and orbital fossa extensions

3965000 Removal of lesion involving middle cranial and infratemporal fossae

4070302 Partial lobectomy of brain

COLORECTAL CANCER SURGERY (CANCERS OF COLON OR RECTUM)

Major Resections

Colectomy

3056600 Resection of small intestine with anastomosis

3200300 Limited excision of large intestine with anastomosis

3200301 Right hemicolectomy with anastomosis

3200501 Extended right hemicolectomy with anastomosis

3200600 Left hemicolectomy with anastomosis

3200500 Subtotal colectomy with anastomosis

3201200 Total colectomy with anastomosis

3056500 Resection of small intestine with formation of stoma

3200000 Limited excision of large intestine with formation of stoma

3200001 Right hemicolectomy with formation of stoma

3200401 Extended right hemicolectomy with formation of stoma

3200601 Left hemicolectomy with formation of stoma

3200400 Subtotal colectomy with formation of stoma

3200900 Total colectomy with ileostomy

Abdominoperineal Resection

3203900 Abdominoperineal proctectomy

Total Proctocolectomy

3205100 Total proctocolectomy with ileo-anal anastomosis

3201500 Total proctocolectomy with ileostomy

3205101 Total proctocolectomy with ileo-anal anastomosis and formation of stoma

Anterior Resection

3202400 High anterior resection of rectum

3202500 Low anterior resection of rectum

3202600 Ultra low anterior resection of rectum

3202800 Ultra low anterior resection of rectum with hand sutured coloanal anastomosis

9220800 Anterior resection of rectum, level specified

Hartmanns

3203000 Rectosigmoidectomy with formation of stoma

**GYNAECOLOGICAL CANCER SURGERY
(CANCERS OF CERVICAL, OVARIAN, UTERINE OR VULVA)**

Major Resections

Abdominal hysterectomy

3565300	Subtotal abdominal hysterotomy
3565300	Subtotal abdominal hysterectomy
3565301	Total abdominal hysterectomy
3565304	Total abdominal hysterectomy with removal of adnexa
3565305	Laparoscopic subtotal abdominal hysterectomy
3565307	Laparoscopic total abdominal hysterectomy
3566100	Abdominal hysterectomy with extensive retroperitoneal dissection
3566400	Radical abdominal hysterectomy with radical excision of pelvic lymph nodes
3566700	Radical abdominal hysterectomy
3566702	Laparoscopic radical abdominal hysterectomy
3567000	Abdominal hysterectomy with radical excision of pelvic lymph nodes
9044800	Subtotal laparoscopic abdominal hysterectomy
9044801	Total laparoscopic abdominal hysterectomy
9044802	Total laparoscopic abdominal hysterectomy with removal of adnexa

Vaginal hysterectomy

3565700	Vaginal hysterectomy
3566401	Radical vaginal hysterectomy with radical excision of pelvic lymph nodes
3566701	Radical vaginal hysterectomy
3566703	Laparoscopically assisted radical vaginal hysterectomy
3567302	Vaginal hysterectomy with removal of adnexa
3567302	Vaginal hysterectomy with removal of adnexa
3575000	Laparoscopically assisted vaginal hysterectomy
3575302	Laparoscopically assisted vaginal hysterectomy with removal of adnexa
3575600	Laparoscopically assisted vaginal hysterectomy proceeding to abdominal hysterectomy
3575603	Laparoscopically assisted vaginal hysterectomy proceeding to abdominal hysterectomy with removal of adnexa

Oophorectomy

3563803	Laparoscopic oophorectomy, bilateral
3563802	Laparoscopic oophorectomy, unilateral
3563801	Laparoscopic partial oophorectomy
3563800	Laparoscopic wedge resection of ovary
3571701	Oophorectomy, bilateral
3571307	Oophorectomy, unilateral
3571306	Partial oophorectomy
3571305	Wedge resection of ovary

Salpingo-oophorectomy

3563812	Laparoscopic salpingo-oophorectomy, bilateral
3563811	Laparoscopic salpingo-oophorectomy, unilateral
3571704	Salpingo-oophorectomy, bilateral
3571311	Salpingo-oophorectomy, unilateral

Vulvectomy

3553600	Hemivulvectomy
3554800	Radical vulvectomy
3553602	Vulvectomy, bilateral
3553601	Vulvectomy, unilateral

HEAD AND NECK CANCER SURGERY

(CANCERS OF HYPOPHARYNX, LARYNX, MAJOR SALIVARY GLANDS, NASAL CAVITY AND PARANASAL SINUSES, NASOPHARYNX, ORAL CAVITY, OROPHARYNX, OTHER PHARYNX)

Major Resections		Major Resections	
3024700	Total excision of parotid gland	4178700	Uvulectomy with partial palatectomy
3025000	Total excision of parotid gland with preservation of facial nerve	4178701	Uvulectomy with partial palatectomy and tonsillectomy
3025300	Partial excision of parotid gland	4178900	Tonsillectomy without adenoidectomy
3025500	Removal of submandibular ducts	4180100	Adenoidectomy without tonsillectomy
3025600	Excision of submandibular gland	4181001	Uvulectomy
3025900	Excision of sublingual gland	4183400	Total laryngectomy
3027200	Partial excision of tongue	4183700	Hemilaryngectomy
3027500	Radical excision of intraoral lesion	4184000	Supraglottic laryngectomy
3028300	Excision of cyst of mouth	4184300	Laryngopharyngectomy
3029401	Laryngopharyngectomy and plastic reconstruction	4185200	Laryngoscopy with removal of lesion
3135000	Excision of lesion of soft tissue, not elsewhere classified	4186100	Microlaryngoscopy with removal of lesion by laser
3140000	Excision of lesion of upper aerodigestive tract	4186400	Microlaryngoscopy with removal of lesion
3964000	Removal of lesion involving anterior cranial fossa	4186700	Microlaryngoscopy with arytenoidectomy
3964200	Removal of lesion involving anterior cranial fossa with clearance of paranasal sinus extension	4559600	Total resection of 1 maxilla
3964600	Removal of lesion involving anterior cranial fossa with radical clearance of paranasal sinus and orbital fossa extensions	4559700	Total resection of both maxillae
3965000	Removal of lesion involving middle cranial and infratemporal fossae	4559900	Total resection of both sides of mandible
3966002	Excision of lesion of cavernous sinus	4560200	Subtotal resection of mandible
4158100	Removal of lesion involving infratemporal fossa	4560201	Subtotal resection of maxilla
4166800	Removal of nasal polyp	4560500	Partial resection of mandible
4171000	Radical maxillary antrostomy, unilateral	4560501	Partial resection of maxilla
4171300	Radical maxillary antrostomy with transantral ethmoidectomy	4572000	Osteotomy of mandible, unilateral
4171301	Radical maxillary antrostomy with transantral vidian neurectomy	4572001	Osteotomy of maxilla, unilateral
4171606	Excision of lesion of maxillary antrum	4572002	Ostectomy of mandible, unilateral
4172800	Lateral rhinotomy with removal of intranasal lesion	4572003	Ostectomy of maxilla, unilateral
4173100	Ethmoidectomy, frontonasal approach	5212000	Partial resection of mandible with condylectomy
4173101	Ethmoidectomy with sphenoideectomy, frontonasal approach	9003200	Removal of lesion involving posterior cranial fossa
4173702	Ethmoidectomy, unilateral	9013100	Local excision of other intranasal lesion
4173703	Ethmoidectomy, bilateral	9013500	Excision of lesion of tongue
4173709	Frontal sinusectomy	9013800	Excision of lesion of salivary gland
4175201	Sphenoideectomy	9014100	Local excision or destruction of lesion of bony palate
4176700	Removal of lesion of nasopharynx	9014101	Excision of other lesion of mouth
4177901	Total excision of tongue	9014301	Other procedures on palate
4178200	Partial pharyngectomy	9014400	Excision of lesion of tonsils or adenoids
4178500	Partial pharyngectomy with partial glossectomy	9014900	Excision of other lesion of pharynx
4178501	Partial pharyngectomy with total glossectomy	9016100	Excision of other lesion of larynx
		9056900	Osteotomy, not elsewhere classified

PANCREATIC, BILIARY TRACT AND SMALL INTESTINE CANCER SURGERY

Major resections

Whipples

3058400 Pancreaticoduodenectomy with formation of stoma

NON-SMALL CELL LUNG CANCER SURGERY

Major Resections

Partial resection

9016900 Endoscopic wedge resection of lung

3844001 Radical wedge resection of lung

3843800 Segmental wedge resection of lung

3844000 Wedge resection of lung

Lobectomy of lung

3843801 Lobectomy of lung

3844100 Radical lobectomy

Pneumonectomy

3843802 Pneumonectomy

3844101 Radical pneumonectomy

PROSTATE CANCER SURGERY

Major Resections

3721100 Radical prostatectomy with bladder neck reconstruction and pelvic lymphadenopathy

3721000 Radical prostatectomy with bladder neck reconstruction

3720900 Radical prostatectomy

3721001 Laparoscopic radical prostatectomy with bladder neck reconstruction

3720901 Laparoscopic radical prostatectomy

3721101 Laparoscopic radical prostatectomy with bladder neck reconstruction and pelvic lymphadenectomy

UROLOGICAL CANCER SURGERY (CANCERS OF BLADDER OR TESTICULAR)

Cystectomy

3700000 Laparoscopic partial excision of bladder

3700001 Partial excision of bladder

3701400 Total excision of bladder

Orchidectomy

3064103 Orchidectomy with insertion of testicular prosthesis, bilateral

3064102 Orchidectomy with insertion of testicular prosthesis, unilateral

3064101 Orchidectomy, bilateral

3064100 Orchidectomy, unilateral

OESOPHAGOGASTRIC CANCER SURGERY

Major resections

Gastrectomy

3051800 Partial distal gastrectomy with gastroduodenal anastomosis

3051801 Partial distal gastrectomy with gastrojejunal anastomosis

3051802 Partial proximal gastrectomy with oesophago-gastric anastomosis

3052100 Total gastrectomy

3052300 Subtotal gastrectomy

3052400 Radical gastrectomy

Oesophagectomy

3053500 Oesophagectomy by abdominal and transthoracic mobilisation, with thoracic oesophagogastric anastomosis

3053600 Oesophagectomy by abdominal and transthoracic mobilisation, with cervical oesophagogastric anastomosis

3053601 Oesophagectomy by abdominal and transthoracic mobilisation, with cervical oesophagostomy

3054100 Trans-hiatal oesophagectomy by abdominal and cervical mobilisation, with oesophagogastric anastomosis

3054101 Trans-hiatal oesophagectomy by abdominal and cervical mobilisation, with oesophagojejunal anastomosis

3054500 Oesophagectomy by abdominal and thoracic mobilisation with thoracic anastomosis, large intestine interposition and anastomosis

3054501 Oesophagectomy by abdominal and thoracic mobilisation with thoracic anastomosis, using Roux-en-Y reconstruction

3055000 Oesophagectomy by abdominal and thoracic mobilisation with cervical anastomosis, large intestine interposition and anastomosis

3055001 Oesophagectomy by abdominal and thoracic mobilisation with cervical anastomosis, using Roux-en-Y reconstruction

Data sources explained

QUEENSLAND ONCOLOGY REPOSITORY

The Queensland Oncology Repository (QOR) is a cancer patient database developed and maintained by the Cancer Alliance Queensland to support Queensland's cancer control, safety, and quality assurance initiatives. QOR consolidates cancer patient information for the state and contains data on cancer diagnoses and deaths, surgery, chemotherapy, and radiotherapy. QOR also includes data collected by clinicians at multidisciplinary team (MDT) meetings across the state. For more information, visit <https://cancerallianceqld.health.qld.gov.au>.

Oncology Analysis System (OASys)

Oncology Analysis System (OASys) is a web based state-wide cancer analysis system with diagnostic, treatment and outcome data on registry-notifiable invasive cancers diagnosed among Queensland residents of all ages (including children) from 1982 to 2016.

The data collection, linking and reporting of OASys data is performed under the auspices of Queensland Cancer Control Safety and Quality Partnership, The Partnership was gazetted as a quality assurance committee under Part 6, Division 1 of the Hospital and Health Boards Act 2011 in 2007.

More on the Cancer Alliance Queensland website

For more details on our program of work, go to <https://cancerallianceqld.health.qld.gov.au>.

FOR MORE INFORMATION

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