

National Healthcare Agreement: PI 44-Survival of people diagnosed with cancer, 2012 QS

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Identifying and definitional attributes

Metadata item type:	Data Quality Statement
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Data quality

Data quality statement summary:

- Data are currently only available from the Australian Institute of Health and Welfare (AIHW) at the national level. To date this indicator has been produced by the AIHW irregularly, according to funded ad-hoc requests.
- The indicator cannot be reported by Indigenous status this year as Indigenous identification in the data is not adequate to support analysis or generation of life tables.
- The indicator as currently specified is not age adjusted which limits comparability across groups and over time.
- Cancer staging and treatment data are not currently available nationally and cancer survival analysis would benefit greatly from this additional information.
- Cancer survival varies by cancer type. As this indicator is based on all cancers (except two types of skin cancer), differences in the relative incidence of different types of cancer between groups may affect comparability.

New method for calculating survival

- For the third reporting cycle (2012 CRC report), the period method has been used to calculate relative survival. Previously, survival data for PI 44 were taken from the report *Cancer survival and prevalence in Australia: cancers diagnosed from 1982 to 2004* and were calculated using the cohort method. The cohort method produces relative survival estimates for a distinct cohort of people diagnosed with cancer (for example, those diagnosed in 1998–2004). In contrast, the period method produces relative survival estimates for a distinct follow-up period, during which people were at risk of dying (for example, those who were at risk of dying in 2006–2010). The main difference between the two methods is the selection of the years of diagnosis and follow-up. Because the period method is based on more recent years of follow-up, it produces survival estimates that are more up-to-date and accurate for a person diagnosed with cancer today. For this reason, and for comparability because the period method is increasingly used in major cancer survival reports, this method was selected for PI 44.
- The period survival estimates for the 2012 CRC report should not be compared with the cohort survival estimates from previous CRC reports. Given improvements in survival over time and the fact that the period method uses more recent data, the latest survival estimates produced by the period method will be higher than those produced by the cohort method. For this reason, baseline data have been recalculated using the period method (PI44.2). This approach uses an at-risk period of 2002–06, and is based on data available at the time the original baseline survival data had been calculated.

Institutional environment: The AIHW has calculated this indicator with assistance from the Australasian Association of Cancer Registries (AACR).

Cancer incidence data used for the numerator are supplied by cancer registries with additional death information updated from linkage to the National Death Index (NDI). Expected survival data in the denominator are calculated using life tables from the Australian Bureau of Statistics (ABS) and data from the National Mortality Database (NMD). Both data sources are robust and the matching of numerator to denominator is appropriate.

Numerator

Cancer incidence data are supplied to the AIHW by state and territory cancer registries under a protocol last revised in 2011. These data are compiled to form the Australian Cancer Database (ACD). All jurisdictions have legislation requiring mandatory reporting of all cancer cases with the exception of basal cell carcinoma and squamous cell carcinoma. This means cancer incidence ascertainment is complete for all other cancers.

Cancer incidence data sent to the AIHW already contain some mortality information. In addition to this, cancer records on the ACD are linked to the NDI to obtain date of death. The NDI is a national compilation of data on all deaths occurring in each jurisdiction. Data are supplied by Registrars of Births, Deaths and Marriages (RBDM) from each state and territory and this results in a database which contains all deaths occurring in Australia since 1980. RBDM have legislation to collect information on all deaths occurring in their jurisdiction. NDI data are provided by state and territory RBDM to AIHW on a monthly basis under an MOU. This is a robust data source and appropriate to apply to cancer data.

Denominator

Life tables are needed to calculate expected survival in the general population although life tables by remoteness or socioeconomic status are not readily available. Therefore it is necessary to derive approximate life tables for these subpopulations. In order to build a life table for subpopulation 'S', the following two pieces of information are required for each combination of calendar year, sex and 1-year age group:

- the mid-year population of S for that calendar year, sex and age
- the number of deaths in S for that calendar year, sex and age.

The methods used by AIHW to construct those data and the subsequent life tables are explained on pp 73–76 of the publication *Cancer survival and prevalence in Australia: cancers diagnosed from 1982 to 2004*.

The AIHW is Australia's national agency for health and welfare statistics and information. The role of the AIHW is to provide information on Australia's health and welfare, through statistics and data development that inform discussion and decisions on policy and services.

The AIHW works closely with all state, territory and Australian government health authorities in collecting, analysing and disseminating data. However, the AIHW is an independent statutory authority within the Health and Ageing portfolio, and is responsible to the Minister for Health and Ageing. The Institute is governed by a Board, which is accountable to the parliament of Australia through the Minister.

When errors are found in published data, those errors are corrected immediately with the revised version posted on the AIHW website and where necessary in online tables and online interactive data cubes. Corrections are documented on the AIHW website.

Timeliness: Data submitted for the 2012 CRC report have not been previously published. The indicator is based on the survival of people diagnosed with cancer up to the end of 2007 and followed up between 2006 and 2010.

The collation of cancer incidence data at cancer registries is a complex process which includes vetting data from numerous sources. The cancer registry processes ensure good quality data but to achieve this quality, a significant time lag between cancer diagnosis and finalisation of an incident case in the cancer registry transpires. Once data are supplied to the AIHW, cancer diagnoses which have been reported to more than one jurisdiction are identified and the data adjusted accordingly. This ensures a high quality national cancer incidence dataset. The time from cancer diagnosis to availability at the national level is approximately three years.

Accessibility: Previously, the AIHW with the assistance of the AACR and funding from Cancer Australia has published survival data in *Cancer survival and prevalence in Australia: cancers diagnosed from 1982 to 2004*. This report is available on the AIHW website where it can be downloaded and printed without charge. Hard copies are also available for purchase from the AIHW. The AIHW is also planning to publish a new survival report in 2012, containing the latest survival data, which can be accessed both in electronic and hard copy.

Interpretability: Calculation of relative survival is complex and the concept may be confusing to some users. Information on how relative survival has been calculated and how to interpret it is available in the publication *Cancer survival and prevalence in Australia: cancers diagnosed from 1982 to 2004*. Information on all of the AIHW held data sets (ACD, NMD & NDI) is available on the AIHW website. Information on ABS data is available on the ABS website. Extensive information is also available on cancer coding and interpretation of cancer data both electronically and in hard copy.

Relevance: The data used to calculate this PI at the national level are of high quality. While it is possible to calculate relative survival using different methods, the method used to calculate the indicator this year is adequate for reporting against the indicator at the national level.

Accuracy:

Inaccurate responses may occur in all data provided to the AIHW, and the AIHW does not have direct access to data held by cancer registries ABS or RBDM to determine the accuracy of the data provided. However, each of these data sources has broad population coverage and local data checking and validation processes leading to high quality data. In addition, the AIHW undertakes extensive validations on receipt of data. Data are checked for compliance with data definitions, logical consistency and historical consistency. Where possible, data in individual data sets are checked with data from other data sets. Potential errors are queried with jurisdictions, and corrections and resubmissions may be made in response to these edit queries. Registries continually update their historical data in the light of new information (such as when a new pathology report or a death notification triggers a revision of old information) and when AIHW is advised of such changes, these are incorporated in the ACD leading to slight changes over time.

Errors may occur during the processing of data by the states and territories or at the AIHW. Processing errors prior to data supply may be found through the validation checks applied by the AIHW. This PI is calculated on data that have been reported by the AIHW. Prior to publication, the results of analysis are referred back to jurisdictions for checking and clearance. Any errors found by jurisdictions are corrected once confirmed. The AIHW does not adjust the data to correct for missing or incorrect values unless agreed by the jurisdiction supplying the data. Where errors are found post publication, the AIHW corrects as soon as possible, with resubmission of data by the affected states or territories as required.

Other factors which may affect accuracy are:

- For analyses by remoteness and socioeconomic status, there may be differences in the definition for 'usual residence'. Census data are rigorous when applying the definition for 'usual residence'. However, mortality data may use the place that clients are living at the time of their treatment. It is common for people from remote and outer regional areas to move to major centres at the time of treatment for a significant illness. This will result in them being reported for example as 'Major cities' in death data, but as 'Remote' in census counts. The discrepancy becomes evident when comparing mortality rates, which may be lower in very remote areas and inconsistent with the population age structure from census estimates. The poorer outcome for more remote localities could be a significant underestimate of the true discrepancy, particularly in small jurisdictions.
- For the denominator, 2007 expected survival probabilities of the general population were used as proxies for the 2008–2010 survival probabilities, as mortality data from 2008 and onwards were not available at the time of calculation.

Coherence:

As discussed in detail above, the current survival estimates were calculated using the period method of survival, which produces slightly different—but more up-to-date—results compared with the cohort method. Survival estimates can also vary due to differences in cancer registration practices, data exclusion criteria, time periods of analysis and methods of calculation.

Source and reference attributes

Submitting organisation: Australian Institute of Health and Welfare

Relational attributes

Related metadata references:

Supersedes [National Healthcare Agreement: P44-Survival of people diagnosed with cancer, 2010 QS](#)
[Health](#), Superseded 08/06/2011

Has been superseded by [National Healthcare Agreement: PI 24-Survival of people diagnosed with notifiable cancers, 2015 QS](#)
[Health](#), Superseded 31/01/2017

Indicators linked to this Data Quality statement:

[National Healthcare Agreement: PI 44-Survival of people diagnosed with cancer, 2012](#)
[Health](#), Superseded 25/06/2013

