


Queensland Cancer Quality Index

Indicators of safe, quality cancer care

Cancer care in public and private hospitals

2003-2017



 **cancer alliance**
queensland

the
Partnership
between Queensland Health
and quality partners

qccat
Queensland Cancer Care
Alliance Trust

qcr
Queensland
Cancer Registry



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Founded in 1935, The Royal Australian and New Zealand College of Radiologists (RANZCR) is a not-for-profit professional organisation for clinical radiologists and radiation oncologists in Australia.



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2013-2017

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What is the Queensland Cancer Quality Index (The Cancer Index)?

The Cancer Index report has been developed for public and private cancer services. It is an initiative of the Cancer Alliance Queensland which brings together the Cancer Control Safety and Quality Partnership (The Partnership), Queensland Cancer Control Analysis Team (QCCAT) and the Queensland Cancer Register (QCR)(<https://cancerallianceqld.health.qld.gov.au>). The report tracks Queensland's progress delivering safe, quality cancer care and will be provided to all relevant public and private hospitals. The Cancer Index highlights areas for improvement and identifies the areas where cancer services are performing well.

The Cancer Index has five dimensions and sixteen indicators (Walpole, Theile, Philpot et al. 2019).

Quality Dimension	Description
1 Effective	Achieving the best outcomes for Queenslanders with cancer
2 Efficient	Optimally using resources to achieve desired outcomes
3 Safe	Avoiding and preventing adverse outcomes or injuries caused by healthcare management
4 Accessible	Making health services available in the most suitable setting in a reasonable time
5 Equitable	Providing care and ensuring health status does not vary in quality because of personal characteristics

This version of The Cancer Index has been expanded to include breast, colorectal, CNS and brain, gynaecological, hepatobiliary, lung, prostate, upper GI and Urological cancers. The Cancer Index now includes indicators about surgery and radiation therapy, intravenous systemic therapy with other dimensions of care. Additional dimensions and indicators will be added in response to clinician, hospital, HHS, Queensland Health and community feedback.

The Cancer Index reports on 15 years of data from 2003-2017, however there may have been changes more recently that are not captured by the time periods reported. Regardless, The Cancer Index provides an important tool for monitoring current investments in cancer care and changes in clinical practice. It also enables us to reflect on past improvement programs and identify areas where a renewed effort or new approach may be required.

Why develop the Cancer Index?

Performance indicators linked to clinical outcomes that align with national benchmarking is a key service action in the Cancer Care State-wide Health Service Strategy, 2014. The Cancer Index has been developed by the Cancer Alliance Queensland, lead clinicians and relevant persons under the auspices of the Queensland Cancer Control Safety and Quality Partnership (The Partnership). The Cancer Alliance Queensland supports a clinician-led, safety and quality program for cancer across Queensland. The Partnership was gazetted as a quality assurance committee under Part 6, Division 1 of the Hospital and Health Boards Act 2011 in 2004. A key role of The Partnership is to provide cancer clinicians, Hospital and Health Services (HHS), hospitals, treatment facilities and Queensland Health with cancer information and tools to deliver the best patient care.

Where has the data come from?

Since 2004 QCCAT have compiled and analysed a vast amount of information about cancer incidence, mortality, treatment, and survival. 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 Register, private and public hospital admissions data, death data, treatment systems, public and private pathology, hospital clinical data systems and QOOL. 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 1982–2017 which provide the data for The Queensland Cancer Quality Index.

The Cancer Index should be interpreted in the context of the previous publications by The Partnership. To access previous publication, go to <https://cancerallianceqld.health.qld.gov.au/reports-publications>.

For further information on data sources and methods refer to The Cancer Index Technical Appendix.

How to interpret this report

The Cancer Index should be interpreted in the context of other publications by The Partnership. These publications provide information on cancer incidence, mortality and survival, surgery, radiation therapy, and intravenous systemic therapy rates and patient flows which is important information for understanding the indicators reported in The Cancer Index.

Many of the indicators have been statistically adjusted for age and sex. This is done to account for any changes in who is being diagnosed with cancer. For example, the introduction or expansion of a screening program may increase the number of cancers being diagnosed in some age groups within the population.

Rather than focus on differences in rates, it would be of more benefit to focus on changes over time and variations in outcomes between different sectors of the population and determine whether these are in line with clinician, patient or community expectations.

Descriptions of all terms and definitions can be found in the glossary and appendix section.

Further information is available via Queensland's web-based Oncology Analysis System (OASys) at <https://cancerallianceqld.health.qld.gov.au/qoolcentral>.






Looking to the future


The Cancer Index provides baseline measurements for the on-going monitoring of the quality of cancer care in Queensland. The Partnership intends to report on The Cancer Index every year. Rather than wait for perfect data, The Partnership have chosen to report on a subset of the indicators needed to provide a complete picture of the safety and quality of cancer care in Queensland. This suite of indicators will be expanded on as more data becomes available.


The Partnership will continue to seek feedback from cancer services, Queensland Health and the community on The Cancer Index. They will lead the development and reporting of quality indicators for other aspects of cancer management and outcomes which will be included in future versions.

What does the Cancer Index tell us about cancer in Queensland?

This third release reports on data spanning 15 years of cancer care and highlights where the health system has performed well and where improvements are possible.

<p>1 Effective </p>	<p>Cancer survival compares favourably with the rest of Australia.</p> <p>Most patients receive treatment for their cancer.</p>
<p>2 Efficient </p>	<p>There is little difference in the length of hospital stay between public and private patients receiving cancer surgery.</p> <p>These lengths of stay compare well to international literature.</p>
<p>3 Safe </p>	<p>Queensland has low mortality rates after cancer surgery.</p>
<p>4 Accessible </p>	<p>Public patients waited longer for their first cancer treatment than private patients.</p> <p>There is little variation for rural and remote people waiting for treatment compared to those living in the city areas.</p>
<p>5 Equitable </p>	<p>Age is not a barrier to receiving first cancer treatment within 30 days.</p> <p>There is little difference in rates of receiving treatment within 30 days of diagnosis between Indigenous and non-Indigenous patients treated in public hospitals.</p> <p>There is a wide gap in waiting for treatment between patients of socioeconomic disadvantage compared to other groups.</p>

 Excellent

 Very good

 Good

 Fair

 Poor

1 | Effective

Achieving the best outcomes for Queenslanders with cancer.



1.1 | Survival

What percentage of people with cancer are living 5 years after diagnosis?

Relative Survival		Queensland			Australia ¹
<i>(% of people who would have survived if cancer was the only cause of death)</i>					
Cancer group	Cancer	2003-2007 5 Year Survival	2008-2012 5 Year Survival	2013-2017 5 Year Survival	2012-2016 5 Year Survival
Breast	Breast	89%	91%	92%	91%
Colorectal	Colorectal	67%	69%	71%	70%
	Colon	67%	69%	71%	70%
	Rectal	59%	60%	60%	70%
CNS and brain	Brain	22%	24%	22%	22%
Gynaecological	Cervical	76%	74%	73%	74%
	Ovarian	46%	49%	50%	47%
	Uterine	82%	85%	84%	83%
	Vulva	74%	74%	73%	72%
Head and neck	Head and neck	60%	63%	67%	71%
	Hypopharynx	31%	30%	42%	36%
	Larynx	66%	61%	70%	65%
	Major Salivary Glands	77%	80%	83%	77%
	Nasal Cavity and Paranasal Sinuses	66%	63%	57%	57%
	Nasopharynx	64%	63%	60%	68%
	Oral Cavity	65%	65%	66%	**
	Oropharynx	53%	66%	71%	70%
	Other Pharynx	32%	36%	52%	**
Hepatobiliary	Biliary tract*	25%	26%	20%	**
	Liver	15%	19%	20%	20%
	Pancreatic	6%	8%	12%	11%
Lung	Lung	13%	16%	20%	19%
	Non-small cell lung	12%	16%	21%	**
Prostate	Prostate	89%	93%	95%	95%
Upper GI	Gastric	27%	29%	32%	31%
	Oesophagus	17%	24%	25%	22%
Urological	Bladder	57%	52%	57%	54%
	Testicular	97%	99%	97%	97%

Relative survival was calculated using the Ederer II method, and the period approach was used. Relative survival was calculated for all persons aged 0-89 at diagnosis.

* Biliary tract (not incl Bile Ducts and Vater).

** National comparative data not available.

¹ AIHW Australian Cancer Database 2016. Australian Institute of Health and Welfare (AIHW) 2020 Cancer Data in Australia; Canberra: AIHW.

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1.2 | Queenslanders receiving Multidisciplinary Team review

How many Queenslanders with cancer receive multidisciplinary team (MDT) review?

MDT Review (Number of patients who had MDT documented)		Queensland		
Cancer group	Cancer	2003-2007 MDT number (rate*)	2008-2012 MDT number (rate*)	2013-2017 MDT number (rate*)
Breast	Breast	362 (3%)	4,013 (28%)	6,753 (40%)
Colorectal	Colon	140 (2%)	1,823 (18%)	3,301 (31%)
	Rectal	104 (2%)	1,101 (24%)	1,977 (40%)
CNS and brain	Brain	66 (5%)	425 (27%)	817 (49%)
Gynaecological	Cervical	9 (1%)	152 (17%)	123 (13%)
	Ovarian	10 (1%)	150 (12%)	148 (11%)
	Uterine	15 (1%)	282 (13%)	226 (9%)
	Vulva	2 (1%)	63 (22%)	44 (12%)
Head and neck	Head and neck	177 (6%)	1,943 (60%)	3,262 (83%)
	Hypopharynx	10 (6%)	130 (70%)	208 (83%)
	Larynx	28 (5%)	330 (57%)	487 (79%)
	Major salivary glands	9 (4%)	110 (50%)	196 (77%)
	Nasal cavity and paranasal sinuses	14 (12%)	83 (60%)	151 (85%)
	Nasopharynx	3 (4%)	50 (57%)	88 (84%)
	Oral cavity	65 (8%)	570 (59%)	885 (81%)
	Oropharynx	43 (6%)	624 (64%)	1,210 (87%)
	Other pharynx	5 (4%)	46 (54%)	37 (62%)
	Hepatobiliary	Liver	11 (1%)	184 (15%)
Pancreatic, biliary tract & duodenal		15 (1%)	424 (14%)	942 (24%)
Lung	Non-small cell lung	2,944 (40%)	4,198 (49%)	5,569 (58%)
Prostate	Prostate	204 (1%)	723 (4%)	1,752 (9%)
Upper GI	Oesophagogastric	60 (2%)	968 (29%)	1,634 (44%)
Urological	Bladder	11 (<1%)	136 (6%)	380 (14%)
	Testicular	7 (1%)	70 (9%)	226 (27%)

* Percentage of cancer patients with documented MDT review.
MDT rates includes facilities that use QOOL or lung cancer conference at PA Hospital.

1.3 | Queenslanders receiving cancer surgery

How many Queenslanders with cancer receive surgery?

Surgery number (Number of cancer patients receiving surgery)			Queensland		
Cancer group	Cancer	Surgery type	2003-2007 Surgery number (rate*)	2008-2012 Surgery number (rate*)	2013-2017 Surgery number (rate*)
Breast	Breast	Breast cancer surgery	10,796 (91%)	13,191 (91%)	15,229 (91%)
Colorectal	Colon	Major resection	6,837 (80%)	7,792 (79%)	8,039 (76%)
	Rectal	Major resection	3,101 (72%)	3,144 (69%)	3,079 (63%)
CNS and brain	Brain	Major resection	1,069 (81%)	1,285 (83%)	1,366 (82%)
Gynaecological	Cervical	Major resection	143 (19%)	214 (24%)	236 (23%)
	Ovarian	Major resection	678 (63%)	789 (65%)	846 (64%)
	Uterine	Major resection	195 (11%)	30 (1%)	45 (2%)
	Vulva	Major resection	165 (80%)	224 (78%)	259 (69%)
Head and neck	Head and neck	Major resection	1,662 (59%)	1,850 (57%)	2,121 (54%)
	Hypopharynx	Major resection	85 (50%)	80 (43%)	111 (45%)
	Larynx	Major resection	360 (60%)	338 (58%)	342 (56%)
	Major salivary glands	Major resection	187 (86%)	188 (86%)	227 (89%)
	Nasal cavity and paranasal sinuses	Major resection	53 (47%)	97 (70%)	109 (61%)
	Nasopharynx	Major resection	6 (8%)	9 (10%)	12 (12%)
	Oral cavity	Major resection	630 (73%)	764 (78%)	865 (79%)
	Oropharynx	Major resection	307 (44%)	345 (35%)	440 (32%)
	Other pharynx	Major resection	34 (30%)	29 (34%)	15 (26%)
	Hepatobiliary	Liver	Major resection	162 (18%)	244 (19%)
Pancreatic, biliary tract & duodenal		Pancreaticoduodenectomy	330 (13%)	423 (14%)	475 (12%)
Lung	Non-small cell lung	Major resection	1,292 (18%)	1,489 (17%)	2,041 (21%)
Prostate	Prostate	Prostatectomy	4,355 (28%)	8,056 (39%)	9,269 (47%)
Upper GI	Oesophagogastric	Major resection	1,000 (34%)	1,001 (30%)	999 (27%)
Urological	Bladder	Cystectomy	387 (16%)	472 (21%)	526 (20%)
	Testicular	Orchidectomy	576 (94%)	709 (96%)	812 (96%)

Rates have been adjusted for age and sex.

* Percentage of cancer patients receiving cancer surgery.

1.4 | Queenslanders receiving radiation therapy

How many Queenslanders with cancer receive radiation therapy?

Radiation therapy (Number of cancer patients receiving radiation therapy)		Queensland		
Cancer group	Cancer	2003-2007 Radiation therapy number (rate*)	2008-2012 Radiation therapy number (rate*)	2013-2017 Radiation therapy number (rate*)
Breast	Breast	7,324 (61%)	9,534 (66%)	11,254 (67%)
Colorectal	Colon	981 (11%)	1,030 (10%)	860 (8%)
	Rectal	1,549 (36%)	1,962 (43%)	1,984 (41%)
CNS and brain	Brain	743 (56%)	984 (63%)	1,068 (65%)
Gynaecological	Cervical	397 (49%)	449 (51%)	484 (51%)
	Ovarian	128 (12%)	134 (11%)	116 (9%)
	Uterine	483 (28%)	623 (29%)	713 (29%)
	Vulva	76 (37%)	108 (38%)	140 (37%)
Head and neck	Head and neck	1,860 (66%)	2,284 (70%)	2,772 (70%)
	Hypopharynx	129 (76%)	155 (83%)	200 (81%)
	Larynx	409 (67%)	423 (73%)	456 (75%)
	Major salivary glands	130 (60%)	148 (67%)	155 (61%)
	Nasal cavity and paranasal sinuses	77 (66%)	96 (70%)	127 (72%)
	Nasopharynx	65 (83%)	73 (80%)	91 (89%)
	Oral cavity	448 (52%)	512 (52%)	501 (46%)
	Oropharynx	524 (77%)	815 (84%)	1,199 (86%)
	Other pharynx	78 (69%)	62 (73%)	43 (72%)
Hepatobiliary	Liver	54 (6%)	141 (11%)	278 (16%)
	Pancreatic, biliary tract & duodenal	185 (8%)	323 (10%)	425 (11%)
Lung	Non-small cell lung	3,363 (45%)	4,319 (51%)	5,091 (53%)
Prostate	Prostate	6,558 (41%)	8,102 (41%)	6,990 (34%)
Upper GI	Oesophagogastric	888 (31%)	1,188 (36%)	1,363 (37%)
Urological	Bladder	586 (26%)	760 (34%)	770 (29%)
	Testicular	154 (25%)	55 (7%)	22 (3%)

Rates have been adjusted for age and sex.

* Percentage of cancer patients receiving radiation therapy.

1.5 | Queenslanders receiving intravenous systemic therapy

How many Queenslanders with cancer receive intravenous systemic therapy (IVST)?

Systemic therapy (Number of cancer patients receiving systemic therapy)		Queensland		
		2003-2007 Systemic therapy number (rate*)	2008-2012 Systemic therapy number (rate*)	2013-2017 Systemic therapy number (rate*)
Cancer group	Cancer			
Breast	Breast	5,358 (44%)	7,167 (49%)	8,224 (50%)
Colorectal	Colon	2,693 (32%)	3,105 (31%)	3,353 (32%)
	Rectal	1,921 (45%)	2,051 (45%)	2,155 (44%)
CNS and brain	Brain	257 (19%)	375 (24%)	416 (25%)
Gynaecological	Cervical	252 (31%)	344 (40%)	450 (47%)
	Ovarian	750 (70%)	855 (70%)	929 (70%)
	Uterine	351 (21%)	564 (27%)	631 (26%)
	Vulva	29 (14%)	52 (18%)	85 (23%)
	Head and neck	912 (32%)	1,317 (40%)	1,790 (46%)
Head and neck	Hypopharynx	67 (39%)	92 (49%)	132 (54%)
	Larynx	130 (21%)	167 (29%)	187 (31%)
	Major salivary glands	27 (13%)	34 (15%)	25 (10%)
	Nasal cavity and paranasal sinuses	33 (27%)	41 (31%)	66 (38%)
	Nasopharynx	58 (74%)	65 (71%)	79 (78%)
	Oral cavity	207 (24%)	236 (24%)	232 (22%)
	Oropharynx	341 (50%)	643 (66%)	1,036 (75%)
	Other pharynx	49 (43%)	39 (48%)	33 (55%)
	Hepatobiliary	162 (18%)	303 (24%)	412 (24%)
Hepatobiliary	Pancreatic, biliary tract & duodenal	853 (35%)	1,231 (40%)	1,669 (43%)
	Lung	2,551 (34%)	3,357 (39%)	4,293 (45%)
Lung	Non-small cell lung	2,551 (34%)	3,357 (39%)	4,293 (45%)
Prostate	Prostate	2,378 (15%)	2,291 (11%)	1,835 (9%)
Upper GI	Oesophagogastric	1,036 (36%)	1,334 (40%)	1,606 (43%)
Urological	Bladder	791 (34%)	863 (39%)	1,191 (45%)
	Testicular	278 (45%)	436 (59%)	484 (57%)

Rates have been adjusted for age and sex.

* Percentage of cancer patients receiving IV systemic therapy.

2 | Efficient

Optimally using resources to achieve desired outcomes.



3 | Safe

Avoiding and preventing adverse outcomes or injuries caused by healthcare management.



3.1 | In-Hospital mortality

What percentage of patients die in hospital after cancer surgery?

In-Hospital (% patients who die in hospital following cancer surgery)			Queensland		
Cancer group	Cancer	Surgery type	2003-2007 In-Hospital mortality (rate*)	2008-2012 In-Hospital mortality (rate*)	2013-2017 In-Hospital mortality (rate*)
Breast	Breast	Breast cancer surgery	<0.1%	<0.1%	0%
Colorectal	Colon	Major resection	2.9%	2.4%	1.7%
	Rectal	Major resection	2.4%	1.6%	1%
CNS and brain	Brain	Major resection	3.8%	2.2%	1.2%
Gynaecological	Cervical	Major resection	0%	0%	0%
	Ovarian	Major resection	1.5%	0.3%	0%
	Uterine	Major resection	0%	0%	0%
	Vulva	Major resection	0.7%	0%	0%
Head and neck	Head and neck	Major resection	0.3%	0.4%	0.3%
	Hypopharynx	Major resection	1.2%	1.3%	1.7%
	Larynx	Major resection	0%	0.3%	0.3%
	Major salivary glands	Major resection	0%	0%	0%
	Nasal cavity and paranasal sinuses	Major resection	0%	0%	0%
	Nasopharynx	Major resection	0%	0%	0%
	Oral cavity	Major resection	0.5%	0.6%	0.4%
	Oropharynx	Major resection	0.3%	0.3%	0%
	Other pharynx	Major resection	0%	0%	0%
Hepatobiliary	Liver	Major resection	4.9%	2.2%	1.7%
	Pancreatic, biliary tract & duodenal	Pancreaticoduodenectomy	4%	2.6%	2.4%
Lung	Non-small cell lung	Major resection	1.7%	1.3%	0.5%
Prostate	Prostate	Prostatectomy	0.1%	<0.1%	<0.1%
Upper GI	Gastric	Gastrectomy	4.1%	2.4%	1.7%
	Oesophagus	Oesophagectomy	0.4%	1.2%	0.4%
Urological	Bladder	Cystectomy	1.6%	0.7%	0.7%
	Testicular	Orchidectomy	0.2%	0.1%	0%

*Rates have been adjusted for age and sex.

3.2 | 30 day mortality

What percentage of patients die within 30 days of their cancer surgery?

30 day mortality (% patients who die ≤ 30 days following cancer surgery)			Queensland			Other sources~
Cancer group	Cancer	Surgery type	2003-2007 30 day mortality (rate*)	2008-2012 30 day mortality (rate*)	2013-2017 30 day mortality (rate*)	30 day mortality (rate*)
Breast	Breast	Breast cancer surgery	0.1%	0.1%	<0.1%	0.2% ¹
Colorectal	Colon	Major resection	3.2%	2.8%	2.2%	3.4% ²
	Rectal	Major resection	2.5%	1.7%	1%	3.3% ²
CNS and brain	Brain	Major resection	9.3%	5.8%	4.4%	3.0% ³
Gynaecological	Cervical	Major resection	0.7%	0%	0.4%	N/A
	Ovarian	Major resection	1%	0.4%	0.5%	2.0% ⁴
	Uterine	Major resection	0%	3.2%	2.5%	0.5% ⁵
	Vulva	Major resection	0.6%	0%	0.7%	N/A
Head and neck	Head and neck	Major resection	0.3%	0.8%	0.9%	0.8% ⁶
	Hypopharynx	Major resection	0%	1.3%	2.6%	N/A
	Larynx	Major resection	0.3%	0.3%	1.2%	2.8% ⁷
	Major salivary glands	Major resection	0.6%	0%	0.6%	N/A
	Nasal cavity and paranasal sinuses	Major resection	0%	1.8%	0%	N/A
	Nasopharynx	Major resection	0%	0%	0%	N/A
	Oral cavity	Major resection	0.3%	0.6%	0.9%	1.0% ⁸
	Oropharynx	Major resection	0.3%	1.5%	0.2%	0.7% ⁹
Hepatobiliary	Other pharynx	Major resection	0%	0%	0%	N/A
	Liver	Major resection	5%	2.2%	1.7%	1.8% ¹⁰
	Pancreatic, biliary tract & duodenal	Pancreaticoduodenectomy	4.3%	1.8%	2%	2.0% ¹¹
Lung	Non-small cell lung	Major resection	2%	1.4%	0.6%	3.0% ¹²
Prostate	Prostate	Prostatectomy	0.2%	0.1%	<0.1%	0.2% ¹³
Upper GI	Gastric	Gastrectomy	3.4%	2.4%	2%	4.0% ¹⁴
	Oesophagus	Oesophagectomy	0.8%	0.4%	1.3%	4.0% ¹⁴
Urological	Bladder	Cystectomy	2.1%	0.7%	0.9%	2.0% ¹⁵
	Testicular	Orchidectomy	0.4%	0.1%	0.1%	N/A

*Rates have been adjusted for age and sex.

~ Other sources include published data see reference list for further information.

N/A No appropriate references identified.

3.3 | 90 day mortality

What percentage of patients die within 90 days of their cancer surgery?

90 day mortality (% patients who die ≤ 90 days following cancer surgery)			Queensland		
Cancer group	Cancer	Surgery type	2003-2007 90 day mortality (rate*)	2008-2012 90 day mortality (rate*)	2013-2017 90 day mortality (rate*)
Breast	Breast	Breast cancer surgery	0.3%	0.2%	0.2%
Colorectal	Colon	Major resection	6.1%	5%	3.9%
	Rectal	Major resection	4.5%	3.3%	2.3%
CNS and brain	Brain	Major resection	25%	21%	15.9%
Gynaecological	Cervical	Major resection	0.6%	0%	1.4%
	Ovarian	Major resection	2.8%	1.4%	1.4%
	Uterine	Major resection	1%	5.9%	2.5%
	Vulva	Major resection	1.1%	0.9%	1.2%
Head and neck	Head and neck	Major resection	1.7%	1.6%	1.6%
	Hypopharynx	Major resection	7.1%	3.7%	3.6%
	Larynx	Major resection	2.6%	1.1%	2.1%
	Major salivary glands	Major resection	1%	1.3%	0.8%
	Nasal cavity and paranasal sinuses	Major resection	0%	3.5%	1.1%
	Nasopharynx	Major resection	0%	0%	0%
	Oral cavity	Major resection	1.1%	1.3%	1.8%
	Oropharynx	Major resection	1.3%	2.1%	0.7%
Hepatobiliary	Liver	Major resection	7.7%	4.4%	2.6%
	Pancreatic, biliary tract & duodenal	Pancreaticoduodenectomy	7.2%	2.8%	3.6%
Lung	Non-small cell lung	Major resection	4.2%	3.2%	1.5%
Prostate	Prostate	Prostatectomy	0.2%	0.2%	0.1%
Upper GI	Gastric	Gastrectomy	6.6%	4.1%	3.4%
	Oesophagus	Oesophagectomy	0.9%	2.8%	2.1%
Urological	Bladder	Cystectomy	6%	3.4%	2%
	Testicular	Orchidectomy	0.6%	0.3%	0.1%

*Rates have been adjusted for age and sex.

3.4 | 1 year surgical survival

What percentage of patients are alive one year after cancer surgery?

1 year surgical survival (% patients still alive 1 year after cancer surgery)			Queensland		
Cancer group	Cancer	Surgery type	2003-2007 1 yr survival (rate*)	2008-2012 1 yr survival (rate*)	2013-2017 1 yr survival (rate*)
Breast	Breast	Breast cancer surgery	98%	99%	99%
Colorectal	Colon	Major resection	85%	88%	90%
	Rectal	Major resection	88%	91%	93%
CNS and brain	Brain	Major resection	31%	41%	52%
Gynaecological	Cervical	Major resection	97%	99%	96%
	Ovarian	Major resection	90%	91%	92%
	Uterine	Major resection	98%	87%	93%
	Vulva	Major resection	88%	90%	92%
Head and neck	Head and neck	Major resection	90%	91%	92%
	Hypopharynx	Major resection	70%	78%	78%
	Larynx	Major resection	89%	90%	93%
	Major salivary glands	Major resection	96%	96%	96%
	Nasal cavity and paranasal sinuses	Major resection	89%	84%	89%
	Nasopharynx	Major resection	85%	100%	100%
	Oral cavity	Major resection	89%	92%	91%
	Oropharynx	Major resection	93%	93%	96%
	Other pharynx	Major resection	85%	82%	87%
Hepatobiliary	Liver	Major resection	75%	86%	91%
	Pancreatic, biliary tract & duodenal	Pancreaticoduodenectomy	73%	80%	83%
Lung	Non-small cell lung	Major resection	83%	89%	93%
Prostate	Prostate	Prostatectomy	99%	99%	100%
Upper GI	Gastric	Gastrectomy	77%	82%	84%
	Oesophagus	Oesophagectomy	87%	83%	82%
Urological	Bladder	Cystectomy	77%	82%	85%
	Testicular	Orchidectomy	99%	99%	99%

*Rates have been adjusted for age and sex.

3.5 | 2 year surgical survival

What percentage of patients are alive two years after cancer surgery?

2 year surgical survival (% patients still alive 2 years after cancer surgery)			Queensland		
Cancer group	Cancer	Surgery type	2003-2007 2 yr survival (rate*)	2008-2012 2 yr survival (rate*)	2013-2017 2 yr survival (rate*)
Breast	Breast	Breast cancer surgery	96%	97%	97%
Colorectal	Colon	Major resection	76%	80%	83%
	Rectal	Major resection	79%	84%	88%
CNS and brain	Brain	Major resection	23%	27%	32%
Gynaecological	Cervical	Major resection	93%	95%	92%
	Ovarian	Major resection	77%	82%	83%
	Uterine	Major resection	92%	89%	78%
	Vulva	Major resection	80%	86%	85%
Head and neck	Head and neck	Major resection	79%	82%	85%
	Hypopharynx	Major resection	54%	58%	66%
	Larynx	Major resection	77%	81%	82%
	Major salivary glands	Major resection	89%	91%	91%
	Nasal cavity and paranasal sinuses	Major resection	81%	74%	81%
	Nasopharynx	Major resection	83%	91%	80%
	Oral cavity	Major resection	79%	82%	85%
	Oropharynx	Major resection	83%	87%	91%
	Other pharynx	Major resection	72%	68%	86%
Hepatobiliary	Liver	Major resection	64%	73%	81%
	Pancreatic, biliary tract & duodenal	Pancreaticoduodenectomy	52%	61%	63%
Lung	Non-small cell lung	Major resection	70%	79%	86%
Prostate	Prostate	Prostatectomy	98%	99%	99%
Upper GI	Gastric	Gastrectomy	63%	70%	73%
	Oesophagus	Oesophagectomy	69%	68%	71%
Urological	Bladder	Cystectomy	62%	71%	75%
	Testicular	Orchidectomy	98%	98%	99%

*Rates have been adjusted for age and sex.

4 | Accessible

Making health services available in the most suitable setting in a reasonable time.



4.1 | Timeliness

What percentage of public compared to private patients received their first cancer treatment¹ within 30 days of diagnosis?

Time to first cancer treatment		Queensland									
(% patients whose time from diagnosis to first cancer treatment is ≤30 days)		2003-2007			2008-2012			2013-2017			Percentage difference between private and public (95% CI)
Cancer group	Cancer	Time to first cancer treatment			Time to first cancer treatment			Time to first cancer treatment			
		All	Public	Private	All	Public	Private	All	Public	Private	
Breast	Breast	76%	60%	88%	68%	48%	84%	61%	41%	78%	37% (34% to 39%)†
Colorectal	Colon	78%	74%	82%	73%	64%	81%	71%	61%	82%	21% (19% to 23%)†
	Rectal	61%	50%	71%	55%	39%	71%	51%	36%	66%	30% (26% to 34%)†
CNS and brain	Brain	78%	73%	86%	79%	75%	86%	80%	79%	83%	4% (-1% to 9%)
Gynaecological	Cervical	40%	34%	54%	32%	22%	54%	29%	22%	45%	23% (12% to 34%)†
	Ovarian	87%	81%	92%	84%	77%	90%	88%	82%	94%	12% (8% to 16%)†
	Uterine	63%	34%	90%	62%	36%	86%	53%	25%	82%	57% (51% to 62%)†
	Vulva	45%	32%	61%	41%	25%	65%	33%	19%	55%	36% (17% to 51%)†
Head and neck	Head and neck	53%	40%	81%	47%	36%	73%	46%	37%	66%	29% (24% to 34%)†
	Hypopharynx	45%	39%	78%	43%	38%	68%	41%	38%	60%	22% (-1% to 42%)
	Larynx	60%	45%	94%	57%	44%	82%	56%	48%	71%	23% (12% to 33%)†
	Major salivary glands	74%	63%	84%	66%	51%	82%	62%	51%	74%	23% (7% to 37%)†
	Nasal cavity and paranasal sinuses	61%	47%	87%	64%	47%	89%	61%	52%	78%	26% (7% to 42%)†
	Nasopharynx	36%	30%	74%	44%	39%	63%	48%	45%	62%	17% (-15% to 44%)
	Oral cavity	51%	40%	71%	44%	39%	58%	46%	40%	59%	19% (10% to 28%)†
	Oropharynx	45%	34%	80%	39%	26%	79%	39%	28%	67%	39% (31% to 47%)†
	Other pharynx	41%	33%	77%	26%	17%	74%	34%	31%	42%	11% (-31% to 54%)
Hepatobiliary	Liver	58%	52%	66%	56%	52%	63%	48%	41%	63%	22% (11% to 32%)†
	Pancreatic, biliary tract & duodenal	66%	57%	74%	63%	49%	73%	57%	45%	69%	24% (18% to 30%)†
Lung	Non-small cell lung	55%	47%	70%	48%	38%	64%	48%	38%	62%	24% (21% to 27%)†
Prostate	Prostate	6%	5%	6%	5%	4%	6%	9%	7%	10%	3% (-1% to 6%)
Upper GI	Oesophagogastric	55%	42%	69%	47%	34%	62%	46%	36%	58%	22% (16% to 28%)†
Urological	Bladder	41%	39%	43%	39%	33%	45%	41%	38%	44%	6% (-1% to 12%)
	Testicular	97%	97%	97%	98%	98%	97%	98%	96%	99%	3% (1% to 5%)

*Rates have been adjusted for age and sex.

¹ Treatment includes IV systemic therapy, radiation therapy, and/or surgery. Oral systemic therapy is not included in analysis.

² Percentage difference is the difference in rates between private and public hospitals.

†p<0.01.

4.2 | Remoteness

What percentage of patients living outside a major city received cancer treatment¹

Rural and remote first cancer treatment (% of patients receiving first cancer treatment)		Queensland								
Cancer group	Cancer	2003-2007 Cancer treatment			2008-2012 Cancer treatment			2013-2017 Cancer treatment		
		Rural & Remote	Regional	Metro-politan	Rural & Remote	Regional	Metro-politan	Rural & Remote	Regional	Metro-politan
Breast	Breast	93%	95%	95%	93%	95%	95%	93%	96%	95%
Colorectal	Colon	90%	93%	94%	90%	93%	94%	91%	92%	92%
	Rectal	96%	96%	96%	96%	96%	96%	94%	95%	93%
CNS and brain	Brain	86%	81%	86%	87%	88%	86%	84%	86%	87%
Gynaecological	Cervical	90%	88%	93%	90%	92%	93%	90%	96%	95%
	Ovarian	77%	78%	86%	79%	79%	84%	80%	78%	84%
	Uterine	94%	94%	96%	93%	95%	95%	90%	91%	91%
	Vulva	92%	95%	92%	82%	90%	92%	81%	88%	87%
Head and neck	Head and neck	81%	89%	89%	89%	90%	92%	90%	92%	92%
	Hypopharynx	82%	90%	86%	86%	90%	87%	88%	89%	88%
	Larynx	81%	89%	92%	87%	90%	93%	90%	95%	94%
	Major salivary glands	96%	93%	93%	97%	94%	94%	98%	93%	94%
	Nasal cavity and paranasal sinuses	74%	81%	85%	100%	91%	92%	76%	89%	89%
	Nasopharynx	81%	86%	91%	89%	82%	92%	78%	97%	94%
	Oral cavity	78%	88%	86%	90%	87%	91%	89%	90%	89%
	Oropharynx	82%	91%	91%	89%	91%	93%	90%	93%	96%
Hepatobiliary	Other pharynx	67%	80%	73%	68%	91%	75%	100%	61%	74%
	Liver	23%	30%	37%	35%	41%	42%	33%	38%	45%
Hepatobiliary	Pancreatic, biliary tract & duodenal	39%	45%	46%	42%	49%	50%	44%	52%	54%
	Lung	Non-small cell lung	54%	63%	66%	62%	68%	72%	70%	75%
Prostate	Prostate	62%	67%	67%	70%	72%	73%	71%	75%	75%
Upper GI	Oesophagogastric	59%	63%	68%	65%	66%	68%	63%	63%	65%
Urological	Bladder	83%	87%	90%	89%	90%	90%	90%	87%	88%
	Testicular	97%	99%	97%	99%	99%	98%	99%	99%	98%

*Rates have been adjusted for age and sex.

¹ Treatment includes IV systemic therapy, radiation therapy, and/or surgery. Oral systemic therapy is not included in analysis.

4.3 | Time to first treatment ≤ 30 days

What percentage of patients living outside a major city received their first cancer treatment¹ within 30 days of diagnosis?

Rural and remote first cancer		Queensland								
<i>(% patients whose time from diagnosis to first cancer treatment is ≤30 days)</i>		2003-2007			2008-2012			2013-2017		
Cancer group	Cancer	Time to first cancer treatment			Time to first cancer treatment			Time to first cancer treatment		
		Rural & Remote	Regional	Metro-politan	Rural & Remote	Regional	Metro-politan	Rural & Remote	Regional	Metro-politan
Breast	Breast	73%	95%	77%	62%	64%	71%	51%	57%	65%
Colorectal	Colon	81%	95%	78%	72%	72%	73%	63%	68%	73%
	Rectal	60%	95%	61%	52%	51%	57%	45%	47%	54%
CNS and brain	Brain	80%	95%	77%	80%	85%	76%	78%	80%	81%
Gynaecological	Cervical	35%	95%	43%	26%	33%	33%	33%	29%	29%
	Ovarian	82%	95%	88%	82%	82%	85%	83%	89%	88%
	Uterine	57%	95%	65%	58%	61%	63%	42%	51%	56%
	Vulva	28%	95%	51%	48%	36%	42%	20%	29%	36%
Head and neck	Head and neck	48%	95%	54%	42%	42%	50%	38%	43%	50%
	Hypopharynx	41%	95%	44%	41%	31%	47%	37%	45%	42%
	Larynx	55%	95%	61%	56%	53%	59%	44%	60%	58%
	Major salivary glands	68%	95%	76%	69%	51%	70%	65%	63%	61%
	Nasal cavity and paranasal sinuses	76%	95%	58%	72%	58%	65%	47%	56%	68%
	Nasopharynx	59%	95%	31%	29%	58%	45%	64%	53%	44%
	Oral cavity	48%	95%	51%	36%	38%	49%	34%	38%	52%
	Oropharynx	36%	95%	50%	34%	35%	41%	30%	32%	43%
Hepatobiliary	Other pharynx	37%	95%	42%	7%	40%	26%	40%	14%	37%
	Liver	62%	95%	60%	51%	54%	58%	40%	56%	47%
	Pancreatic, biliary tract & duodenal	61%	95%	66%	62%	59%	64%	61%	54%	58%
Lung	Non-small cell lung	55%	95%	55%	52%	47%	47%	50%	46%	48%
Prostate	Prostate	9%	95%	5%	5%	5%	6%	8%	8%	10%
Upper GI	Oesophagogastric	52%	95%	56%	44%	47%	47%	34%	38%	51%
Urological	Bladder	39%	95%	42%	39%	41%	38%	36%	40%	42%
	Testicular	95%	95%	97%	96%	99%	98%	97%	96%	98%

*Rates have been adjusted for age and sex.

¹ Treatment includes IV systemic therapy, radiation therapy, and/or surgery. Oral systemic therapy is not included in analysis.

5 | Equitable

Providing care and ensuring health status does not vary in quality because of personal characteristics (age, Indigenous status or socio-economic status).



5.1 | Over 75 years

What percentage of patients aged ≥ 75 received their first cancer treatment¹ within 30 days of diagnosis?

Time to first cancer treatment (% patients whose time from diagnosis to first cancer treatment is ≤ 30 days)		Queensland					
Cancer group	Cancer	2003-2007 Time to first cancer treatment		2008-2012 Time to first cancer treatment		2013-2017 Time to first cancer treatment	
		Age < 75	Age ≥ 75	Age < 75	Age ≥ 75	Age < 75	Age ≥ 75
Breast	Breast	76%	76%	69%	65%	62%	60%
Colorectal	Colon	77%	81%	71%	77%	69%	73%
	Rectal	60%	66%	53%	62%	49%	57%
CNS and brain	Brain	75%	93%	78%	89%	79%	93%
Gynaecological	Cervical	40%	47%	31%	37%	29%	35%
	Ovarian	88%	84%	85%	78%	88%	87%
	Uterine	64%	61%	62%	64%	54%	49%
	Vulva	41%	54%	35%	58%	32%	35%
Head and neck	Head and neck	52%	58%	46%	50%	46%	47%
	Hypopharynx	47%	38%	41%	50%	43%	35%
	Larynx	57%	73%	55%	65%	55%	59%
	Major salivary glands	78%	62%	69%	51%	64%	55%
	Nasal cavity and paranasal sinuses	60%	68%	62%	67%	60%	67%
	Nasopharynx	37%	0%	47%	0%	44%	80%
	Oral cavity	50%	54%	45%	43%	47%	43%
	Oropharynx	46%	42%	39%	38%	39%	33%
Hepatobiliary	Liver	57%	66%	56%	61%	47%	50%
	Pancreatic, biliary tract & duodenal	66%	68%	64%	59%	59%	53%
Lung	Non-small cell lung	57%	51%	50%	43%	48%	45%
Ophthalmic	Prostate	5%	7%	5%	6%	9%	9%
Upper GI	Oesophagogastric	56%	54%	47%	45%	45%	48%
Urological	Bladder	38%	44%	35%	43%	39%	43%
	Testicular	97%	75%	98%	100%	98%	100%

¹ Treatment includes IV systemic therapy, radiation therapy, and/or surgery. Oral systemic therapy is not included in analysis.

5.2 | Indigenous

What percentage of Indigenous patients received their first cancer treatment¹ within 30 days of diagnosis?

Time to first cancer treatment		Queensland								
<i>(% patients whose time from diagnosis to first cancer treatment is ≤30 days)</i>		2003-2007			2008-2012			2013-2017		
Cancer group	Cancer	Time to first cancer treatment			Time to first cancer treatment			Time to first cancer treatment		
		Indigenous	non-Indigenous	Private	Indigenous	non-Indigenous	Private	Indigenous	non-Indigenous	Private
		All	Public	Private	All	Public	Private	All	Public	Private
Breast	Breast	63%	60%	88%	55%	48%	84%	39%	41%	78%
Colorectal	Colon	73%	74%	82%	74%	64%	81%	57%	61%	82%
	Rectal	58%	50%	71%	55%	38%	71%	37%	36%	66%
CNS and brain	Brain	63%	73%	86%	71%	75%	86%	75%	79%	83%
Gynaecological	Cervical	24%	35%	53%	25%	22%	54%	36%	21%	45%
	Ovarian	68%	82%	92%	63%	77%	90%	76%	82%	94%
	Uterine	44%	34%	89%	43%	36%	86%	26%	25%	82%
	Vulva	0%	33%	61%	22%	26%	65%	21%	18%	55%
Head and neck	Head and neck	39%	40%	81%	36%	36%	74%	33%	38%	66%
	Hypopharynx	60%	38%	78%	24%	38%	71%	64%	36%	61%
	Larynx	10%	46%	93%	45%	44%	82%	32%	49%	72%
	Major salivary glands	100%	62%	84%	75%	51%	82%	0%	52%	74%
	Nasal cavity and paranasal sinuses	100%	44%	87%	48%	47%	89%	-	52%	78%
	Nasopharynx	76%	27%	74%	0%	42%	63%	75%	44%	62%
	Oral cavity	42%	39%	71%	37%	39%	58%	21%	40%	59%
	Oropharynx	29%	34%	80%	37%	26%	79%	30%	28%	67%
Hepatobiliary	Other pharynx	38%	32%	77%	0%	17%	73%	0%	31%	47%
	Liver	41%	53%	66%	29%	52%	63%	52%	41%	63%
	Pancreatic, biliary tract & duodenal	58%	57%	74%	68%	49%	73%	47%	46%	69%
Lung	Non-small cell lung	51%	47%	70%	38%	38%	65%	40%	38%	62%
Prostate	Prostate	3%	5%	6%	5%	4%	6%	10%	7%	10%
Upper GI	Oesophagogastric	42%	42%	69%	41%	34%	62%	33%	36%	59%
Urological	Bladder	53%	39%	43%	44%	33%	45%	37%	38%	43%
	Testicular	100%	97%	97%	96%	98%	97%	100%	96%	99%

*Rates have been adjusted for age and sex.

¹ Treatment includes IV systemic therapy, radiation therapy, and/or surgery. Oral systemic therapy is not included in analysis.

5.3 | Socioeconomically disadvantaged

What percentage of socioeconomically disadvantaged patients received their first cancer treatment¹ within 30 days from diagnosis?

Time to first cancer treatment (% patients whose time from diagnosis to first cancer treatment is ≤30 days)		Queensland								
Cancer group	Cancer	2003-2007			2008-2012			2013-2017		
		Disadv- antaged	Middle	Affluent	Disadv- antaged	Middle	Affluent	Disadv- antaged	Middle	Affluent
Breast	Breast	72%	75%	85%	61%	69%	80%	50%	60%	70%
Colorectal	Colon	77%	78%	80%	70%	73%	78%	62%	70%	79%
	Rectal	58%	62%	63%	50%	55%	64%	44%	52%	63%
CNS and brain	Brain	76%	78%	80%	82%	78%	78%	82%	82%	83%
Gynaecological	Cervical	41%	37%	56%	26%	32%	46%	19%	29%	24%
	Ovarian	84%	87%	90%	77%	86%	89%	92%	83%	94%
	Uterine	54%	65%	78%	55%	63%	73%	43%	55%	64%
	Vulva	40%	42%	73%	44%	39%	49%	29%	37%	40%
Head and neck	Head and neck	50%	54%	54%	42%	48%	52%	42%	50%	65%
	Hypopharynx	53%	45%	10%	43%	42%	43%	16%	50%	82%
	Larynx	56%	62%	60%	54%	57%	64%	52%	65%	65%
	Major salivary glands	73%	75%	62%	50%	71%	87%	44%	66%	82%
	Nasal cavity and paranasal sinuses	64%	60%	56%	51%	69%	67%	47%	59%	69%
	Nasopharynx	47%	29%	28%	35%	49%	46%	39%	47%	66%
	Oral cavity	45%	52%	60%	39%	46%	50%	53%	52%	67%
	Oropharynx	40%	46%	54%	34%	40%	45%	33%	41%	55%
	Other pharynx	54%	36%	56%	26%	28%	0%	0%	75%	-
Hepatobiliary	Liver	55%	60%	53%	53%	57%	61%	53%	43%	50%
	Pancreatic, biliary tract & duodenal	63%	66%	73%	60%	62%	73%	51%	59%	72%
Lung	Non-small cell lung	52%	55%	64%	44%	48%	59%	46%	51%	69%
Ophthalmic	Prostate	5%	6%	5%	4%	5%	6%	9%	9%	14%
Upper GI	Oesophagogastric	51%	56%	62%	41%	47%	59%	37%	48%	61%
Urological	Bladder	39%	42%	43%	41%	37%	43%	43%	47%	37%
	Testicular	96%	97%	99%	97%	98%	98%	96%	98%	100%

*Rates have been adjusted for age and sex.

¹Treatment includes IV systemic therapy, radiation therapy, and/or surgery. Oral systemic therapy is not included in analysis.

Appendix

What are the incidence and mortality counts and age-standardised rates (ASR) by cancer, 2003-2017?

Cancer group	Cancer	2003-2007				2008-2012				2013-2017			
		Incidence	Incidence ASR	Mortality	Mortality ASR	Incidence	Incidence ASR	Mortality	Mortality ASR	Incidence	Incidence ASR	Mortality	Mortality ASR
Breast	Breast	12,084	60.7	2,491	12.6	14,743	64.3	2,576	11.2	17,176	66.1	2,853	10.8
Colorectal	Colorectal	13,253	68.1	4,646	24.0	14,874	65.7	4,993	22.1	15,803	60.3	5,464	20.6
	Colon	8,846	45.7	3,045	15.8	10,214	45.3	3,387	15.0	10,792	41.3	3,680	13.9
	Rectal	4,407	22.4	1,601	8.2	4,660	20.3	1,606	7.0	5,011	19.1	1,784	6.7
CNS and brain	Brain	1,327	6.8	1,078	5.5	1,563	6.9	1,246	5.5	1,679	6.6	1,425	5.5
Gynaecological	Cervical	822	8.3	236	2.3	884	8.0	251	2.1	989	8.2	304	2.3
	Ovarian	1,108	10.8	690	6.6	1,301	10.9	776	6.3	1,379	10.2	881	6.2
	Uterine	1,711	16.7	337	3.2	2,161	18.1	345	2.9	2,488	18.1	423	3.0
	Vulva	208	2.0	56	0.5	299	2.5	84	0.7	385	2.8	103	0.7
Head and neck	Head and neck	2,916	14.6	1,110	5.6	3,441	14.9	1,243	5.4	4,193	15.7	1,297	4.8
	Hypopharynx	172	0.9	112	0.6	201	0.9	129	0.6	270	1.0	134	0.5
	Larynx	615	3.1	227	1.2	598	2.6	239	1.1	639	2.3	210	0.8
	Major Salivary Glands	219	1.1	43	0.2	221	1.0	48	0.2	262	1.0	50	0.2
	Nasal Cavity and Paranasal Sinuses	117	0.6	43	0.2	145	0.6	56	0.2	183	0.7	70	0.3
	Nasopharynx	79	0.4	34	0.2	93	0.4	37	0.2	110	0.4	48	0.2
	Oral Cavity	902	4.5	299	1.5	1,058	4.6	362	1.6	1,216	4.6	381	1.4
	Oropharynx	698	3.5	284	1.4	1,031	4.4	304	1.3	1,447	5.4	370	1.4
	Other Pharynx	114	0.6	68	0.3	94	0.4	68	0.3	66	0.2	34	0.1
	Biliary tract*	306	1.6	221	1.1	410	1.8	286	1.3	638	2.4	483	1.8
Hepatobiliary	Liver	889	4.5	655	3.4	1,289	5.7	951	4.2	1,780	6.6	1,226	4.6
	Pancreatic	2,048	10.5	1,812	9.3	2,479	10.9	2,166	9.5	3,055	11.5	2,549	9.5
Lung	Lung	9,096	46.7	7,509	38.7	10,763	47.2	8,363	36.8	12,614	47.2	9,172	34.3
	Non-small cell lung	7,497	38.5	6,180	31.8	8,718	38.2	6,712	29.5	9,928	37.1	7,137	26.7
Prostate	Prostate	16,163	173.0	2,895	36.0	20,245	179.4	3,234	33.6	20,403	153.7	3,219	27.5
Upper GI	Gastric	1,670	8.6	1,191	6.1	1,744	7.7	1,218	5.3	1,999	7.6	1,310	5.0
	Oesophagus	1,118	5.7	876	4.5	1,319	5.7	944	4.1	1,447	5.4	1,049	3.9
Urological	Bladder	2,351	12.2	880	4.6	2,354	10.4	1,024	4.6	2,774	10.4	1,099	4.1
	Testicular	620	3.2	26	0.1	752	3.5	20	0.1	852	3.7	24	0.1

ASR: age standardised rate per 100,000 population.

Glossary

1 year survival

All-cause crude survival: the percentage of patients still alive after 1 year from their last cancer surgery.

2 year survival

All-cause crude survival: the percentage of patients still alive after 2 years from their last cancer surgery.

30 day mortality

The percentage of patients that die within 30 days following their last cancer surgery.

90 day mortality

The percentage of patients that die within 90 days following their last cancer surgery.

Age and sex adjusted figures

Rates have been adjusted by age and sex to account for any differences in cancer populations across the two periods of interest.

Affluent

The group of patients whose socioeconomic status is affluent (refer to **Socioeconomic status** in Glossary).

Age-standardised incidence/mortality (ASR)

The number of new cases or deaths per 100,000 that would have occurred in a given population if the age distribution of that population was the same as that of the Australian population in 2001 and if the age-specific rates observed in the population of interest had prevailed. In international comparisons, the World Standard Population was used as the reference population.

Age-standardised rates are independent of the age-structure of the population of interest and are therefore useful in making comparisons between different populations and time periods.

Annual average

The sum of the numbers divided by how many numbers are being averaged. For example, 2010-2014 incidence annual average is the sum of incidence from 2010 to 2014 divided by 5.

Comorbidity

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

Comorbidity is derived from hospital admissions data following the Quan algorithm 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. Benign tumours were not considered comorbidities.

Co-morbidity list:		
AIDS	Acute myocardial infarction	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		

Disadvantaged

The group of patients whose socioeconomic status is disadvantaged (refer to **Socioeconomic status** in Glossary).

Five-year survival

All-cause crude survival: the percentage of cases still alive five year after diagnosis.

Five-year relative survival

Relative survival is a net survival measure representing cancer survival in the absence of other causes of death. Relative survival is defined as the ratio of the proportion of observed survivors in a cohort of cancer patients to the proportion of expected survivors in a comparable set of cancer free individuals.

Relative survival is calculated by dividing observed survival by expected survival, where the numerator and denominator have been matched for age, sex and calendar year.

Observed survival refers to the proportion of people alive for a given amount of time after a diagnosis of cancer; it is calculated from population-based cancer data. Expected survival refers to the proportion of people in the general population alive for a given amount of time and is calculated from life tables of the entire Australian population, assumed to be cancer free.

Changes to cancer incidence rates and the underlying life tables to may lead to fluctuations in relative survival estimates. Accordingly, caution should be used when making comparisons to historically reported rates of relative survival.

First cancer treatment

The first treatment the patient had for their cancer – either surgery, radiation therapy or intravenous systemic therapy.

Hospital Stay

The median time in days between the admission and discharge date of a patient's cancer surgery.

Incidence (new cases)

The number of new cases of cancer diagnosed in a defined population during a specified time period. For example, 2014 incidence is the number of cancers which were first diagnosed between 1 January 2014 and 31 December 2014.

Indigenous status

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

In-Hospital mortality

The percentage of patients that die in hospital following their last cancer surgery.

Intravenous systemic therapy

Includes Queensland residents of all ages diagnosed with invasive cancer who had intravenous systemic therapy after diagnosis.

Length of stay

The average in number of days patients stay in hospital for their cancer surgery.

Middle

The group of patients whose socioeconomic status is middle (refer to **Socioeconomic status** in Glossary).

MDT Review

Cancer patients are discussed by a Multidisciplinary Team to make sure that all available treatment options are considered.

MDT number

Number of cancer patients who had MDT Review after diagnosis.

Mortality (deaths)

The number of deaths attributed to cancer in a defined population during a specified time period regardless of when the diagnosis of cancer was made.

Non-Indigenous

A measure of whether a person doesn't identify themselves as Indigenous

Over 75 years

Population divided into over 75 years and under 75 years, it describes Queensland's ageing population.

Prevalence

The number of Queenslanders with a diagnosis of cancer who were alive on 31 December 2017.

Private hospital

All other hospitals that are not Queensland Health hospitals.

Public hospital

Queensland Health hospitals.

QOOL

QOOL supports cancer multidisciplinary teams by assisting meeting preparation, communication and documentation of essential clinical information such as diagnosis, cancer stage and recommended treatment plans. QOOL provides continuity of care and state-wide multidisciplinary team linkage and provides access to clinical outcomes and system performance data for quality improvement. The system provides a central view of patient data for multiple users, accessible at multiple locations.

Radiation therapy

Includes Queensland residents of all ages diagnosed with invasive cancer who had radiation therapy after diagnosis. For further information on radiation therapy <https://www.targetingcancer.com.au>

Remoteness

The relative remoteness of residence at time of diagnosis, derived from the Australian Standard Geographical Classification (ASGC). In this report, remoteness is classified into three groups based on the original ASGC grouping.

ASGC classifications	Modified ASGC classification
Major City	Metropolitan
Inner Regional	Regional
Outer Regional	
Remote	Rural and Remote
Very Remote	

An exception to this grouping is the metropolitan area of Townsville (originally classified as Rural). Townsville has been classified as Metropolitan because of the availability of tertiary level cancer services.

Sex

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

Socioeconomic status

Socioeconomic status 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 Area Level 2 (SA2).

The ABS use SEIFA scores to rank regions into ten groups or deciles numbered one to ten, with one being the most disadvantaged and ten 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)
Disadvantaged	1-2	20%
Middle	3-8	60%
Affluent	9-10	20%

Statistical Area Level 4 (SA4)

Statistical Areas Level 4 (SA4) are geographical areas built from whole Statistical Areas Level 3 (SA3s).

[https://www.abs.gov.au/websitedbs/d3310114.nsf/home/australian+statistical+geography+standard+\(a+sgs\)](https://www.abs.gov.au/websitedbs/d3310114.nsf/home/australian+statistical+geography+standard+(a+sgs)).

Surgery/Major Resection

Refer to Appendix 1.

Surgery number

Includes Queensland residents of all ages diagnosed with invasive cancer in the surgical cohort time period who underwent cancer surgery.

Survival

Relative survival is a net survival measure representing cancer survival in the absence of other causes of death. Relative survival is defined as the ratio of the proportion of observed survivors in a cohort of cancer patients to the proportion of expected survivors in a comparable set of cancer free individuals.

Time to first cancer treatment

Time between the patient's pathological diagnosis and their first cancer treatment.

Timeliness

A patient's time to cancer treatment from pathological diagnosis.

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