OASys Glossary

Key terms

Other terms below...

Glossary

2-year crude survival rate

The percentage of cancer cases still alive at 2 years or more from their earliest diagnosis with a given cancer.

5-year crude survival rate

The percentage of cancer cases still alive at 5 years or more from their earliest diagnosis with a given cancer.

Age

Age is based on different times depending on the measure.

If measure is...	*... then Age is age at...*
Incidence	Diagnosis
Mortality	Death
Prevalence	Calendar year while alive e.g. a cancer patient who was alive on 31st December 2007 is included in the prevalence count for 2007 at his/her age that year.

Age is calculated by truncating the age value to the next smaller integer, e.g. both 45.1 yrs and 45.9 yrs are truncated to 45 yrs.

Age-Standardised Rate (ASR)

The hypothetical rate, expressed as the number of cases per 100,000 persons, of cancer incidence or mortality in a group of people if their age distribution is the same as that in a standard or reference population.

ASR is used to compare cancer incidence or mortality between populations with different sizes and age structures. The different populations can represent different states or countries, as well as different time periods for the same geographic region.

ASR allows tracking of incidence and mortality trends that are not due to changes or differences in population size or age. Cancer incidence and mortality generally increases over time as a result of population growth and ageing. Similarly, cancer incidence will usually differ between two populations of similar sizes if one population is older than the other.

The standard populations used in calculation of ASR are listed below.

Standard Populations

Age Group	Australia 2001	Australia 2001 (per 100,000)	World	European	USA 2000	Canada 1991
0-4	1,282,357	6,600	12,000	80,000	69,135	69,465
5-9	1,351,664	7,000	10,000	70,000	72,533	69,454
10-14	1,353,177	7,000	9,000	70,000	73,032	68,034
15-19	1,352,745	7,000	9,000	70,000	72,169	68,495
20-24	1,302,412	6,700	8,000	70,000	66,478	75,016
25-29	1,407,081	7,200	8,000	70,000	64,529	89,944
30-34	1,466,615	7,500	6,000	70,000	71,044	92,400
35-39	1,492,204	7,700	6,000	70,000	80,762	83,388
40-44	1,479,257	7,600	6,000	70,000	81,851	76,063
45-49	1,358,594	7,000	6,000	70,000	72,118	59,536
50-54	1,300,777	6,700	5,000	70,000	62,716	47,649
55-59	1,008,799	5,200	4,000	60,000	48,454	44,041
60-64	822,024	4,200	4,000	50,000	38,793	42,326
65-69	682,513	3,500	3,000	40,000	34,264	38,570

70-74	638,380	3,300	2,000	30,000	31,773	29,660
75-79	519,356	2,700	1,000	20,000	26,999	22,127
80-84	330,050	1,700	500	10,000	17,842	13,595
85+	265,235	1,400	500	10,000	15,508	10,237
Total	19,413,240	100,000	100,000	1,000,000	1,000,000	1,000,000

Click here for more information on international standard populations.

Cancer

A tissue or group of cells with abnormally high growth rate.

OASys provides four ways of classifying cancer:

- By Site
- By ICD-O, 3rd Edition
- By Morphology
- By Morphology Code

By Site

Cancers start in specific parts of the body and the site at which a cancer first appears is called the *primary site*. The following cancer classification based on primary site was developed by a committee of clinicians and cancer specialists.

Cancer Group	***Primary Site***
Bone and Soft tissue	Bone and soft tissue
Breast	Breast
CNS and Brain	Central nervous system and Brain
Colorectal	Colon, Rectum and Rectosigmoid junction, Overlapping lesion of rectum,anus &anal canal
Endocrine	Adrenal gland, Pituitary gland, Thymus and Thyroid
Gynaecological	Cervix uteri, Corpus uteri, Ovary, Vagina, Vulva, Gestational trophoblastic tumours and Other gynaecological
Haematological	Hodgkin lymphoma*, Non hodgkin lymphoma*, Leukaemia, Myeloma and Other haematological
Head and Neck	Lip and oral cavity, Oropharynx & hypopharynx, Larynx, Nasopharynx, Nasal cavity & paranasal sinuses and Salivary gland
Hepatobiliary	Gallbladder, Liver, Pancreas and Biliary tract (not incl Bile ducts and Vater)
Lung	Lung
Mesothelioma	Mesothelioma
Ophthalmic	Eye and Adnexa

Cancer Group	*Primary Site*
Prostate	Prostate
Skin	Melanoma and Other skin
Upper GI	Oesophagus, Small intestine and Stomach
Urological	Kidney, Penis, Renal pelvis & Ureter, Testis, Urinary bladder and Other urological
Other	Anus, Digestive system and Other invasive cancers

Notes
**Lymphoma in systemic organs such as stomach are counted as lymphoma (i.e. not as a cancer of the host organ).*

By ICD-O, 3rd Edition

Cancers are coded following the International Classification of Diseases (ICD). Hospitals and other health facilities generally use either 9th or 10th edition of the ICD, called ICD-9 and ICD-10 respectively. Australian institutions use a slightly modified version of ICD-10 called ICD-10-AM (Australian Modification).

Cancer registries use another version of the ICD called ICD-O-3 (ICD Oncology, 3rd Edition). In ICD-O-3,blood or haematological cancers are coded only with morphology or histology codes. In ICD-10, these cancers are assigned discrete primary site codes in addition to morphology codes.

By Morphology Group

Cancers can also be grouped by histology or morphology as shown below (Source: ICD-O, 3rd edition. Ed Fritz A, Percy C, Jack A, Shanmugaratnum K, Sobin L, Parkin M and Whelan S. Geneva: WHO, 2000).

For counting purposes, cancers belonging to different morphology groups are considered distinct and are counted separately even if they occur on the same site within the same person. See Cancer Counting Rules for more information.

Morphology Group
Squamous carcinoma
Basal cell carcinoma
Adenocarcinoma
Other specific carcinoma
Unspecified carcinoma (NOS)
Sarcomas and soft tissue tumour
Lymphoma
Leukemia
Kaposi sarcoma
Mesothelioma
Other specified type of cancer
Unspecified type of cancer

By Morphology Code

Every cancer morphology is identified by a unique ICD number. In ICD-O-3 and ICD-10 codes, morphologies are assigned 5-digit integers beginning with 8 or 9 and ending with a digit from 1 to 6, with invasive primary cancer morphologies ending in 3.

Cancer Counting Rules

The number of new cases of cancers (incidence) is generally greater than the number of persons with cancers. This is because one person can have two or more cancers and may be counted under two or more different cancer groups.

Unless otherwise stated, only primary invasive cancers are included in OASys. A primary cancer is one that occurs for the first time in a site or tissue (called the primary site) and is therefore not an extension, a recurrence, or a metastasis of a pre-existing tumour.

The following examples illustrate the rules for counting cancers:

- If the same person has cancers in two different sites, then that person counts as 2 cases. His or her information would then be included in both separate and combined summaries of data for the two sites.

  Example: If a woman was diagnosed with cancers in both lip and larynx, then she counts as 2 cases of head and neck cancer. When calculating mean or median age at diagnosis, her age will be included once for cancers of lip and oral cavity and once for cancers of larynx. Her age would therefore be included twice in the calculation of mean or median age for head and neck cancer taken as one group.

- If the same person was diagnosed on two or more occasions with cancers in the same site, then that person counts as only one case, and the date of diagnosis will be based on the earliest diagnosis.

  Example: If the same person had a primary lung cancer first in 2000 and then again 2001, then he or she is counted as one case of lung cancer diagnosed in 2000.

- Cancers belonging to different morphology groups are considered distinct and are counted separately even if they occur on the same site within the same person (see "Cancer - By Morphology Group").

  Example: If a woman has 2 morphologically distinct primary cancers - an adenocarcinoma and a lymphoma - on the same breast, then she counts as 2 cases of breast cancers.

Diagnosis

Confirmation of cancer through clinical or histological tests. When available, the date of histological diagnosis is taken as the date of diagnosis. In the absence of histological diagnosis, then the date of clinical diagnosis is taken as the date of diagnosis.

Incidence

The number of new cases of invasive cancers among Queensland residents over a given period of time.

See Cancer and Cancer Counting Rules for more information.

Incidence per 100K

Incidence per 100,000 Queensland population.

Incidence ASR Aust per 100K

Incidence rate standardised to the age distribution of Australia in 2001, expressed per 100,000 Queensland population.

See ASR for more information.

Incidence ASR World per 100K

Incidence rate standardised to the age distribution of the World Standard Population in 1960, expressed per 100,000 Queensland population.

See ASR for more information.

Incidence ASR USA/Europe/Canada per 100K

Incidence rate standardised to age distribution of USA (2000), Europe, and Canada (1991), expressed per 100,000 Queensland population.

See ASR for more information.

Indices of Data Quality

- Histological Verification (HV %) – the proportion of cases registered which had histological verification of diagnosis.

- Death Certificate Only (DCO %) – the proportion of cases registered for which no information was available other than a statement on death certificate that the deceased died from or with cancer.

- Mortality to Incidence Ratio (M/I%) – the comparison of the number of deaths attributed to a specific cancer in a defined population with the number of cases of the same cancer registered during the same period in the same population.

Median age

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

See Age for more information.

Mortality

The number of persons who died from an invasive cancer that was first diagnosed while they were residents of Queensland.

By this definition, the following cases are not counted as cancer mortality for Queensland:

- Anyone who died in Queensland from a cancer that was first diagnosed outside Queensland
- Anyone who was first diagnosed with a cancer in Queensland but died from causes other than cancer

This definition is different from that used by the Australian Bureau of Statistics (ABS) which assigns mortality to the state where death was registered.

An individual can be counted as cancer mortality only once, unlike incidence where the same person can count as two or more cases of new cancers.

Mortality per 100K

Mortality per 100,000 Queensland population.

Mortality ASR Aust per 100K

Mortality rate standardised to the age distribution of Australia in 2001, expressed per 100,000 Queensland population.

See ASR for more information.

Mortality ASR World per 100K

Mortality rate standardised to the age distribution of the World Standard Population in 1960, expressed per 100,000 Queensland population.

See ASR for more information.

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Mortality rate standardised to age distribution of USA (2000), Europe, and Canada (1991), expressed per 100,000 Queensland population.

See ASR for more information.

Potential Years of Life Lost (PYLL)

"Potential Years of Life Lost (PYLL) estimates the total number of years of life lost due to a premature death from cancer. Three of the measures for PYLL relate to reference ages of 75, 80 and 85. These measures report the number of years of life lost due to cancers deaths occurring prior to the relevant reference age. The alternative method employed for the PYLL measure uses experimental life tables developed by Queensland Health's Indigenous Information Strategy Team to reflect varying life expectancies based on a person's age at death, their indigenous status and their remoteness.

Residual Life Expectancy is the average number of years of life lost per person.

Prevalence

The number of people living with cancer at a given point in time.

Cancer prevalence is difficult to estimate at population level. This is because the number of people who undergo treatment for cancer and are subsequently cured (and therefore no longer living with cancer) is usually unknown. In the absence of this information, cancer prevalence is estimated with the assumption that all surviving patients who were diagnosed with cancer over a period of time are still living with cancer at the end of that period.

Prevalence 5-years for a given calendar year is calculated by adding all persons diagnosed with cancer over that year and the 4-year period preceding it and subtracting all those who died on or before the end of that year.

Prevalence 25-years is calculated similarly for all surviving patients diagnosed over 25 years leading up to and including the given calendar year.

Prevalence Lifetime is the total number of surviving patients diagnosed since 1982 when the Queensland Cancer Registry began operating.

Prevalence per 100K

Prevalence per 100,000 Queensland population.

Queensland Hospital and Health Services

For residence, a Hospital and Health Service (HHS) is a geographic area defined by a collection of Statistical Area Level 2 (SA2)

For public hospital and health service facilities, a HHS is a group of Queensland Health owned and operated facilities that provide health resources and services mainly, but not exclusively, to people who reside in a particular geographic area.

Remoteness

Relative remoteness of residence based on the Australian Standard Geographical Classification (ASGC), with "Remote" and "Very Remote" categories merged into one group and the "Migratory" group excluded.

Remoteness Group
Major City
Inner Regional
Outer Regional
Remote & Very Remote

Click here for more information about ASGC remoteness categories.

Residence

Place of usual residence at time of diagnosis, classified according to Queensland Hospital and Health Services.

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

See also Remoteness.

Urban/Rural Region

Areas within Queensland have been designated as Urban or Rural based on the ARIA index. Areas falling within the Major Cities grouping are classified as Urban. This includes the greater Brisbane area, Ipswich, Gold Coast, the Sunshine Coast and Townsville. The remainder of Queensland is classified as Rural.

Residual Life Expectancy

See Potential Years of Life Lost (PYLL)

Socioeconomic Group

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

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

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

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

Statistical Area Level 2 (SA2)

Statistical Areas Level 2 (SA2s) are a medium-sized general purpose area built up from whole Statistical Areas Level 1 (SA1s). They replace the Statistical Local Areas (SLAs) defined by the Australian Standard Geographical Classification (ASGC). Their aim is to represent a community that interacts together socially and economically (*reference ABS*).

Survival

All-cause *crude* survival: the percentage of cancer cases still alive after a specified period of time from diagnosis.

OASys survival curves use the Kaplan-Meier estimator of the probability of surviving beyond a specific time from diagnosis, with failure or event defined as death from any cause.

Survival time

Number of months from diagnosis to death. See Diagnosis and Survival.

Relative survival

The ratio between the survival proportion who have a particular disease or condition against the expected survival of a comparable group from the general population, taking into account age, sex and year of diagnosis.

1-year relative survival

The percentage of cancer patients that are alive one year after their disease is diagnosed divided by the percentage of the general population of corresponding sex and age that are alive after one year.

2-year relative survival

The percentage of cancer patients that are alive two years after their disease is diagnosed divided by the percentage of the general population of corresponding sex and age that are alive after two years.

5-year relative survival

The percentage of cancer patients that are alive five years after their disease is diagnosed divided by the percentage of the general population of corresponding sex and age that are alive after five years.

Cause-specific survival

The percentage of a specified cause of death due to cancer in the absence of other causes of death.

Year

Calendar year based on different events depending on the measure.

If measure is...	*... then Year is calendar year at...*
Incidence	Diagnosis
Mortality	Death
Prevalence	Calendar year while alive e.g. a cancer patient who was alive on 31st December 2007 is included in the prevalence count for 2007 at his or her age that year.