Queensland Cancer Quality Index

Indicators of safe, quality cancer care

Cancer care in public and private hospitals 2007-2021





Partnership

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Cancer Council Queensland is a community-based organisation dedicated to serving the community in cancer.

Queensland State Committee of The Royal Australasian College of Surgeons (RACS), formed in 1927, is a non-profit organisation training surgeons and maintaining surgical standards in Australia and New Zealand.



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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Table of contents

What is the Queensland Cancer Quality Index (The Cancer Index)?
Why develop The Cancer Index?
Where has the data come from?2
How to interpret this report?
Looking to the future
What does The Cancer Index tell us about Queensland?
1.Effective
1.1 Survival
1.2 Queenslanders receiving Multidisciplinary Team review
1.3 Queenslanders receiving cancer surgery
1.4 Queenslanders receiving radiation therapy
1.5 Queenslanders receiving intravenous systemic therapy
2.Efficient
2.1 Hospital stay
3.Safe
3.1 In-Hospital mortality
3.2 30 mortality
3.3 90 mortality
3.4 1 year survival
3.5 2 year survival
4.Accessible
4.1 Timeliness
4.2 Remoteness
4.3 Time to first treatment \leq 30 days
5.Equitable
5.1 Over 75 years
5.2 First Nations peoples
5.3 Socio-economically disadvantaged
Appendix
Glossary
Reference



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)(<u>https://cancerallianceqld.health.qld.gov.au</u>). The report tracks Queensland's progress towards 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 multiple indicators developed by Cancer Alliance Queensland in partnership with the clinical subcommittees. (Walpole, Theile, Philpot et al. 2019).¹⁸

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

The Cancer Index includes indicators about surgery, radiation therapy and 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 available data released for publication annually, 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?

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), public and private hospitals, public and private treatment facilities and Queensland Health with cancer information and tools to deliver the best care for the person with cancer.

Where has the data come from?

Since 2004 the Queensland Cancer Control Analysis Team (QCCAT), a sub-committee of the Partnership 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 person 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. Our matching and linking processes generate millions of cancer records from 1982 onwards which provide the data for The Queensland Cancer Quality Index.

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 the previous publications by The Partnership. To access previous publication, go to <u>https://cancerallianceqld.health.qld.gov.au/publications</u>. These publications provide information on cancer incidence, mortality and survival, surgery, radiation therapy, and intravenous systemic therapy rates and 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, people with cancer or community expectations.

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

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 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 is the sixth edition of the report and includes data spanning 15 years of cancer care and highlights where the health system has performed well and where improvements are possible.

1 Effective	Cancer survival compares favourably with the rest of Australia. Most people receive treatment for their cancer.
2 Efficient	For most cancers there is little difference in the length of hospital stay between public and private people receiving cancer surgery. Across several cancers the median length of hospital stay has been reducing over time.
3 Safe	For the majority of cancers, surgical mortality rates in Queensland are lower than or comparable to national or international published data.
4 Accessible	People attending public facilities wait longer for their first cancer treatment than people attending private facilities. Across most cancers, the proportion of rural, remote and regional people receiving treatment within 30 days of diagnosis was significantly lower compared to metropolitan people.
5 Equitable	Age is not a barrier to receiving first cancer treatment within 30 days. There is little difference in rates of receiving treatment within 30 days of diagnosis between First Nations people treated in any hospital and non First Nations people treated in a public hospital.
Excellent	/ery 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 (% of people who would cause of death)	ld have survived if cancer was the only		Australia ¹⁹		
Cancer group	Cancer	2007-2011 5 Year Survival	2012-2016 5 Year Survival	2017-2021 5 Year Survival	2015-2019 5 Year Survival
Breast	Breast	90%	92%	93%	92%
	Colorectal	67%	70%	70%	71%
Colorectal	Colon	68%	70%	70%	71%
	Rectal	66%	70%	70%	71%
Brain	Brain	24%	23%	25%	23%
	Cervical	75%	74%	78%	75%
	Ovarian	51%	53%	49%	48%
Gynaecological	Uterine	84%	82%	84%	83%
	Vagina	61%	51%	54%	55%
	Vulva	75%	74%	75%	74%
	Head and neck	63%	66%	69%	67%
	Hypopharynx	32%	40%	41%	40%
	Larynx	64%	68%	65%	64%
	Major Salivary Glands	81%	85%	84%	78%
Head and neck	Nasal Cavity and Paranasal Sinuses	60%	60%	61%	73%
	Nasopharynx	63%	62%	68%	67%
	Oral Cavity	67%	63%	69%	**
	Oropharynx	64%	70%	73%	73%
	Other Pharynx	37%	53%	50%	**
	Biliary tract	-	-	-	**
Hepatobiliary	Liver	19%	19%	24%	23%
	Pancreatic	7%	11%	14%	13%
1	Lung	15%	19%	28%	24%
Lung	Non-small cell lung	15%	20%	30%	**
Prostate	Prostate	93%	95%	95%	96%
	Gastric	37%	42%	47%	38%
opper Gi	Oesophagus	22%	26%	30%	24%
	Bladder	53%	55%	59%	57%
Urological	Testicular	98%	97%	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.

Insufficient data to calculate relative survival. Standard error is greater than 25%.
 ** National comparative data not available.

§ Biliary tract (excludes Bile Ducts and Vater C240-C241). Colorectal (excludes Appendix C181). Head and neck (excludes External lip C000-C002).

1.2 | Queenslanders receiving Multidisciplinary Team review

Multidisciplinary care and formal Multidisciplinary team review (MDT) are considered best practice in the treatment planning and care for people with cancer¹⁶.

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

MDT Review			Queensland	
(ivumber of people	ωπο παα Ινίμτι αοситептеά)	2007 2011	2012 2016	2017 2024
6	6	2007-2011	2012-2016	2017-2021
Cancer group	Cancer	MDT number	MDT number	MDT number
		(rate)	(rate)	(rate)
Breast	Breast	2,999	6,520	8,201
		(22%)	(40%)	(45%)
Colorectal	Colon	(1.4%)	(21%)	3,530
		783	1 870	2 009
	Rectal	(19%)	(42%)	(45%)
		322	801	1.017
Brain	Brain	(21%)	(50%)	(54%)
	Comical	98	177	160
	Cervical	(12%)	(18%)	(14%)
	Ovarian	104	217	224
	Ovarian	(8%)	(14%)	(13%)
Gynaecological	literine	197	335	249
Gynaccological	oterme	(9%)	(14%)	(8%)
	Vagina	4	10	23
		(7%)	(13%)	(20%)
	Vulva	41	68	48
		(16%)	(18%)	(12%)
	Head and neck	1,437	3,092	4,122
		(40%)	(83%)	(92%)
	Hypopharynx	(55%)	(82%)	(03%)
		250	477	551
	Larynx	(43%)	(78%)	(91%)
		85	178	244
	Major salivary glands	(38%)	(76%)	(86%)
Hood and nock	Nacal cavity and parapacal sinus or	60	135	205
Head and Heck	Nasal cavity and parallasal sinuses	(48%)	(84%)	(93%)
	Nasonharvny	32	85	120
		(38%)	(84%)	(90%)
	Oral cavity	442	831	1,147
		(45%)	(82%)	(90%)
	Oropharynx	432	1,152	1,626
		(49%)	(8/%)	(94%)
	Other pharynx	(20%)	37 (60%)	38
		(39%)	(09%)	800
	Liver	(11%)	(28%)	(35%)
Hepatobiliary		270	693	1.424
	Pancreatic, biliary tract & duodenal	(11%)	(22%)	(35%)
	N	3,948	5,251	6,879
Lung	Non-small cell lung	(48%)	(56%)	(62%)
Prostate	Prostate	676	1,608	2,708
i i Ustate	iiostate	(3%)	(8%)	(11%)
Upper Gl	Oesophagogastric	685	1,574	2,020
0,000		(22%)	(44%)	(50%)
	Bladder	98	321	555
Urological		(4%)	(13%)	(20%)
-	Testicular	55	184	309
		(8%)	(23%)	(33%)

Indicator rates with fewer than 20 diagnoses should be treated with caution. Refer to Technical Appendix for number of diagnoses. Where there are greater than 20 diagnoses, rates have been adjusted for age and sex.

MDT rate includes facilities that contribute data to the Queensland Oncology Repository (QOR) the majority via QOOL. QOOL supports multidisciplinary cancer care across Queensland in both the public and private sectors.

1.3 | Queenslanders receiving cancer surgery

How many Queenslanders with cancer receive surgery?

Surgery number					
(Number of people wit	h cancer receiving surgery)				
			2007-2011	2012-2016	2017-2021
Cancer group	Cancer	Surgery type	Surgery	Surgery	Surgery number
			(rate)	(rate)	(rate)
Dueset	Dreast	Danaat aa aa aa aa aa	12,558	14,926	16,479
Breast	Breast	Breast cancer surgery	(91%)	(91%)	(90%)
Colorectal	Colon	Major resortion	7,496	7,601	7,762
	6001	Major resection	(82%)	(80%)	(77%)
COIOrectar	Rectal	Major resection	3,071	3,092	2,727
	Rectar	Major resection	(73%)	(69%)	(62%)
Brain	Brain	Craniotomy	901	985	1,083
brain	brain	cramotomy	(59%)	(62%)	(58%)
	Cervical	Major resection	306	375	417
		Major resection	(38%)	(38%)	(37%)
	Ovarian	Major resection	878	1,081	1,171
		Major resection	(67%)	(69%)	(68%)
Gynaecological	Literine	Major resection	1,843	2,097	2,417
-,		Major resection	(89%)	(85%)	(82%)
	Vagina Vulva	Major resection	14	15	13
			(23%)	(19%)	(11%)
		Major resection	196	268	268
			(76%)	(73%)	(69%)
	Head and neck	Major resection Major resection Major resection	1,841	2,020	2,311
			(58%)	(54%)	(52%)
	Hypopharynx		81	106	66
			(43%)	(44%)	(33%)
	Larynx		332	349	316
			(57%)	(57%)	(52%)
	Major salivary glands	Major resection	200	209	248
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		(88%)	(90%)	(88%)
Head and neck	Nasal cavity and paranasal	Major resection	88	100	149
	sinuses		(70%)	(62%)	(67%)
	Nasopharynx	Major resection	8	13	6
		-	(9%)	(12%)	(5%)
	Oral cavity	Major resection	762	814	1,021
	-	-	(78%)	(80%)	(80%)
	Oropharynx	Major resection	341	413	494
		-	(37%)	(31%)	(30%)
	Other pharynx	Major resection	(220/)	10	(280/)
			(33%)	(29%)	(28%)
	Liver	Major resection	(1.90/)	(170/)	418
Hepatobiliary	Danaroatia biliany tract &		(10%)	222	(10%)
	duodonal	Pancreaticoduodenectomy	(1.0%)	(1.0%)	574
	duodenai		1 / 2/	1 909	2 / 17
Lung	Non-small cell lung	Major resection	(19%)	(20%)	(22%)
			10 170	11 106	12 752
Prostate	Prostate	Prostatectomy	(51%)	(55%)	(5/%)
			926	983	1 0/1
Upper GI	Oesophagogastric	Major resection	(20%)	(27%)	(26%)
			202	462	<u>4</u> 95
	Bladder	Cystectomy	(100/)	(190/)	(100/)
Urological			(10%)	764	QO1
	Testicular	Orchidectomy	(96%)	(95%)	(96%)

Indicator rates with fewer than 20 diagnoses should be treated with caution. Refer to Technical Appendix for number of diagnoses. Where there are greater than 20 diagnoses, rates have been adjusted for age and sex. Refer to Technical Appendix for further information on surgery.

1.4 | Queenslanders receiving radiation therapy

How many Queenslanders with cancer receive radiation therapy?

Radiation therapy	annor receiving radiation thereasy)		Queensland	
(Number of people with		2007-2011	2012-2016	2017-2021
Cancer group	Cancer	Radiation therapy	Radiation therapy	Radiation therapy
8P		number	number	number
		(rate)	(rate)	(rate)
Breast	Breast	8,481	10,514	12,176
		246	278	340
Colorectal	Colon	(3%)	(3%)	(3%)
	Rectal	1,470	1,656	1,581
		(35%)	(37%)	(36%)
Brain	Brain	891	979	1,227
		347	471	(05%) 525
	Cervical	(42%)	(48%)	(47%)
	Quarian	17	34	40
	Ovarian	(1%)	(2%)	(2%)
Gynaecological	Uterine	315	527	762
-,		(15%)	(21%)	(26%)
	Vagina	40	60 (75%)	(7/%)
		73	107	137
	Vulva	(28%)	(29%)	(35%)
	Hoad and nock	2,118	2,427	3,069
		(67%)	(65%)	(69%)
	Hypopharynx Larynx	152	184	153
		(81%)	(77%)	(75%)
		409	410	(720/)
		143	139	181
	Major salivary glands	(63%)	(60%)	(64%)
Hoad and nock	Nasal cavity and parapasal sinusos	86	102	154
Head and Heck		(68%)	(63%)	(70%)
	Nasopharynx	68	82	110
		(81%)	(80%)	(84%)
	Oral cavity	448	417 (41%)	(43%)
		747	1.058	1.456
	Oropharynx	(84%)	(80%)	(85%)
	Other pharway	65	35	31
		(74%)	(63%)	(81%)
	Liver	47	84	293
Hepatobiliary		(4%)	(5%)	(13%)
	Pancreatic, biliary tract & duodenal	(7%)	(6%)	(10%)
1	No II II	3,626	4,217	5,221
Lung	Non-small cell lung	(44%)	(45%)	(47%)
Prostate	Prostate	3,922	4,064	5,778
		(20%)	(20%)	(24%)
Upper GI	Oesophagogastric	990	1,160	1,440
		(3∠%) ∠los	(32%) 522	(30%)
	Bladder	(23%)	(21%)	(25%)
Urological		56	11	10
	Testicular	(8%)	(1%)	(1%)

Indicator rates with fewer than 20 diagnoses should be treated with caution. Refer to Technical Appendix for number of diagnoses. Where there are greater than 20 diagnoses, rates have been adjusted for age and sex. Radiation therapy included external beam only.

1.5 | Queenslanders receiving intravenous systemic therapy

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

Systemic therapy	nor receiving systemic the reput		Queensland	
(Number of people with car	icer receiving systemic therapy)	2007-2011	2012-2016	2017-2021
Cancer group	Cancer	Systemic therapy	Systemic therapy	Systemic therapy
cullect Broup	culler	(rate)	(rate)	(rate)
		6.049	7 525	8 064
Breast	Breast	(43%)	(46%)	(45%)
		2.413	2.810	2.880
	Colon	(26%)	(30%)	(28%)
Colorectal		1.705	1.901	1.704
	Rectal	(41%)	(43%)	(38%)
Brain	Brain	N/A	N/A	N/A
	Question	285	433	506
	Cervical	(35%)	(44%)	(45%)
	Quarian	856	1,057	1,204
	Ovarian	(66%)	(68%)	(69%)
Cumacaalagigal	Literine	429	521	645
Gynaecological	otenne	(21%)	(21%)	(22%)
	Vagina	26	44	67
	Vagina	(43%)	(55%)	(58%)
	Vulva	21	60	59
		(8%)	(16%)	(16%)
	Lload and nook	1,014	1,594	1,834
		(31%)	(42%)	(42%)
	Hypopharynx	79	120	100
		(41%)	(50%)	(51%)
	Larynx	118	148	149
		(20%)	(24%)	(26%)
	Major salivary glands	17	10	24
		(7%)	(4%)	(9%)
Head and neck	Nasal cavity and parapasal sinuses	23	49	49
fiedd and fieck		(19%)	(29%)	(23%)
	Nasonharvnx	59	79	98
		(69%)	(77%)	(76%)
	Oral cavity	148	165	215
		(15%)	(16%)	(17%)
	Oropharynx	536	991	1,184
		(59%)	(74%)	(70%)
	Other pharynx	34	32	15
		(38%)	(55%)	(44%)
	Liver	259	442	623
Hepatobiliary		(22%)	(27%)	(27%)
	Pancreatic, biliary tract & duodenal	959	1,339	1,835
		(38%)	(42%)	(45%)
Lung	Non-small cell lung	2,913	3,703	4,/21
		(35%)	(40%)	(43%)
Prostate	Prostate	698	1,181	2,102
		(3%)	1 /01	(5%)
Upper GI	Oesophagogastric	(200/)	1,491	1,019
		(58%) 655	(4∠%)	(43%)
	Bladder		332	1,320
Urological		302	(53%)	(46%)
	Testicular	(52%)	+++O (56%)	(50%)
		(5570)	(50/0)	(5070)

Indicator rates with fewer than 20 diagnoses should be treated with caution. Refer to Technical Appendix for number of diagnoses. Where there are greater than 20 diagnoses, rates have been adjusted for age and sex.

2 | Efficient

Optimally using resources to achieve desired outcomes.



2.1 | Hospital stay

How long do people having cancer surgery stay in hospital?

Length of stay Queensland											
(Median time in a	days between the adm	ission and discharge date of cano	er surg	ery)			2042.20			2017 202	
Cancer group	Cancer	Surgery type	A11	2007-20	11 Privato	٨	2012-20 Public	Private	A11	2017-202 Public	21 Privato
Breast	Breast	Breast cancer surgery	2	2	2	1	1	2	1	1	1
	Colon	Major resection	8	8	7	7	8	7	6	6	6
Colorectal	Rectal	Major resection	8	9	8	8	8	7	7	7	7
CNS and brain	Brain	Craniotomy	11	12	9	10	10	9	9	9	9
	Cervical	Major resection	4	4	4	3	3	3	2	2	3
	Ovarian	Major resection	7	6	8	6	6	6	6	6	5
Gynaecological	Uterine	Major resection	4	4	4	2	2	2	2	2	2
	Vagina	Major resection	2	3	2	3	4	2	2	1	2
	Vulva	Major resection	6	7	6	7	7	5	5	6	3
	Head and neck	Major resection	3	6	1	3	6	1	3	6	1
	Hypopharynx	Major resection	16	19	1	16	16	1	18	18	1
	Larynx	Major resection	1	11	1	1	4	1	1	9	1
	Major salivary glands	Major resection	2	3	2	3	3	3	2	3	2
Head and neck	Nasal cavity and paranasal sinuses	Major resection	4	7	2	4	5	1	3	4	1
	Nasopharynx	Major resection	1	9	1	1	1	1	1	1	
	Oral cavity	Major resection	6	8	3	6	8	2	7	8	4
	Oropharynx	Major resection	1	1	1	1	1	1	1	1	1
	Other pharynx	Major resection	2	2	2	8	13	2	1	1	1
Hanatabilian	Liver	Major resection	10	9	11	8	8	9	7	7	7
Hepatobiliary	Pancreatic, biliary tract & duodenal	Pancreaticoduodenectomy	15	15	15	13	12	14	13	13	13
Lung	Non-small cell lung	Major resection	8	7	8	7	6	7	6	6	6
Prostate	Prostate	Prostatectomy	3	3	3	2	3	2	2	2	2
Linner Gl	Gastric	Gastrectomy	15	16	15	14	15	13	12	13	12
opper of	Oesophagus	Oesophagectomy	13	14	12	11	11	11	9	9	9
	Bladder	Cystectomy	13	13	12	12	13	12	12	12	13
Urological	Testicular	Orchidectomy	1	1	1	1	1	1	1	1	1

Refer to Technical Appendix for further information on surgery.

3 Safe

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



3.1 | In-Hospital mortality

What percentage of people die in hospital after cancer surgery?

In-Hospital morta	In-Hospital mortality Queensland							
Cancer group	Cancer	Surgery type	2007-2011 In-Hospital mortality rate	2012-2016 In-Hospital mortality rate	2017-2021 In-Hospital mortality rate			
Breast	Breast	Breast cancer surgery	<0.1%	0%	0%			
Colorectal	Colon	Major resection	2.5%	1.6%	1.4%			
	Rectal	Major resection	1.5%	0.7%	0.9%			
CNS and brain	Brain	Craniotomy	1.5%	1.4%	0.9%			
	Cervical	Major resection	0%	0%	0%			
	Ovarian	Major resection	0.4%	0.5%	0.3%			
Gynaecological	Uterine	Major resection	0.2%	0.2%	0.1%			
	Vagina	Major resection	0%	0%	0%			
	Vulva	Major resection	0%	0%	0%			
	Head and neck	Major resection	0.4%	0.3%	0.3%			
	Hypopharynx	Major resection	2.6%	0.9%	1.4%			
	Larynx	Major resection	0.3%	0.3%	0.3%			
	Major salivary glands	Major resection	0%	0%	0%			
Head and neck	Nasal cavity and paranasal sinuses	Major resection	0%	0%	0%			
	Nasopharynx	Major resection	0%	0%	0%			
	Oral cavity	Major resection	0.5%	0.5%	0.4%			
	Oropharynx	Major resection	0.4%	0%	0%			
	Other pharynx	Major resection	0%	0%	0%			
Henetabilian	Liver	Major resection	3.3%	2.5%	0%			
ператорінату	Pancreatic, biliary tract & duodenal	Pancreaticoduodenectomy	1.7%	2.8%	1.3%			
Lung	Non-small cell lung	Major resection	1.3%	0.6%	0.2%			
Prostate	Prostate	Prostatectomy	0.1%	<0.1%	<0.1%			
	Gastric	Gastrectomy	0.4%	1.3%	1.1%			
Upper GI	Oesophagus	Oesophagectomy	1.6%	2.4%	0.8%			
	Bladder	Cystectomy	0.3%	0.6%	0.6%			
Urological	Testicular	Orchidectomy	0.1%	0%	0%			

Indicator rates with fewer than 20 diagnoses should be treated with caution. Where there are greater than 20 diagnoses, rates have been adjusted for age and sex. Refer to Technical Appendix for further information on surgery. Refer to Table 1.3 for number of surgery cases.

3.2 | 30 day mortality

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

30 day mortality	ie < 30 days following cancer sur		Other sources			
Cancer group	Cancer	Surgery type	2007-2011 30 day mortality rate	2012-2016 30 day mortality rate	2017-2021 30 day mortality rate	30 day mortality rate
Breast	Breast	Breast cancer surgery	0.1%	<0.1%	<0.1%	0.2% ¹
	Colon	Major resection	2.9%	2.0%	1.7%	3.4%²
Colorectal	Rectal	Major resection	1.6%	0.8%	0.9%	3.3% ²
CNS and brain	Brain	Craniotomy	3.6%	3.7%	2.6%	3.0% ³
	Cervical	Major resection	0%	0%	0%	N/A
	Ovarian	Major resection	0.6%	0.9%	0.3%	2.0%4
Gynaecological	Uterine	Major resection	0.4%	0.3%	0.2%	0.5% ⁵
	Vagina	Major resection	0%	0%	0%	NA
	Vulva	Major resection	0%	0.7%	0%	N/A
	Head and neck	Major resection	0.7%	0.8%	0.6%	0.8% ⁶
	Hypopharynx	Major resection	1.3%	2.0%	1.3%	N/A
	Larynx	Major resection	0.6%	0.9%	1.1%	2.8% ⁷
	Major salivary glands	Major resection	0%	0.4%	0%	N/A
Head and neck	Nasal cavity and paranasal sinuses	Major resection	2.0%	0%	0%	N/A
	Nasopharynx	Major resection	0%	0%	16.7%	N/A
	Oral cavity	Major resection	0.5%	1.0%	0.6%	1.0%8
	Oropharynx	Major resection	1.2%	0%	0.4%	0.7% ⁹
	Other pharynx	Major resection	0%	0%	0%	N/A
	Liver	Major resection	3.3%	2.5%	0.5%	1.8% ¹⁰
Hepatobiliary	Pancreatic, biliary tract & duodenal	Pancreaticoduodenectomy	1.5%	2.3%	1.3%	2.0% ¹¹
Lung	Non-small cell lung	Major resection	1.3%	0.7%	0.4%	3.0% ¹²
Prostate	Prostate	Prostatectomy	0.2%	0.1%	0.1%	0.2%13
Linner Gl	Gastric	Gastrectomy	0%	1.3%	0.8%	4.0%14
	Oesophagus	Oesophagectomy	1.6%	2.7%	0.7%	4.0%14
Urological	Bladder	Cystectomy	0.8%	0.6%	0.9%	2.0%15
UIUgical	Testicular	Orchidectomy	0.2%	0.1%	0%	NA

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

N/A No appropriate references identified.

Indicator rates with fewer than 20 diagnoses should be treated with caution. Where there are greater than 20 diagnoses, rates have been adjusted for age and

sex. ^c Cancers with less than 20 cases should be interpreted with caution due to the poor reliability of rate calculations based on small numbers. Refer to Technical Appendix for further information on surgery. Refer to Table 1.3 for number of surgery cases.

3.3 | 90 day mortality

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

90 day mortality (% people who di surgery)	e ≤ 90 days following cancer			Queensland	
Cancer group	Cancer	Surgery type	2007-2011 90 day mortality rate	2012-2016 90 day mortality rate	2017-2021 90 day mortality rate
Breast	Breast	Breast cancer surgery	0.2%	0.2%	0.2%
Calanatal	Colon	Major resection	5.1%	3.7%	3.1%
Colorectal	Rectal	Major resection	2.7%	2.0%	1.9%
CNS and brain	Brain	Craniotomy	15.2%	11.5%	8.7%
	Cervical	Major resection	0%	0.2%	0%
	Ovarian	Major resection	1.2%	1.7%	1.2%
Gynaecological	Uterine	Major resection	1.2%	0.7%	0.6%
	Vagina	Major resection	0%	0%	0%
	Vulva	Major resection	1.5%	2.1%	0.7%
	Head and neck	Major resection	1.9%	1.6%	1.8%
	Hypopharynx	Major resection	4.8%	2.8%	4.8%
	Larynx	Major resection	1.8%	1.8%	3.0%
	Major salivary glands	Major resection	1.7%	0.7%	0.5%
Head and neck	Nasal cavity and paranasal sinuses	Major resection	4.2%	1.1%	1.3%
	Nasopharynx	Major resection	0%	0%	16.7%
	Oral cavity	Major resection	1.4%	2.2%	1.4%
	Oropharynx	Major resection	2.2%	0.5%	2.0%
	Other pharynx	Major resection	0%	0%	0%
	Liver	Major resection	5.9%	3.6%	1.1%
Hepatobiliary	Pancreatic, biliary tract & duodenal	Pancreaticoduodenectomy	3.3%	3.8%	2.6%
Lung	Non-small cell lung	Major resection	2.8%	1.9%	0.9%
Prostate	Prostate	Prostatectomy	0.5%	0.5%	0.3%
	Gastric	Gastrectomy	2.2%	2.5%	2.3%
Upper GI	Oesophagus	Oesophagectomy	3.6%	3.9%	1.9%
	Bladder	Cystectomy	4.1%	1.5%	2.8%
Urological	Testicular	Orchidectomy	0.5%	0.1%	0.1%

Indicator rates with fewer than 20 diagnoses should be treated with caution. Where there are greater than 20 diagnoses, rates have been adjusted for age and sex.

sex. ^c Cancers with less than 20 cases should be interpreted with caution due to the poor reliability of rate calculations based on small numbers. Refer to Technical Appendix for further information on surgery. Refer to Table 1.3 for number of surgery cases.

3.4 | 1 year surgical survival

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

1 year surgical sur	rvival			Queensland	
(% people still aliv Cancer group	e 1 year after cancer surgery) Cancer	Surgery type	2007-2011 1 yr survival	2012-2016 1 yr survival	2017-2021 1 yr survival
			(rate)	(rate)	(rate)
Breast	Breast	Breast cancer surgery	99%	99%	99%
Colorectal	Colon	Major resection	88%	90%	92%
	Rectal	Major resection	92%	94%	95%
CNS and brain	Brain	Craniotomy	54%	59%	69%
	Cervical	Major resection	99%	97%	99%
	Ovarian	Major resection	92%	92%	95%
Gynaecological	Uterine	Major resection	96%	96%	96%
	Vagina	Major resection	100%	87%	100%
	Vulva	Major resection	92%	92%	94%
	Head and neck	Major resection	90%	92%	92%
	Hypopharynx	Major resection	78%	79%	76%
	Larynx	Major resection	86%	94%	91%
	Major salivary glands	Major resection	96%	96%	97%
Head and neck	Nasal cavity and paranasal sinuses	Major resection	83%	88%	91%
	Nasopharynx	Major resection	100%	100%	83%
	Oral cavity	Major resection	91%	90%	92%
	Oropharynx	Major resection	92%	96%	95%
	Other pharynx	Major resection	83%	81%	91%
Henatohiliany	Liver	Major resection	82%	90%	91%
ператорнагу	Pancreatic, biliary tract & duodenal	Pancreaticoduodenectomy	73%	81%	84%
Lung	Non-small cell lung	Major resection	88%	93%	95%
Prostate	Prostate	Prostatectomy	97%	98%	98%
	Gastric	Gastrectomy	83%	84%	86%
opper GI	Oesophagus	Oesophagectomy	81%	84%	89%
	Bladder	Cystectomy	80%	85%	82%
Urological –	Testicular	Orchidectomy	99%	99%	99%

Indicator rates with fewer than 20 diagnoses should be treated with caution. Where there are greater than 20 diagnoses, rates have been adjusted for age and sex. ^c Cancers with less than 20 cases should be interpreted with caution due to the poor reliability of rate calculations based on small numbers. Refer to Technical

[€] Cancers with less than 20 cases should be interpreted with caution due to the poor reliability of rate calculations based on small numbers. Refer to Technical Appendix for further information on surgery. Refer to Table 1.3 for number of surgery cases.

3.5 | 2 year surgical survival

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

2 year surgical sur	vival			Queensland	
(% people still alive	e 2 years after cancer surgery)		2007-2011	2012-2016	2017-2021
Cancer group	Cancer	Surgery type	2 vr survival	2 vr survival	2 vr survival
			rate	rate	rate
Breast	Breast	Breast cancer surgery	96%	97%	98%
Coloractal	Colon	Major resection	80%	83%	85%
Colorectar	Rectal	Major resection	86%	89%	91%
CNS and brain	Brain	Craniotomy	38%	37%	44%
	Cervical	Major resection	95%	95%	99%
	Ovarian	Major resection	82%	84%	84%
Gynaecological	Uterine	Major resection	91%	91%	92%
	Vagina	Major resection	86%	80%	85%
	Vulva	Major resection	86%	84%	90%
	Head and neck	Major resection	81%	85%	86%
	Hypopharynx	Major resection	59%	65%	61%
	Larynx	Major resection	79%	84%	79%
	Major salivary glands	Major resection	91%	90%	93%
Head and neck	Nasal cavity and paranasal sinuses	Major resection	76%	78%	86%
	Nasopharynx	Major resection	88%	85%	83%
	Oral cavity	Major resection	82%	84%	86%
	Oropharynx	Major resection	85%	91%	91%
	Other pharynx	Major resection	66%	81%	82%
Henatohiliary	Liver	Major resection	69%	80%	84%
nepatobiliary	Pancreatic, biliary tract & duodenal	Pancreaticoduodenectomy	52%	63%	63%
Lung	Non-small cell lung	Major resection	77%	85%	90%
Prostate	Prostate	Prostatectomy	95%	96%	96%
Linner Gl	Gastric	Gastrectomy	67%	72%	74%
	Oesophagus	Oesophagectomy	69%	72%	80%
	Bladder	Cystectomy	68%	75%	74%
Urological -	Testicular	Orchidectomy	98%	98%	99%

Indicator rates with fewer than 20 diagnoses should be treated with caution. Where there are greater than 20 diagnoses, rates have been adjusted for age and sex. [©] Cancers with less than 20 cases should be interpreted with caution due to the poor reliability of rate calculations based on small numbers. Refer to Technical

[€] Cancers with less than 20 cases should be interpreted with caution due to the poor reliability of rate calculations based on small numbers. Refer to Technical Appendix for further information on surgery. Refer to Table 1.3 for number of surgery cases.

4 | Accessible

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



4.1 | Timeliness

What percentage of people who attended public or private treatment facilities received their first cancer treatment⁺ within 30 days of diagnosis?

Queensland

Time to first cancer treatment

(% people whose time from diagnosis to first cancer treatment is \leq 30

days)											
			2007-2011			2012-2016			2017-	2021	
Cancer group	Cancer	Time to f	irst cancer t	reatment	Time to f	irst cancer t	reatment	Tim	e to first ca	ncer treatme	ent
		All	Public	Private	All	Public	Private	All	Public	Private	P- value
Breast	Breast	79%	61%	92%	71%	51%	87%	61%	34%	86%	***
Colorectal	Colon	79%	68%	89%	74%	60%	88%	67%	53%	86%	***
	Rectal	54%	32%	77%	47%	28%	66%	42%	25%	60%	***
CNS and brain	Brain	84%	78%	93%	85%	83%	87%	83%	83%	84%	
	Cervical	27%	18%	48%	27%	20%	39%	21%	14%	35%	***
	Ovarian	86%	80%	91%	88%	82%	94%	83%	75%	92%	***
Gynaecological	Uterine	63%	36%	87%	54%	25%	83%	46%	20%	76%	***
	Vagina	30%	16%	53%	43%	30%	53%	28%	15%	39%	**
	Vulva	48%	29%	76%	43%	21%	74%	36%	21%	56%	1 1 1 1
	Head and neck	52%	39%	82%	49%	38%	72%	48%	39%	67%	 ***
	Hypopharynx	43%	39%	74%	40%	35%	69%	41%	41%	40%	
	Larynx	58%	44%	87%	53%	44%	71%	57%	50%	72%	***
	Major salivary glands	77%	63%	90%	75%	67%	84%	66%	54%	80%	***
Head and neck	Nasal cavity and paranasal sinuses	65%	43%	89%	64%	57%	78%	59%	54%	71%	**
	Nasopharynx	39%	30%	78%	45%	40%	67%	40%	40%	42%	
	Oral cavity	58%	47%	79%	57%	45%	77%	53%	45%	71%	***
	Oropharynx	40%	27%	79%	36%	25%	64%	40%	28%	64%	***
	Other pharynx	32%	18%	78%	35%	24%	82%	42%	38%	44%	1 1 1 1
llevet ekiliem.	Liver	60%	54%	69%	47%	38%	69%	44%	36%	67%	***
перагорінату	Pancreatic, biliary tract & duodenal	59%	44%	70%	56%	43%	68%	55%	42%	70%	 ***
Lung	Non-small cell lung	50%	40%	67%	46%	36%	60%	46%	36%	59%	***
Prostate	Prostate	28%	25%	30%	26%	25%	26%	22%	23%	22%	
Upper GI	Oesophagogastric	49%	35%	66%	46%	36%	58%	43%	30%	57%	***
Understand	Bladder	24%	17%	34%	24%	17%	31%	23%	18%	29%	***
urological	Testicular	99%	99%	98%	98%	97%	99%	98%	98%	99%	1

Indicator rates with fewer than 20 diagnoses should be treated with caution. Refer to Technical Appendix for number of diagnoses. Where there are greater than 20 diagnoses, rates have been adjusted for age and sex.

P-value <0.05 & *P-value < 0.001 indicate significant difference in rates for 2017-2021 between people treated in public and private facilities.

+ Treatment includes IV systemic therapy, radiation therapy, and/or major surgery (Refer to Technical Appendix for further information on surgery). Oral systemic

therapy is not included in analysis. Radiation therapy included external beam only.

4.2 | Remoteness

What percentage of people living outside a major city received cancer treatment⁺?

Rural and remote first cancer treatment Queensland											
(% of people rece	eiving first cancer treatm	nent)				Queensiana					
		2	007-2011			2012-2016			2017-2021		
Cancer group	Cancer	First ca	ncer treatme	nt	First o	ancer treat	ment	First c	ancer treatm	ient	P-
		Rural & Remote	Regional	Metro- politan	Rural & Remote	Regional	Metro- politan	Rural & Remote	Regional	Metro- politan	valuetrend
Breast	Breast	92%	95%	94%	93%	95%	94%	94%	95%	94%	
Colorectal	Colon	82%	87%	86%	85%	85%	85%	84%	83%	83%	
colorectar	Rectal	86%	85%	85%	83%	81%	85%	79%	80%	80%	
CNS and brain	Brain	74%	74%	75%	76%	76%	77%	75%	78%	78%	
	Cervical	75%	78%	74%	72%	82%	78%	84%	83%	79%	**
	Ovarian	79%	79%	84%	78%	81%	85%	83%	81%	84%	
Gynaecological	Uterine	91%	92%	93%	85%	89%	89%	89%	86%	88%	
	Vagina	100%	92%	82%	51%	81%	89%	81%	78%	92%	
	Vulva	82%	84%	89%	78%	91%	87%	84%	87%	83%	
	Head and neck	87%	90%	91%	89%	90%	92%	89%	92%	92%	**
	Hypopharynx	86%	87%	86%	86%	85%	88%	86%	82%	80%	
	Larynx	86%	94%	92%	93%	93%	93%	87%	95%	94%	
	Major salivary glands	96%	97%	95%	94%	93%	95%	94%	90%	96%	
Head and neck	Nasal cavity and paranasal sinuses	100%	90%	90%	81%	83%	90%	85%	91%	88%	
	Nasopharynx	80%	78%	92%	73%	90%	92%	83%	80%	93%	
	Oral cavity	87%	87%	90%	89%	89%	90%	92%	93%	89%	
	Oropharynx	88%	88%	93%	88%	91%	95%	89%	94%	95%	***
	Other pharynx	69%	91%	75%	95%	70%	76%	96%	100%	92%	
Honatohiliany	Liver	27%	39%	40%	37%	40%	44%	44%	42%	53%	***
riepatobiliary	Pancreatic, biliary tract & duodenal	39%	42%	45%	43%	45%	49%	42%	52%	50%	**
Lung	Non-small cell lung	62%	66%	70%	67%	72%	74%	73%	77%	80%	***
Prostate	Prostate	68%	70%	68%	73%	74%	72%	76%	77%	75%	
Upper GI	Oesophagogastric	64%	65%	66%	64%	64%	64%	68%	63%	65%	
	Bladder	58%	63%	55%	58%	67%	58%	67%	72%	66%	
C. CIODICUI	Testicular	96%	99%	98%	99%	98%	98%	97%	99%	99%	**

Indicator rates with fewer than 20 diagnoses should be treated with caution. Refer to Technical Appendix for number of diagnoses. Where there are greater than 20 diagnoses, rates have been adjusted for age and sex.

P-value_{trend} <0.05 & *P- value_{trend} < 0.001 indicate significant difference in rates for 2017-2021 across remoteness of residence. (Refer to Glossary for further information on P-value_{trend}).

⁺ Treatment includes IV systemic therapy, radiation therapy, and/or major surgery (Refer to Technical Appendix for further information on surgery). Oral systemic therapy is not included in analysis. Radiation therapy included external beam only.

4.3 | Time to first treatment \leq 30 days

What percentage of people living outside a major city received their first cancer treatment⁺ within 30 days of diagnosis?

Rural and remot	e first cancer treatmer	nt									
(% people whose days)	time from diagnosis to) first cance	er treatment	is ≤30		Queensland					
			2007-2011			2012-2016			2017	-2021	
Cancer group	Cancer	Tim	e to first car treatment	ncer	Tim	Time to first cancer treatment			e to first car treatment	ncer	P-
		Rural & Remote	Regional	Metro- politan	Rural & Remote	Regional	Metro- politan	Rural & Remote	Regional	Metro- politan	valuetrend
Breast	Breast	73%	74%	81%	60%	66%	75%	49%	56%	64%	***
Colorestal	Colon	77%	77%	80%	67%	71%	76%	59%	63%	70%	***
Colorectal	Rectal	52%	51%	56%	39%	42%	52%	30%	38%	46%	***
CNS and brain	Brain	79%	85%	84%	70%	87%	86%	78%	85%	84%	
	Cervical	20%	29%	27%	29%	21%	28%	26%	16%	21%	
	Ovarian	85%	82%	87%	83%	88%	89%	81%	82%	83%	
Gynaecological	Uterine	56%	61%	65%	43%	54%	57%	42%	44%	48%	**
	Vagina	32%	41%	27%	56%	25%	49%	36%	24%	28%	
	Vulva	47%	44%	49%	30%	38%	47%	40%	34%	36%	
	Head and neck	46%	51%	55%	41%	47%	52%	41%	43%	52%	***
	Hypopharynx	42%	34%	46%	33%	49%	40%	31%	37%	47%	
	Larynx	57%	59%	58%	37%	55%	58%	48%	50%	63%	**
	Major salivary glands	84%	70%	78%	70%	84%	73%	53%	65%	69%	
Head and neck	Nasal cavity and paranasal sinuses	65%	61%	67%	67%	59%	66%	43%	58%	64%	
	Nasopharynx	22%	80%	37%	62%	41%	41%	48%	38%	39%	
	Oral cavity	48%	55%	61%	47%	52%	61%	49%	44%	57%	**
	Oropharynx	32%	35%	43%	31%	31%	40%	32%	34%	43%	***
	Other pharynx	6%	39%	38%	51%	27%	31%	23%	45%	49%	
	Liver	58%	53%	62%	36%	49%	48%	38%	43%	45%	
Hepatobiliary	Pancreatic, biliary tract & duodenal	57%	55%	61%	53%	52%	58%	48%	47%	59%	***
Lung	Non-small cell lung	54%	48%	49%	49%	46%	46%	44%	41%	48%	***
Prostate	Prostate	32%	26%	28%	30%	23%	26%	24%	20%	22%	
Upper GI	Oesophagogastric	49%	46%	50%	35%	39%	51%	32%	31%	49%	***
Underst. 1	Bladder	22%	29%	23%	18%	26%	25%	17%	23%	24%	
urological	Testicular	96%	98%	99%	97%	97%	98%	99%	96%	99%	

Indicator rates with fewer than 20 diagnoses should be treated with caution. Refer to Technical Appendix for number of diagnoses. Where there are greater than 20 diagnoses, rates have been adjusted for age and sex.

P-value_{trend} <0.05 & *P- value_{trend} < 0.001 indicate significant difference in rates for 2017-2021 across remoteness of residence. (Refer to Glossary for further information on P-value_{trend}).

* Treatment includes IV systemic therapy, radiation therapy, and/or major surgery (Refer to Technical Appendix for further information on surgery). Oral systemic therapy is not included in analysis. Radiation therapy included external beam only.

5 Equitable

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

5.1 | Over 75 years

What percentage of people aged ≥75 received their first cancer treatment⁺ within 30 days of diagnosis?

Time to first cancer (% people whose time	treatment ne from diagnosis to first can	cer treatment is ≤	:30 days)	Queer	nsland			
		2007-2	2011	2012	-2016	2	2017-2021	
Cancer group	Cancer	Time to fir: treatn	st cancer Tent	Time to fi treat	rst cancer ment	Time	to first cance treatment	er
		Age < 75	Age ≥75	Age < 75	Age ≥75	Age < 75	Age ≥75	P- value
Breast	Breast	79%	73%	72%	65%	61%	59%	**
Colorectal	Colon	78%	81%	73%	74%	66%	69%	**
	Rectal	54%	54%	47%	48%	41%	45%	
CNS and brain	Brain	84%	80%	85%	82%	83%	85%	
	Cervical	26%	36%	27%	23%	21%	14%	
	Ovarian	88%	78%	89%	83%	84%	76%	**
Gynaecological	Uterine	63%	64%	55%	51%	47%	45%	
	Vagina	33%	22%	45%	33%	27%	32%	
	Vulva	40%	65%	43%	42%	36%	34%	
	Head and neck	51%	57%	48%	52%	49%	47%	
	Hypopharynx	43%	47%	41%	35%	40%	43%	
	Larynx	55%	69%	51%	61%	58%	56%	
Used and used.	Major salivary glands	81%	59%	79%	63%	70%	47%	**
неай апо песк	Nasal cavity and paranasal sinuses	63%	70%	62%	69%	59%	58%	
	Nasopharynx	40%	0%	44%	63%	38%	57%	
	Oral cavity	58%	57%	57%	56%	54%	47%	
	Oropharynx	40%	42%	37%	31%	40%	35%	
	Other pharynx	31%	37%	32%	46%	39%	55%	
Hapatabilian	Liver	57%	72%	46%	52%	44%	44%	
перасорнату	Pancreatic, biliary tract & duodenal	60%	56%	56%	57%	55%	54%	
Lung	Non-small cell lung	52%	45%	47%	43%	47%	43%	**
Prostate	Prostate	19%	63%	19%	52%	18%	40%	***
Upper GI	Oesophagogastric	49%	49%	46%	47%	43%	43%	
	Bladder	25%	23%	26%	22%	25%	21%	**
orological	Testicular	99%	100%	98%	100%	98%	100%	

P-value <0.05 & *P-value < 0.001 indicate significant difference in rates for 2017-2021 between age <75 and ≥75. Refer to Technical Appendix for number of diagnoses.

* Treatment includes IV systemic therapy, radiation therapy, and/or major surgery (Refer to Technical Appendix for further information on surgery). Oral systemic therapy is not included in analysis. Radiation therapy included external beam only.

5.2 | First Nations peoples

What percentage of First Nations peoples received their first cancer treatment⁺ within 30 days of diagnosis?

Queensland

Time to first cancer treatment

(% people whose time from diagnosis to first cancer treatment is ≤30

days)												
		20	007-2011		20	012-2016		2017-2021				
		Time to firs First	t cancer tr	eatment	Time to firs First	t cancer tr	eatment	Time to First	o first canc	er treatme	ent	
Cancer group	Cancer	Nations	Non	First	Nations	Non	First	Nations	Nor	n First	P-	
		peoples	Nations	peoples	peoples	Nations	peoples	peoples	Nations	peoples	value	
		All	Public	Private	All	Public	Private	All	Public	Private		
Breast	Breast	65%	61%	92%	54%	51%	87%	35%	34%	86%		
Colorectal	Colon	71%	68%	89%	58%	61%	88%	62%	52%	86%	**	
colorectar	Rectal	44%	32%	77%	33%	28%	66%	22%	25%	61%		
CNS and brain	Brain	70%	78%	93%	86%	83%	87%	85%	83%	84%		
	Cervical	12%	18%	48%	32%	19%	39%	23%	13%	35%	**	
	Ovarian	78%	80%	91%	84%	82%	94%	72%	75%	92%		
Gynaecological	Uterine	41%	36%	87%	24%	25%	83%	21%	20%	77%		
	Vagina	0%	17%	53%	100%	30%	49%	44%	9%	42%		
	Vulva	13%	30%	76%	36%	20%	75%	25%	21%	56%		
	Head and neck	40%	39%	83%	34%	38%	72%	38%	40%	68%		
	Hypopharynx	31%	39%	78%	60%	33%	69%	15%	44%	42%	**	
	Larynx	34%	45%	87%	32%	44%	72%	40%	50%	73%		
	Major salivary glands	88%	63%	90%	53%	67%	83%	63%	54%	79%		
Head and neck	Nasal cavity and paranasal sinuses	76%	41%	89%	75%	56%	78%	74%	53%	70%		
	Nasopharynx	30%	31%	78%	45%	39%	67%	24%	41%	42%		
	Oral cavity	50%	47%	79%	19%	46%	77%	42%	45%	71%		
	Oropharynx	35%	27%	80%	32%	25%	64%	34%	28%	65%		
	Other pharynx	0%	20%	78%	20%	22%	82%	-	37%	44%		
	Liver	44%	54%	70%	39%	38%	69%	44%	36%	68%		
Hepatobiliary	Pancreatic, biliary tract & duodenal	43%	44%	70%	55%	42%	68%	42%	42%	70%		
Lung	Non-small cell lung	42%	40%	67%	38%	36%	61%	38%	36%	60%		
Prostate	Prostate	21%	25%	30%	28%	25%	26%	24%	22%	22%		
Upper GI	Oesophagogastric	38%	35%	66%	34%	36%	59%	26%	31%	57%		
Unalagiant	Bladder	0%	17%	34%	22%	17%	31%	31%	18%	28%	**	
orological	Testicular	95%	99%	98%	100%	97%	99%	94%	98%	99%		

Indicator rates with fewer than 20 diagnoses should be treated with caution. Refer to Technical Appendix for number of diagnoses. Where there are greater than 20 diagnoses, rates have been adjusted for age and sex.

P-value <0.05 & *P-value < 0.001 indicate significant difference in rates for 2017-2021 between First Nations peoples treated in any hospital and non First Nations peoples treated in a public hospital.

* Treatment includes IV systemic therapy, radiation therapy, and/or major surgery (Refer to Technical Appendix for further information on surgery). Oral systemic therapy is not included in analysis. Radiation therapy included external beam only.

5.3 | Socioeconomically disadvantaged

What percentage of socioeconomically disadvantaged people received their first cancer treatment⁺ within 30 days from diagnosis?

Queensland

Time to first cancer treatment

(% people whose time from diagnosis to first cancer treatment is ≤30

days)											
			2007-2011		Time to fin	st cancer t 2012-2016	reatment		P-		
Cancer group	Cancer	Disad- vantaged	Middle	Affluent	Disad- vantaged	Middle	Affluent	Disad- vantaged	Middle	Affluent	valuetrend
Breast	Breast	72%	79%	89%	62%	72%	87%	49%	61%	81%	***
	Colon	75%	80%	84%	68%	75%	83%	60%	68%	78%	***
Colorectal	Rectal	46%	56%	64%	37%	50%	62%	31%	44%	59%	***
CNS and brain	Brain	84%	84%	81%	86%	83%	88%	81%	83%	90%	**
	Cervical	22%	27%	34%	24%	25%	42%	15%	23%	27%	**
	Ovarian	81%	87%	93%	82%	90%	91%	81%	81%	93%	**
Gynaecological	Uterine	52%	65%	75%	47%	54%	73%	36%	48%	65%	***
	Vagina	40%	28%	0%	24%	46%	53%	17%	31%	51%	-
	Vulva	46%	46%	66%	33%	46%	58%	34%	34%	52%	1 1 1 1
	Head and neck	48%	54%	57%	43%	50%	56%	43%	49%	60%	***
	Hypopharynx	49%	40%	42%	43%	39%	28%	36%	43%	44%	
	Larynx	58%	58%	57%	48%	56%	66%	51%	60%	58%	
	Major salivary glands	71%	78%	93%	70%	78%	72%	66%	67%	62%	
Head and neck	Nasal cavity and paranasal sinuses	58%	66%	89%	53%	66%	69%	57%	59%	64%	
	Nasopharynx	26%	45%	39%	41%	50%	20%	40%	38%	51%	1 1 1
	Oral cavity	52%	59%	66%	51%	57%	68%	47%	53%	68%	 ***
	Oropharynx	34%	42%	42%	30%	38%	45%	31%	40%	56%	***
	Other pharynx	24%	35%	35%	22%	41%	56%	29%	44%	43%	
	Liver	57%	60%	68%	45%	47%	43%	41%	44%	52%	
Hepatobiliary	Pancreatic, biliary tract & duodenal	59%	56%	72%	53%	56%	65%	47%	55%	70%	***
Lung	Non-small cell lung	46%	50%	59%	44%	46%	60%	42%	46%	58%	***
Prostate	Prostate	29%	29%	24%	26%	25%	28%	22%	22%	23%	1 1 1
Upper GI	Oesophagogastric	44%	49%	62%	38%	46%	63%	35%	43%	58%	***
Urological	Bladder	27%	23%	26%	21%	24%	35%	20%	23%	36%	***
orological	Testicular	98%	99%	99%	97%	98%	98%	96%	99%	99%	**

Indicator rates with fewer than 20 diagnoses should be treated with caution. Refer to Technical Appendix for number of diagnoses. Where there are greater than

20 diagnoses, rates have been adjusted for age and sex.

P- valuetrend <0.05 & *P- valuetrend < 0.001 indicate significant difference in rates for 2017-2021 across socioeconomic groups. (Refer to Glossary for further information on P-value_{trend}).

* Treatment includes IV systemic therapy, radiation therapy, and/or major surgery (Refer to Technical Appendix for further information on surgery). Oral systemic therapy is not included in analysis. Radiation therapy included external beam only.

Appendix

			2007	-2011			2012	2-2016			2017	-2021	
Cancer group	Cancer	Incidence	Incidence ASR	Mortality	Mortality ASR	Incidence	Incidence ASR	Mortality	Mortality ASR	Incidence	Incidence ASR	Mortality	Mortality ASR
Breast	Breast	14,070	123.0	2,570	21.7	16,805	129.2	2,821	20.8	18,852	127.7	3,048	19.5
	Colorectal	13,856	63.0	4,874	22.2	14,497	56.8	5,136	20.1	14,981	50.3	5,468	18.0
Colorectal	Colon	9,597	43.9	3,302	15.1	9,972	39.1	3,464	13.6	10,518	35.2	3,766	12.4
	Rectal	4,259	19.1	1,572	7.1	4,525	17.7	1,672	6.5	4,463	15.1	1,702	5.6
Brain	Brain	1,524	6.9	1,197	5.4	1,628	6.5	1,393	5.5	1,933	6.9	1,528	5.2
	Cervical	834	7.7	243	2.1	1,018	8.6	291	2.3	1,167	9.0	280	2.0
	Ovarian	1,389	12.0	784	6.6	1,638	12.4	921	6.7	1,834	12.0	1,066	6.7
Gynaecological	Uterine	2,129	18.3	371	3.2	2,502	18.7	483	3.6	2,999	19.7	575	3.6
	Vagina	74	0.6	31	0.3	101	0.7	33	0.2	135	0.9	48	0.3
	Vulva	268	2.3	77	0.6	381	2.9	101	0.7	412	2.7	103	0.6
	Head and neck	3,378	15.0	1,179	5.3	4,020	15.5	1,294	4.9	4,845	16.2	1,426	4.6
	Hypopharynx	204	0.9	118	0.5	262	1.0	135	0.5	223	0.7	138	0.4
	Larynx	600	2.7	225	1.0	644	2.4	233	0.9	624	2.0	194	0.6
	Major Salivary Glands	236	1.1	45	0.2	239	1.0	45	0.2	295	1.0	59	0.2
Head and neck	Nasal Cavity and Paranasal Sinuses	131	0.6	55	0.2	166	0.7	60	0.2	234	0.8	83	0.3
	Nasopharynx	86	0.4	37	0.2	113	0.5	43	0.2	142	0.5	49	0.2
	Oral Cavity	1,068	4.8	330	1.5	1,140	4.4	392	1.5	1,458	4.9	427	1.4
	Oropharynx	951	4.2	299	1.3	1,396	5.4	347	1.3	1,810	6.1	448	1.5
	Other Pharynx	102	0.5	70	0.3	60	0.2	39	0.2	59	0.2	28	0.1
	Biliary tract	33	0.2	26	0.1	88	0.3	67	0.3	91	0.3	93	0.3
Hepatobiliary	Liver	1,210	5.5	877	3.9	1,680	6.5	1,170	4.6	2,363	7.8	1,534	5.0
	Pancreatic	2,392	10.9	2,114	9.6	2,934	11.4	2,422	9.4	3,831	12.6	3,078	10.0
	Lung	10,455	47.3	8,204	37.2	12,071	46.7	9,026	35.0	14,681	47.8	9,647	31.3
Lung	Non-small cell lung	8,461	38.2	6,634	30.1	9,601	37.1	7,074	27.4	11,343	36.9	7,242	23.6
Prostate	Prostate	19,920	183.0	3,170	34.1	20,532	159.9	3,246	29.0	24,393	161.6	3,624	26.3
	Gastric	1,914	8.6	1,216	5.5	2,270	8.9	1,278	5.0	2,516	8.4	1,315	4.3
Upper GI	Oesophagus	1,278	5.7	916	4.1	1,445	5.5	1,039	4.0	1,656	5.4	1,126	3.7
	Bladder	2,308	10.6	982	4.5	2,720	10.5	1,111	4.3	2,989	9.8	1,214	4.0
Urological	Testicular	730	7.0	20	0.2	818	7.2	22	0.2	942	7.9	37	0.3

What are the incidence and mortality counts and age-standardised rates (ASR) by cancer, 2007-2021?§

ASR: age standardised rate per 100,000 population.

§ Biliary tract (excludes Bile Ducts and Vater C240-C241). Colorectal (excludes Appendix C181). Head and neck (excludes External lip C000-C002).

Glossary

1 year surgical survival

All-cause crude survival: the percentage of people with cancer still alive after 1 year from their first cancer surgery.

2 year surgical survival

All-cause crude survival: the percentage of people with cancer still alive after 2 years from their first cancer surgery.

30 day mortality

The percentage of people with cancer that die within 30 days after their last cancer surgery.

90 day mortality

The percentage of people with cancer that die within 90 days after 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 three periods of interest.

Affluent

The group of people with cancer 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.

Disadvantaged

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

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 people with cancer 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.

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.

First cancer treatment

The first treatment people with cancer received for their cancer – either surgery, radiation therapy or intravenous systemic therapy.

First Nations peoples

The terminology First Nations peoples refers to the Aboriginal peoples and Torres Strait Islander peoples, their nations, societies, and language groups that have occupied these lands since time immemorial.

Hospital Stay

The median time in days between the admission and discharge date for 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.

In-Hospital mortality

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

Intravenous systemic therapy

People with cancer who received intravenous systemic therapy within 365 days after diagnosis.

Length of stay

The average in number of days people with cancer stay in hospital for cancer surgery.

Middle

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

MDT Review

People with cancer are discussed by a Multidisciplinary Team to ensure that available treatment options are considered.

MDT number

Number of people with cancer who had MDT review any time 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 First Nations peoples

A measure where a person does not identify as Aboriginal peoples and/or Torres Strait Islander peoples (First Nations peoples).

Over 75 years

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

P value/ P value trend

The p-value is a number, calculated from a statistical test such as Pearson's chi square test. A p-value of <0.05 indicates the results are significant and there is less than a 5% probability the findings are due to chance alone.

To examine differences in proportions across subgroups such as public and private, Indigenous status and age group, Pearson's chi square (P value) was used.

The Cochrane-Armitage test (P value trend) for trend was used for analysis by remoteness and socioeconomic status which provides a non-parametric test of the trend of the proportions of positive responses in the groups (such as people with cancer who received treatment within 30 days of diagnosis).

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 case records for multiple users, accessible at multiple locations.

Radiation therapy

People with cancer who received external beam radiation therapy within 365 days after diagnosis. For further information on radiation therapy <u>https://www.targetingcancer.com.au</u>

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 analysis

To examine differences in proportions across subgroups such as public and private, First Nations peoples and age group, Pearson's chi square was used. For analysis by remoteness and socioeconomic status a non-parametric test such as the Cochrane-Armitage test for trend was used which provides a test of the trend of the proportions of positive responses in the groups (such as people with cancer who received treatment within 30 days of diagnosis). All statistical analyses were conducted using Stata/MP 15.1 (Stata Corp LLC, College Station, TX, USA).

Statistical Area Level 4 (SA4)

Statistical Areas Level 4 (SA4) are geographical areas built from whole Statistical Areas Level 3 (SA3s). <u>https://www.abs.gov.au/websitedbs/d3310114.nsf/home/australian+statistical+geography+standard+(asgs).</u>

Surgery/Major Resection

Refer to The Cancer Index Technical Appendix.

Surgery number

People with cancer who underwent cancer surgery within 365 days after diagnosis.

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 people with cancer to the proportion of expected survivors in a comparable set of cancer free individuals.

Time to first cancer treatment

Time between the pathological diagnosis of cancer and first cancer treatment.

Timeliness

Time between the pathological diagnosis of cancer and cancer treatment.

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FOR MORE INFORMATION

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