

# Appendix E: Definition of breast cancer–related hospitalisations

For the purposes of examining the number of admitted patient separations that arose specifically due to invasive breast cancer and were directly related to treatment/care for breast cancer, ‘breast cancer-related hospitalisations’ were identified in this report as follows:

**Either** a *principal* diagnosis of invasive breast cancer (ICD-10 code of C50)

**OR** an *additional* diagnosis of breast cancer (ICD-10 code of C50) **AND** a principal diagnosis of one of the following ICD-10 ‘Z’ codes (with these Z codes falling within ICD-10 Chapter 21 ‘Factors influencing health status and contact with health services’):

- Follow-up examination after treatment for malignant neoplasms (Z08)
- Prophylactic immunotherapy (Z29.1)
- Other prophylactic immunotherapy (Z29.2)
- Prophylactic surgery for risk-factors related to malignant neoplasm – breast (Z40.00)
- Follow-up care involving plastic surgery of breast (Z42.1)
- Fitting and adjustment of external breast prosthesis (Z44.3)
- Adjustment and management of drug delivery or implanted device (Z45.1)
- Adjustment and management of vascular access device (Z45.2)
- Radiotherapy session (Z51.0)
- Pharmacotherapy session for neoplasm (Z51.1)
- Convalescence following radiotherapy (Z54.1)
- Convalescence following chemotherapy (Z54.2)
- Acquired absence of breast(s), not elsewhere classified (Z90.1).

Using data from the National Hospital Morbidity Database (NHMD) for 2007–08, Table E.1 shows the number of hospitalisations for each of the relevant ‘Z’ code principal diagnoses, as well as for those hospitalisations in which breast cancer was the principal diagnosis.

As noted in Chapter 8, not all hospitals in all states and territories formally admit patients for same-day chemotherapy services. Instead, in some states and territories, some patients are provided same-day chemotherapy on an outpatient (or non-admitted patient) basis. Such services are not captured in the NHMD. In particular, during the 1990s, hospitals in New South Wales began to apply this change in admission processes. In addition, hospitalisations data for the Australian Capital Territory from approximately 2003–04 reflect changed admission practices, as do data for South Australia from approximately 2007–08. Thus, the recorded data on this type of admitted patient service is not comparable over time.

**Table E.1: Hospitalisations for breast cancer by same-day and overnight status, females, 2007-08**

Diagnosis	Same-day hospitalisations		Overnight hospitalisations		Total hospitalisations	
	Number	Per cent	Number	Per cent	Number	Per cent
Invasive breast cancer as principal diagnosis	5,722	6.5	18,066	97.6	23,788	24.5
Invasive breast cancer as additional diagnosis AND principal diagnosis of:						
Follow-up examination after treatment for malignant neoplasms	3	0.0	1	0.0	4	0.0
Prophylactic immunotherapy	9	0.0	0	0.0	9	0.0
Other prophylactic immunotherapy	87	0.1	0	0.0	87	0.1
Prophylactic surgery for risk-factors related to malignant neoplasm—breast	2	0.0	13	0.1	15	0.0
Follow-up care involving plastic surgery of breast	23	0.0	173	0.9	196	0.2
Fitting and adjustment of external breast prosthesis	0	0.0	1	0.0	1	0.0
Adjustment and management of implantable infusion device or pump	4,115	4.7	158	0.9	4,273	4.1
Adjustment and management of vascular access device	2,025	2.3	16	0.1	2,041	2.0
Radiotherapy session	253	0.3	0	0.0	253	0.3
Pharmacotherapy session for neoplasm	75,314	86.0	21	0.1	75,335	68.8
Convalescence following radiotherapy	3	0.0	7	0.0	10	0.0
Convalescence following chemotherapy	4	0.0	49	0.3	53	0.1
Acquired absence of breast(s)	1	0.0	1	0.0	2	0.0
<b>Total breast cancer-related hospitalisations</b>	<b>87,561</b>	<b>100.0</b>	<b>18,506</b>	<b>100.0</b>	<b>106,067</b>	<b>100.0</b>

Source: National Hospital Morbidity Database, AIHW.

To illustrate the effect on the data of this change in admission processes, data on the number of hospitalisations of women for same-day chemotherapy sessions (referred to as 'Pharmacotherapy sessions for neoplasms' in ICD-10) are shown for each state and territory over time in Table E.2. While the number of such sessions more than doubled over the period from 1999-00 to 2007-08 in Victoria (111% increase), Queensland (109%), Western Australia (122%), Tasmania (214%) and the Northern Territory (482%), the level of change is much smaller for the other three states and territories (73% increase in New South Wales and a 17% increase in South Australia, with an overall decrease of 16% in the Australian Capital Territory).

**Table E.2: Number of same-day 'Pharmacotherapy sessions for neoplasm'<sup>(a)</sup> for breast cancer-related hospitalisations by state and territory, females, 1999-00 to 2007-08**

<b>Year</b>	<b>NSW</b>	<b>Vic</b>	<b>Qld</b>	<b>WA</b>	<b>SA</b>	<b>Tas</b>	<b>ACT</b>	<b>NT</b>	<b>Total</b>
1999-00	5,682	13,101	9,174	4,787	4,439	336	1,229	119	<b>38,867</b>
2000-01	4,939	13,553	11,293	5,604	5,935	143	1,731	136	<b>43,334</b>
2001-02	5,657	14,460	12,419	6,570	6,070	566	1,538	176	<b>47,456</b>
2002-03	6,096	16,428	13,802	8,326	6,592	743	1,580	455	<b>54,022</b>
2003-04	6,175	18,365	14,739	8,868	6,690	945	1,541	585	<b>57,908</b>
2004-05	7,533	24,090	14,741	9,946	7,079	1,007	876	523	<b>65,795</b>
2005-06	7,316	23,865	15,170	9,827	7,131	1,251	928	522	<b>66,010</b>
2006-07	8,866	27,311	17,684	11,240	7,815	1,236	880	781	<b>75,813</b>
2007-08	9,814	27,702	19,215	10,620	5,178	1,054	1,038	693	<b>75,314</b>

(a) ICD-10 code of Z51.1.

Source: National Hospital Morbidity Database, AIHW.

# Glossary

This section provides a general description of the terms used in this report. The terms have been defined in the context of this report; some terms may have other meanings in other contexts.

**Additional diagnosis:** a condition or complaint either coexisting with the principal diagnosis or arising during the episode of care.

**Administrative databases:** observations about events that are routinely recorded or required by law to be recorded. Such events include births, deaths, hospital separations and cancer incidence. Administrative databases include the Australian Cancer Database, the National Mortality Database and the National Hospital Morbidity Database.

**Admitted patient:** a person who undergoes a hospital's formal admission process to receive treatment and/or care. Such treatment or care can occur in hospital and/or in the person's home (as a 'hospital-in-home' patient).

**Age-specific rate:** a rate for a specific age group. The numerator and denominator relate to the same age group.

**Age-standardisation:** a method of removing the influence of age when comparing populations with different age structures. This is usually necessary because the rates of many diseases vary strongly (usually increasing) with age. The age structures of the different populations are converted to the same 'standard' structure; then the disease rates that would have occurred with that structure are calculated and compared.

**Associated cause of death:** any other condition or event that was not related to the underlying cause of death but was still considered to contribute to the individual's death.

**Average length of stay:** the average (mean) number of patient days for admitted patient episodes. Patients admitted and separated on the same date are allocated a length of stay of one day.

**Benign:** tumours that may grow larger but do not spread to other parts of the body.

**Cancer (malignant neoplasm):** a large range of diseases, in which some of the body's cells become defective, begin to multiply out of control, can invade and damage the area around them, and can also spread to other parts of the body to cause further damage.

**Carcinoma:** a cancer that begins in the lining layer (epithelial cells) of organs such as the breast.

**Confidence interval:** a statistical term describing a range (interval) of values within which we can be 'confident' that the true value lies, usually because it has a 95% or higher chance of doing so.

**Crude rate:** the number of events in a given period divided by the size of the population at risk in a specified time period.

**Crude survival:** the proportion of people alive at a specified point in time subsequent to the diagnosis of breast cancer.

**DALYs (disability-adjusted life years):** the sum of the years of life lost due to premature mortality (YLL) in the population and the equivalent years of 'healthy' life lost due to disability (YLD) for all new breast cancer cases.

**Death due to cancer:** a death where the underlying cause is indicated as cancer.

**Diagnostic mammography:** an X-ray exam of the breasts that is performed in order to evaluate a breast complaint or abnormality detected by a physical exam or screening mammography.

**Ductal carcinoma in situ:** a non-invasive tumour of the mammary gland (breast) arising from cells lining the ducts.

**Health expenditure:** includes expenditure on health goods and services (e.g. medications, aids and appliances, medical treatment, public health, research) which collectively are termed current expenditure; and on health-related investment which is often referred to as capital expenditure.

**Hospitalisation:** see *Separation*.

**Incidence:** the number of new cases (of an illness or event, and so on) occurring during a given period.

**International Statistical Classification of Diseases and Related Health Problems:** the World Health Organization's internationally accepted classification of death and disease. The tenth revision (ICD-10) is currently in use. ICD-10-AM is the Australian modification of ICD-10; it is used for diagnoses and procedures recorded for patients admitted to hospitals.

**Invasive:** see *Malignant*.

**Lead time:** the interval between the time a breast cancer is diagnosed by screening and the time when the breast cancer would otherwise have been diagnosed in the absence of screening.

**Length of stay:** duration of hospital stay, calculated by subtracting the date the patient was admitted from the day of separation. All leave days, including the day the patient went on leave, are excluded. A same-day patient is allocated a length of stay of 1 day.

**Limited-duration prevalence:** the number of people alive at a specific time who have been diagnosed with breast cancer over a specified period (such as the previous 5 or 25 years).

**Lymph nodes:** masses of lymphatic tissue, often bean-shaped, that produce lymphocytes and through which lymph filters. These are located throughout the body.

**Malignant:** a tumour with the capacity to spread to surrounding tissue or to other sites in the body.

**Mammogram:** the X-ray image that is created during mammography.

**Mammography:** the process of using low-dose X-rays to visualise the internal structure of the breast; mammography can be used for screening or diagnostic purposes.

**Metastasis:** see *Secondary cancer*.

**Mortality due to cancer:** the number of deaths which occurred during a specified period (usually a year) for which the underlying cause of death was recorded as cancer.

**Mortality-to-incidence ratio:** the ratio of the age-standardised mortality rate for breast cancer to the age-standardised incidence rate for breast cancer.

**New cancer case:** see *Incidence*.

**Neoplasm:** an abnormal ('neo', new) growth of tissue. Can be 'benign' (not a cancer) or 'malignant' (a cancer). Also known as a tumour.

**Nodal status:** indicates whether excised lymph nodes were found to have cancer in them (positive) or not (negative) (see Marr et al. 1997).

**Overnight patient:** an admitted patient who receives hospital treatment for a minimum of 1 night (that is, is admitted to, and separates from, hospital on different dates).

**Patient days:** the total number of days for admitted patients who separated during a specified reference period. A same-day patient is allocated a length of stay of 1 day.

**Population estimates:** official population numbers compiled by the Australian Bureau of Statistics at both state and territory and statistical local area levels by age and sex, as at 30 June each year. These estimates allow comparisons to be made between geographical areas of differing population sizes and age structures.

**Prevalence (or complete prevalence):** the total number of people alive at a specific date who have ever been diagnosed with a particular disease such as breast cancer.

**Primary cancer:** a tumour that is at the site where it first formed (also see *secondary cancer*).

**Principal diagnosis:** the diagnosis established after study to be chiefly responsible for occasioning an episode of admitted patient care.

**Procedure:** a clinical intervention that is surgical in nature, carries a procedural risk, carries an anaesthetic risk, requires specialised training and/or requires special facilities or equipment available only in the acute care setting.

**Relative survival:** the ratio of observed survival of a group of persons diagnosed with breast cancer to expected survival of those in the corresponding general population after a specified interval following diagnosis (such as 5 or 10 years).

**Risk factor:** any factor that represents a greater risk of a health disorder or other unwanted condition or event. Some risk factors are regarded as causes of disease, others are not necessarily so. Along with their opposites, protective factors, risk factors are known as 'determinants'.

**Same-day patient:** a patient who is admitted to, and separates from, hospital on the same date.

**Screening:** the performance of tests on apparently well people in order to detect a medical condition at an earlier stage than would otherwise be the case.

**Screening mammography:** an X-ray exam of the breasts on 'healthy' asymptomatic women in order to detect tumours at an earlier stage than would otherwise be the case.

**Secondary cancer:** a tumour that originated from a cancer elsewhere in the body. Also referred to as a metastasis.

**Separation:** An episode of care for an admitted patient, which may include a total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay that begins or ends in a change of type of care (e.g. from acute to rehabilitation). In this report, separations are also referred to as hospitalisations.

**Statistical significance:** an indication from a statistical test that an observed difference or association may be significant or 'real' because it is unlikely to be due just to chance. A statistical result is usually said to be 'significant' if it would occur by chance only once in twenty times or less often. See Appendix B for more information.

**Stage:** the extent of a cancer in the body. Staging is usually based on the size of the tumour, whether lymph nodes contain cancer, and whether the cancer has spread from the original site to other parts of the body.

**Symptom:** any indication of a disorder that is apparent to the person affected.

**Tumour size:** the largest diameter of the invasive part of the breast tumour.

**Underlying cause of death:** the disease or injury that initiated the sequence of events leading directly to death.

**YLD (years of healthy life lost due to disability):** for each new case of breast cancer, YLD equals the average duration of the breast cancer (to remission or death) multiplied by a severity weight for breast cancer (which depends upon its disabling effect over the disease duration).

**YLL (years of life lost):** for each new case, YLL equals the number of years between premature death and the standard life expectancy for the individual.

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