

# Queensland Cancer Quality Index

## Technical Appendix



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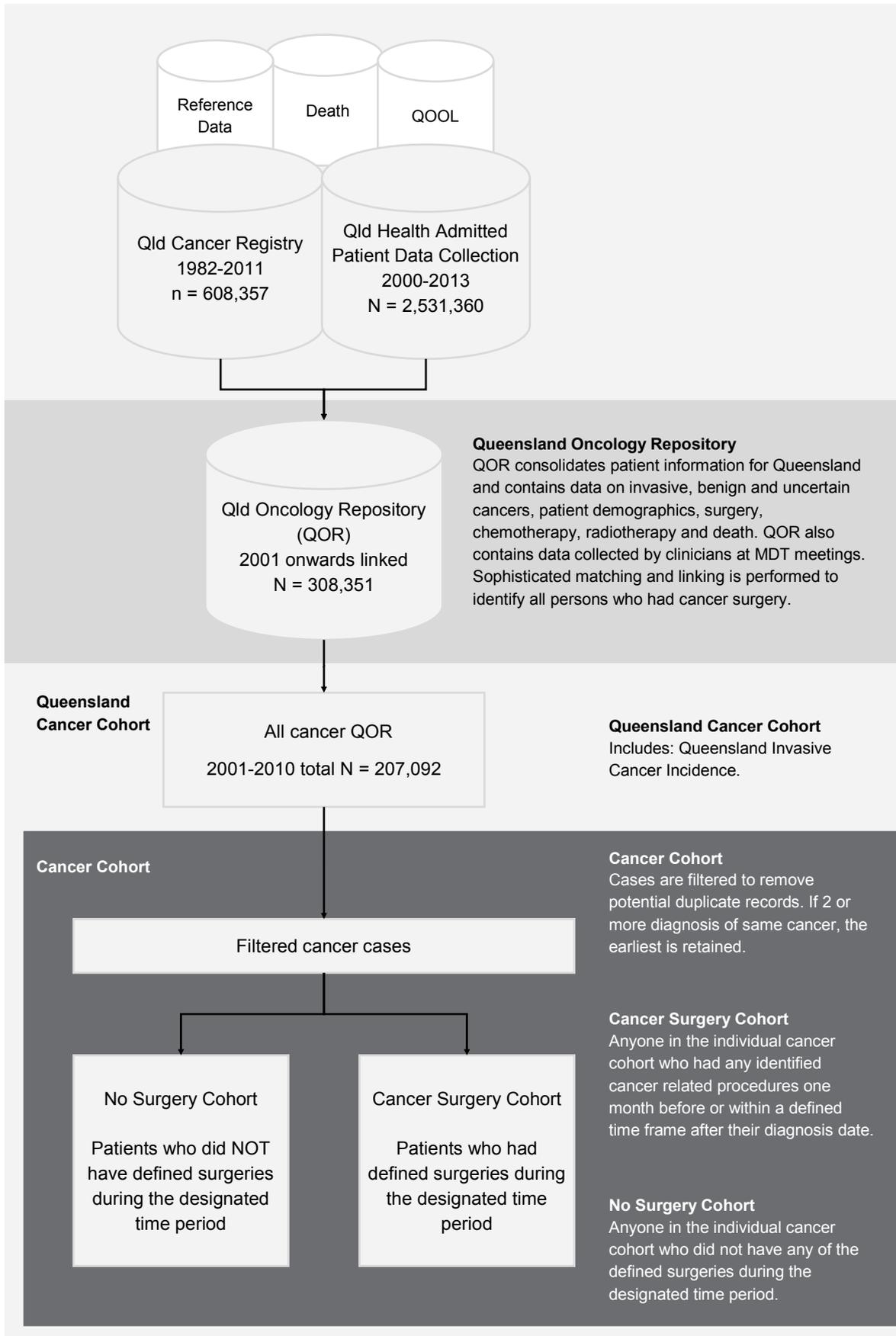
# The Cancer Index Indicators

Quality Dimension	Indicator	Description	Calculation
<b>1 Effective</b>	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 cancer surgery	How many Queenslanders with cancer receive surgery?	Percentage of cancer patients receiving surgery
<b>2 Efficient</b>	2.1 Hospital Stay	How long do people having cancer surgery stay in hospital?	Median time between the admission and discharge date of cancer surgery
<b>3 Safe</b>	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 $\leq$ 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 $\leq$ 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
<b>4 Accessible</b> <small>(Many cancers require other treatment prior to surgery and are not reported for this dimension.)</small>	4.1 Timeliness	What percentage of patients received cancer surgery within 30 days of diagnosis?	Percentage of patients whose time from diagnosis to cancer surgery is $\leq$ 30 days
	4.2 Remoteness	What percentage of patients living outside a major city received cancer surgery within 30 days of diagnosis?	Percentage of rural/remote patients whose time from diagnosis to cancer surgery is $\leq$ 30 days
<b>5 Equitable</b> <small>(Many cancers require other treatment prior to surgery and are not reported for this dimension.)</small>	5.1 Over 65 years	What percentage of patients aged >65 years received cancer surgery within 30 days of diagnosis?	Percentage of older patients whose time from diagnosis to cancer surgery is $\leq$ 30 days
	5.2 Indigenous	What percentage of indigenous patients received cancer surgery within 30 days of diagnosis?	Percentage of indigenous patients whose time from diagnosis to cancer surgery is $\leq$ 30 days
	5.3 Socio-economically disadvantaged	What percentage of socio-economically disadvantaged patients received cancer surgery within 30 days of diagnosis?	Percentage of socio-economically disadvantaged patients whose time from diagnosis to cancer surgery is $\leq$ 30 days)

# Data sources and methods

Key to QCCAT'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 QCCAT. This centralised repository compiles and collates data from a range of source systems including the Queensland Cancer Registry, hospital admissions data, death data, treatment systems, public and private pathology, hospital clinical data systems and Queensland Oncology On-Line (QOOL). QOR contains approximately 32 million records between 1982 – 2013. Our matching and linking processes provide the 308,351 matched and linked records of cancer patients between 2001 – 2010 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 2001 to 31 December 2010
Colon	C18	01 January 2001 to 31 December 2010
Non-Small Cell Lung	C34; NSCLC	01 January 2001 to 31 December 2010
Oesophago-gastric	C15, C16	01 January 2001 to 31 December 2010
Pancreatic, biliary tract & small intestine (including duodenum)	C17, C24, C25	01 January 2001 to 31 December 2010
Rectal	C19, C20, C218	01 January 2001 to 31 December 2010

## CANCER SURGERY YEAR

Cancer	Time Period
Breast	01 December 2000 to 31 December 2011
Colon	01 December 2000 to 31 December 2013
Non-Small Cell Lung	01 December 2000 to 31 December 2011
Oesophago-gastric	01 December 2000 to 31 December 2011
Pancreatic, biliary tract & duodenum	01 December 2000 to 31 December 2011
Rectal	01 December 2000 to 31 December 2013

# Exclusions

The following exclusions apply:

- Non Queensland residents
- People who were not admitted to a Queensland hospital for cancer surgery
- 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 cancer surgeries

Potential cancer related procedures were identified from the Australian Classification of Health Interventions (ACHI) International Classification of Diseases (ICD-10-AM) 7th Edition, 2010. 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 surgery to a person

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.

# 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)

## PANCREATIC, BILIARY TRACT AND SMALL INTESTINE CANCER SURGERY

### Major resections

#### Whipples

3058400	Pancreaticoduodenectomy with formation of stoma
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## 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

## 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

## 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
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#### *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
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# Data sources explained

## **QUEENSLAND ONCOLOGY REPOSITORY**

The Queensland Oncology Repository (QOR) is a cancer patient database developed and maintained by the Queensland Cancer Control Analysis Team (QCCAT; Queensland Health) 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://qccat.health.qld.gov.au/QOR>.

## **QUEENSLAND CANCER REGISTRY**

The Queensland Cancer Registry (QCR) operates under the Public Health Act 2005 to receive information on cancer in Queensland. The QCR is a population-based registry and maintains a register of all cases of cancer diagnosed in Queensland since 1982 (excluding basal and squamous cell carcinomas). The QCR codes the site and the histology of the cancers to the International Classification of Diseases for Oncology, 3rd edition (ICD-O-3). Prior to July 2004, the primary site of cancer was coded to the International Classification of Diseases for Oncology, 2nd edition (ICD-O-2).

Notification of cancer is a statutory requirement for all public and private hospitals, nursing homes and pathology services. Notifications are received for all persons with cancer separated from public and private hospitals and nursing homes. Cancer-related pathology reports are received from Queensland pathology laboratories. Mortality data with cancer identified as the underlying cause of death as well as cancer-related deaths are abstracted from the mortality files of the Registry of Births, Deaths and Marriages.

## **QUEENSLAND HEALTH ADMITTED PATIENT DATA COLLECTION**

Queensland Health Admitted Patient Data Collection (QHAPDC) contains data on all patient separations (discharged, died, transferred or statistically separated) from any hospital permitted to admit patients, including public psychiatric hospitals.

QHAPDC provides population-wide surgical data for Queensland and includes: surgical procedures performed during the patient admission for both public and private facilities, admission type data such as elective/emergency status, public/private status and length of stay data about where patients receive their surgery.

# 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 2012.

The Cancer Index is available electronically via OASys at <https://qccat.health.qld.gov.au/oasys>

The data collection, linking and reporting of OASys data is performed under the auspices of Queensland Cancer Control Safety and Quality Partnership, a Quality Assurance Committee gazetted under Section 31, The Health Services Act 1991.

# More on the QCCAT website

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

## FOR MORE INFORMATION

Queensland Cancer Control Analysis Team

Queensland Health

ROMC, 31 Raymond Tce, South Brisbane, Queensland 4001 Australia

Tel: (+61) (07) 3840 3200

Email: [qccat@health.qld.gov.au](mailto:qccat@health.qld.gov.au)

<https://qccat.health.qld.gov.au>

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