Australian Government
Australian Institute of Health and Welfare

Radiotherapy in Australia

Report on the second year of a pilot collection 2014–15

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Authoritative information and statistics to promote better health and wellbeing

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Report on the second year of a pilot collection

2014–15

Australian Institute of Health and Welfare
Canberra
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Contents

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- David Fraser (NSW Ministry of Health)
- Anthony Arnold (NSW Ministry of Health)
- Jennie Baxter (Princess Alexandra Hospital, Queensland Health)
- Rachel Kearvell (WA Health)
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Karen Malam and Rachel Muntz at the Australian Institute of Health and Welfare (AIHW) prepared this report, with the assistance of Clara Jellie, Jenny Webb and Melanie Grimmond, and with expert advice from Jenny Hargreaves.

Abbreviations

ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
AIHW	Australian Institute of Health and Welfare
DSS	data set specification
ICD-10-AM	International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Australian Modification
LINAC	Linear accelerator
METeOR	AIHW's Metadata Online Registry
NRWTD	National Radiotherapy Waiting Times Database
NSW	New South Wales
NT	Northern Territory
Qld	Queensland
RANZCR	Royal Australian and New Zealand College of Radiologists
RWT	radiotherapy waiting times
SA	South Australia
SA2	ABS Statistical Area Level 2, 2011
Tas	Tasmania
Vic	Victoria
WA	Western Australia

Symbols

–	nil or rounded to zero
. .	not applicable
n.a.	not available
n.p.	not publishable because of small numbers, confidentiality or other concerns about the quality of the data

Summary

This report presents data from the second year of the pilot data collection on radiotherapy treatment which covers courses that started in 2014–15 and the waiting times for those treatments. Sixty-six out of 74 (89%) radiotherapy treatment sites in Australia provided data, including 100% of 40 public sites and 76% of 34 private sites.

Radiotherapy activity

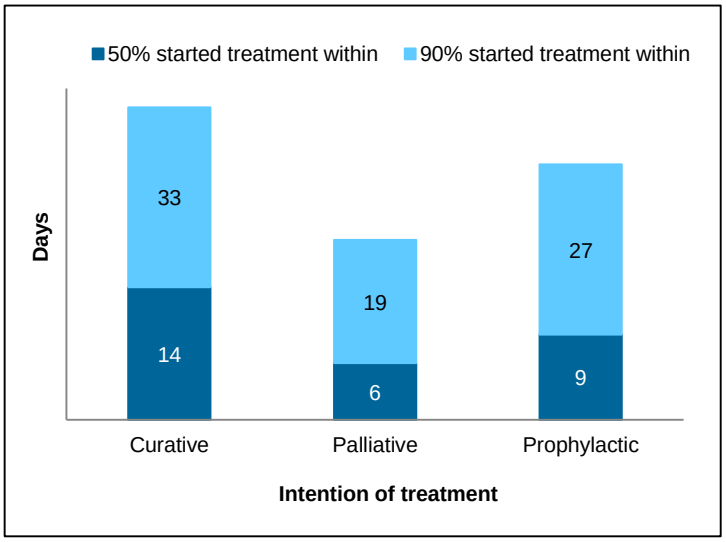
Participating providers reported data about almost 56,400 courses of radiotherapy that began in 2014–15. These data showed that:

- public providers delivered 71% of courses; private providers delivered 29%
- breast, prostate and lung cancers were the most common reasons for radiotherapy
- 69% of patients starting a course of radiotherapy treatment were aged 60 and over
- more than half (58%) of the radiotherapy courses were intended to cure disease, 38% of courses were delivered for palliative purposes and 2.7% were to prevent disease (prophylactic)
- 2.1% of courses were for patients who were assessed as emergency cases (that is, radiation treatment should begin within 24 hours). Most of these cases were palliative.

Waiting times

In 2014–15, waiting times data were available for 93% of courses reported to the collection. Across all courses of radiotherapy for which data were available, 50% of patients received treatment within 10 days of being assessed as ready for care, and 90% received treatment within 28 days.

- Non-emergency patients reported waiting times which were the same as for all courses, as these non-emergency treatments represent the vast majority of courses. For those patients who were clinically assessed as emergency patients, 91% began treatment on the same day or the next day.
- The figure shows the number of days within which 50% of patients and 90% of patients commenced treatment (by intention of treatment).
- 50% of patients with a principal diagnosis of prostate cancer or breast cancer started treatment within 10 days; 90% of patients with prostate cancer started treatment within 33 days, and 90% of patients with breast cancer started treatment within 30 days.



1 Introduction

This report presents data from the second year of Australia's national radiotherapy waiting times pilot collection. It provides information about courses of radiotherapy that began in 2014–15 and discusses aspects of the quality of the data. The data cover key characteristics of patients who received treatment, and information about how long patients waited for radiotherapy treatment once they were 'ready for care' (See Box 1.2). Radiotherapy is an important type of cancer treatment, and delays in treatment can lead to poorer clinical outcomes—Box 1.1 provides more information on radiotherapy.

Data from the first pilot collection was reported in *Radiotherapy in Australia: report on a pilot data collection 2013–14* (AIHW 2015).

Box 1.1: What is radiotherapy?

Radiotherapy uses radiation directed at a localised area to kill or damage cancer cells. It is a well-established, effective and safe way to treat cancer and a small number of other conditions. There are several types of radiotherapy. This report focuses on megavoltage external beam radiotherapy delivered by linear accelerator machines.

Radiotherapy is a highly specialised treatment that radiation therapists deliver, supervised by a radiation oncologist (in consultation with a multidisciplinary team including other medical and allied health practitioners), and requiring specialised equipment. Radiotherapy may be used in conjunction with other treatments such as surgery or chemotherapy, or may be used on its own. Approximately one-half of all patients with cancer would benefit from external beam radiotherapy (RANZCR 2015).

Radiotherapy is usually given as one outpatient treatment or a series of outpatient treatments over a defined period, though under some circumstances patients may be treated as admitted patients. Whether the treatment is delivered with a curative, prophylactic (preventive) or palliative intent influences the optimal timeframe for its implementation (see Box 2.2).

1.1 The National Radiotherapy Waiting Times Database

The National Radiotherapy Waiting Times Database (NRWTD) collates data provided to the AIHW by state and territory health authorities, and most private radiotherapy providers, based on the data set specification (DSS) for radiotherapy waiting times. The metadata for data items included are documented in the AIHW's Metadata Online Registry (METeOR <meteor.aihw.gov.au>). The data items included in the Radiotherapy Waiting Times (RWT) DSS (and their METeOR identifiers) are listed in Table 1.1.

Contribution of data to the DSS has been voluntary, for both public and private providers during the 2 years of the pilot collection, covering data from 2013–14 (AIHW 2015) and 2014–15 (outlined in this publication). It has now been agreed that a RWT National Minimum Data Set will supersede the DSS for data from 1 July 2015 onwards, making it mandatory for public providers to supply data to the NRWTD. Participation by private providers will remain voluntary.

Table 1.1: Radiotherapy Waiting Times DSS data elements

Data element name	Description	METeOR identifier
Establishment identifier	Identifies the individual service at which the treatment occurred	269973
Establishment location	Location of the radiotherapy site	457289
Ready-for-care date	The date, in the opinion of the treating clinician, on which a patient is ready to commence treatment	448141
Radiotherapy start date	The date on which a patient commences a course of radiotherapy treatment	448147
Person identifier	Person identifier unique within an establishment or agency	290046
Emergency status	An indicator of whether the treatment required for the patient is clinically assessed as an emergency	448126
Intention of treatment	The reason treatment is provided to a patient (prophylactic, curative or palliative)	583857
Principal diagnosis	The diagnosis established after study to be chiefly responsible for occasioning a patient's service event or episode	514304
Sex	The biological distinction between male and female	287316
Date of birth	The date of birth of the person	287007
Indigenous status	Whether a person identifies as being of Aboriginal or Torres Strait Islander origin	291036
Patient area of usual residence	The geographical region in which the patient usually resides	469909

The primary purpose of the collection is to obtain data on waiting times. Therefore, records reported to the database in each reporting period represent courses of radiotherapy that began in that reference period (that is, where the waiting period ended in the reporting period; in this report the reference period is 1 July 2014 to 30 June 2015).

Records for patients who were already receiving treatment at the start of the reporting period are not included in the data reported, and neither are records for patients who were still waiting to begin treatment at the end of the reporting period; died while waiting; or were removed from a waiting list for any other reason. No further information about the course of radiotherapy (for example, dosage, number of treatments, or end date of the treatment) is reported.

Box 1.2: Calculation of waiting time from ready-for-care date

The **waiting time** is the number of days from when the patient is ready to be treated with radiotherapy in the opinion of the treating clinician ('ready for care') until the day the patient first receives radiotherapy treatment—that is, the number of days between the *Ready-for-care date* and the *Radiotherapy start date*. Reported waiting times include 'non-working days' (such as weekends or public holidays) and days on which a service was not able to provide services (such as when key staff are unavailable or where there has been equipment failure).

Other waiting periods, such as the time between a person's contact with their general practitioner and their first appointment with a medical oncologist, and the time between receipt of the patient's first referral to a radiation oncologist to the date of that patient's first consultation with a radiation oncologist, are not collected in this data set. Appendix 3 provides a diagram of different points in a typical treatment pathway for radiotherapy patients to show how the waiting times reported here relate to these different components of the treatment pathway.

(continued)

Box 1.2 (continued): Calculation of waiting time from ready-for-care date

The **ready-for-care date** is set by the treating clinician and takes into account things such as the need for prior treatment or post-operative healing. If the patient is not ready for care on this date for personal reasons, the ready-for-care date will be set at a later time, when the patient states they are ready. Service bottlenecks or peak periods of demand that may affect ease of access to radiotherapy services should not influence clinical decisions around the setting of ready-for-care dates. Treatment may be delayed due to waiting times in pre-treatment imaging or testing, treatment service availability, staff shortages, equipment breakdown or even a lack of available accommodation for a patient travelling for treatment. Factors that are, and are not, expected to influence the ready-for-care date are described in the metadata for '*Ready-for-care date*' available in METeOR (METeOR ID: 448141).

Courses of radiotherapy

The unit of collection is a course of radiotherapy that began in the reporting period (see Box 1.3), which for this report is the 2014–15 financial year. Numbers of patients cannot be counted, because individuals may have more than 1 course of radiotherapy in a year.

Box 1.3: What is a course of radiotherapy in this collection?

The RWT DSS defines a course of radiotherapy (METeOR ID: 448151) as follows:

- A course of radiotherapy is a series of 1 or more external beam radiotherapy treatments prescribed by a radiation oncologist.
- A course of radiotherapy should have an associated ready-for-care date and, when treatment starts, a radiotherapy start date.
- A patient can receive more than 1 course of radiotherapy at the same time (courses that are simultaneous or overlap). These courses may have the same or different ready-for-care dates and the same or different radiotherapy start dates.
- Only a radiation oncologist can prescribe a course of radiotherapy. A prescription is not equal to a course of radiotherapy. A prescription may be for 1 or more courses of radiotherapy. A prescription outlines the anatomical region/sites to be treated and is for a prescribed dose at a defined volume (fractionation) over a defined period.
- One course of radiotherapy may cover multiple phases and multiple treatment plans.

Collection scope and coverage

This pilot collection was open to all health-care establishments that provide megavoltage external beam radiotherapy treatment, and both public and private providers were invited to participate. Sixty-six out of 74 radiotherapy treatment sites provided data relating to treatment that began in 2014–15 (Table 1.2, see details at Appendix 1), representing 89% of radiotherapy sites operating in Australia. All of the 40 public treatment sites in Australia participated—37 of these provided waiting times data, and 3 sites (all in Western Australia) did not provide waiting times data, but did provide activity data that described the number of courses of radiotherapy provided and the characteristics of patients who received these treatments.

Twenty-six out of 34 private sites (76%) are included in the collection—all reported both waiting times and activity data.

The level of coverage for 2014–15 has increased compared with 2013–14, when 37 out of 38 public treatment sites (97%) participated and 16 out of 34 private sites (47%) participated.

Sector

In this report, 'sector' relates to whether the site at which treatment is delivered (facility or individual service location) is publicly or privately owned. Private providers under contract to deliver services exclusively to public patients manage some sites; these providers are considered to be public providers for the purposes of this report. Some private sites have a contract or partnership arrangement in place to provide services to public patients, but they do not exclusively provide services to them—they have a public/private mix. In this report these services are characterised as private, along with services that provide services to private patients only. Some jurisdictions have no private radiotherapy providers. This collection does not include information on the source of funding for the patient (that is, whether they are a public or private patient).

Table 1.2: Number of radiotherapy services participating in the 2014–15 pilot collection, states and territories and sector

	Number of participating sites/providers			Number of non-participating sites/providers		
	Public sites[(a)]	Private sites	Private providers	Public sites[(a)]	Private sites	Private providers
NSW	17	9	4	0	0	0
Vic	10	8	2	0	0	0
Qld	4	5	1	0	6	1
WA	4[(b)]	0	0	0	2	1
SA	1	4	1	0	0	0
Tas	2	0	0	0	0	0
ACT	1	0	0	0	0	0
NT	1	0	0	0	0	0
Australia	**40**	**26**	**6**[(c)]	**0**	**8**	**1**[(c)]

(a) Comprises public sites which treat public and private patients and private sites that exclusively treat public patients.

(b) Three of these sites provided information on radiotherapy activity, but were unable to contribute waiting times information for 2014–15.

(c) Totals are not the sum of the rows because some private providers operate across jurisdictions and deliver services at more than 1 site.

Data quality

The data collected for this pilot data set were retrospective (that is, data were drawn from existing information systems and requested after the reporting period), so some providers may not have recorded all data items or may not have recorded items according to the agreed definitions—this may particularly affect assignment of ready-for-care dates (see Chapter 3 for more information). This should be taken into account when considering the reported results. Nevertheless, data quality for 2014–15 has improved since 2013–14.

In 2013–14 and 2014–15 public provider activity in South Australia was understated due to technical issues with the data extraction process. Waiting times in South Australia may also have been affected by data quality issues associated with the setting of ready-for-care dates.

In 2014–15, data for public and private service providers in Victoria were contributed on a different basis to other data suppliers—Victoria provided data for courses of radiotherapy that *ended* (not started) in the collection period. This is as a result of Victoria sourcing data for the pilot data collection from its state-wide radiotherapy data set, which collects unit-level data on the basis of course completion. As these records are considered to be broadly equivalent to data contributed by other data suppliers, all data that Victoria reported have been included in this report. However, some care is needed in comparing 2014–15 data with 2013–14 data for Victorian public providers as, although the same issue occurred in the 2013–14 data, there was an under-count of courses for Victorian public providers in that year's data due to the non-inclusion of records where courses started prior to the reference period.

Some service providers had difficulty providing some data (for example, geographic codes to denote the area where the patient usually lives), so there are missing data for some items, as shown in Chapter 2.

Further details on data quality are available in Appendix 2.

Data presentation

This report presents data in 2 chapters:

- Chapter 2 reports information about radiotherapy activity (numbers of courses of radiotherapy that began in the collection period and the characteristics of patients who received these treatments)
- Chapter 3 provides data on waiting times for radiotherapy.

Where data are presented by sector, data are disaggregated by state/territory for public providers, but data on private providers are presented as (national) totals only. This is because, due to the lower numbers of private providers participating in the data collection, numbers and rates are likely to be more volatile at a state/territory level, and to protect the confidentiality of individual service providers.

Data suppression

In some cases, table cells have been suppressed to protect confidentiality where the presentation of the data could identify a patient or a service provider, and where the data supplier has made this request. Western Australia requested suppression of waiting times data; and the Northern Territory required suppression of all cells where the number of records was less than 5. In some instances, this has resulted in the need for consequential suppression of other data (including for other jurisdictions) to maintain confidentiality.

Cells may also be suppressed in some cases where rates are likely to be highly volatile. For this reason, waiting times at the 50th percentile and at the 90th percentile were suppressed where the number of records was less than 20.

Standardisation

Standardisation is a statistical technique used to eliminate the effect of particular differences between populations, such as age and other influencing factors. It is used to compare rates of events in different populations. For example, in Australia, age standardisation is sometimes used to compare Indigenous and non-Indigenous populations by adjusting for the different age profiles in these populations. Data can also be adjusted to account for other differences

between populations, for example radiotherapy data could be standardised by other factors that may influence the need for services, although no accepted methodologies exist to standardise for these. When it is the variable itself being measured then standardisation is unsuitable.

Standardisation has not been applied to data in this report because the data are not presented as a rate of the general population, but in most cases are presented as the number of courses of radiotherapy and proportions of courses in each category. Data on remoteness and socioeconomic status of an area are presented as a comparison between the percentages of radiotherapy courses delivered to patients living in these areas versus the percentage of the total Australian population living in each area.

1.2 Use of the data to support performance measurement

Waiting times data provide information on access to health services—an important aspect of the performance of services. The waiting times are usually viewed as part of the performance of the health system as a whole, rather than necessarily being wholly attributable to the capacity of the service provider. For example, access to accommodation for the period of treatment may affect waiting times for patients living in rural and remote areas.

In 2012, it was proposed that a measure of radiotherapy waiting times should be considered for inclusion as a National Healthcare Agreement performance indicator (COAG 2012) for Outcome 3: *Australians receive appropriate high quality and affordable hospital and hospital related care,* once a suitable data source became available.

As a result, draft performance indicators for waiting times for radiotherapy have been developed, based on the data that are now available in the NRWTD. The 2 indicators proposed are:

- **Proportion of emergency radiotherapy treatment started within 24 hours**

  This indicator reports the percentage of radiotherapy patients whose treatment was clinically assessed as an emergency who started treatment within 24 hours of being ready for care. However, as only the date the patient was ready for care and the date they started the associated course of radiotherapy are collected (and information about the time of day is not available), this indicator is expected to be reported as the proportion of patients who were treated either on the same day or the day after they were ready-for-care (METeOR ID: 595028).

- **Waiting times for non-emergency radiotherapy**

  This indicator measures the length of time that patients, whose treatment is not clinically assessed as an emergency, wait for radiotherapy treatment once they are ready for care, reported at the 50th and 90th percentile (METeOR ID: 594454).

Although not yet agreed as national performance indicators, data based on these performance measures are presented in this report.

1.3 Governance and ethical considerations

The AIHW manages this data collection with the support of the Radiotherapy Waiting Times Working Group, which comprises representatives from each state and territory, the

Australian Government, the Australian Association of Private Radiation Oncology Practices, Royal Australian and New Zealand College of Radiologists (RANZCR) and Cancer Australia. The current membership of this group is listed in the Acknowledgments. The Working Group is a subgroup of the Australian Health Ministers' Advisory Council's National Health Information Standards and Statistics Committee.

The AIHW Ethics Committee approved this data collection, confirming that the project conforms with the Information Privacy Principles set out in the *Privacy Act 1988*, and with requirements outlined in the National Statement on Ethical Conduct in Human Research (2007), the Australian Code for the Responsible Conduct of Research (2007), and the strict data confidentiality requirements set out in the *Australian Institute of Health and Welfare Act 1987*.

2 Radiotherapy activity and patients

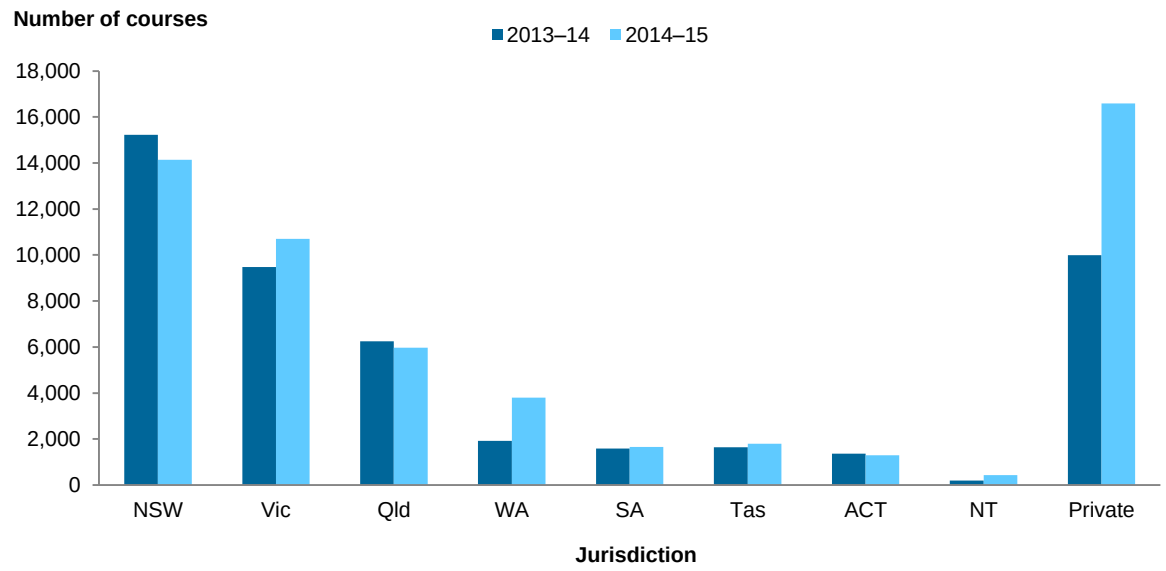
This chapter presents information about all courses of radiotherapy that began (or, for public and private providers in Victoria, courses that *ended*—see Appendix 2) in 2014–15 that were reported to the database. Further data tables can be found in Appendix 4.

The public and private data are not strictly comparable because coverage was much higher for the public sector (100% of sites) than the private sector (76% of sites) (Table 1.2).

2.1 Overview of radiotherapy activity

In 2014–15, participating service providers reported almost 56,400 courses of radiotherapy. This compares to a total of almost 47,700 in 2013–14 (Table A4.1); however, the variation between the 2 years is, in large part, due to the higher number of participating sites in the 2014–15 collection, particularly in Western Australia and the private sector (Table 1.2). The 54 sites that participated in both the 2013–14 and 2014–15 collections (Table A1.1) showed a 6.7% increase in the number of courses of radiotherapy that started in these periods (45,711 in 2013–14 and 48,755 in 2014–15). The increase in the number of courses of radiotherapy among these service providers may reflect changing capacity at these facilities over the 2-year period, for example, due to changes in staff or equipment availability at a particular site, changes in efficiency, or changes in the demand for services.

Figure 2.1 shows the distribution of courses across states and territories for public providers, and in the private sector for 2014–15, compared with the previous reporting period in 2013–14. Public providers delivered 71% of courses reported to the collection, the majority of all courses provided in New South Wales (25%) and Victoria (19%). Private providers delivered the remainder of courses reported to the collection. Note that courses delivered in the private sector are not presented by state and territory and the collection does not yet have coverage of all private providers. Changes in the proportions between 2013–14 and 2014–15 reflect the changing profile of sites participating in the collection across these years.



Notes

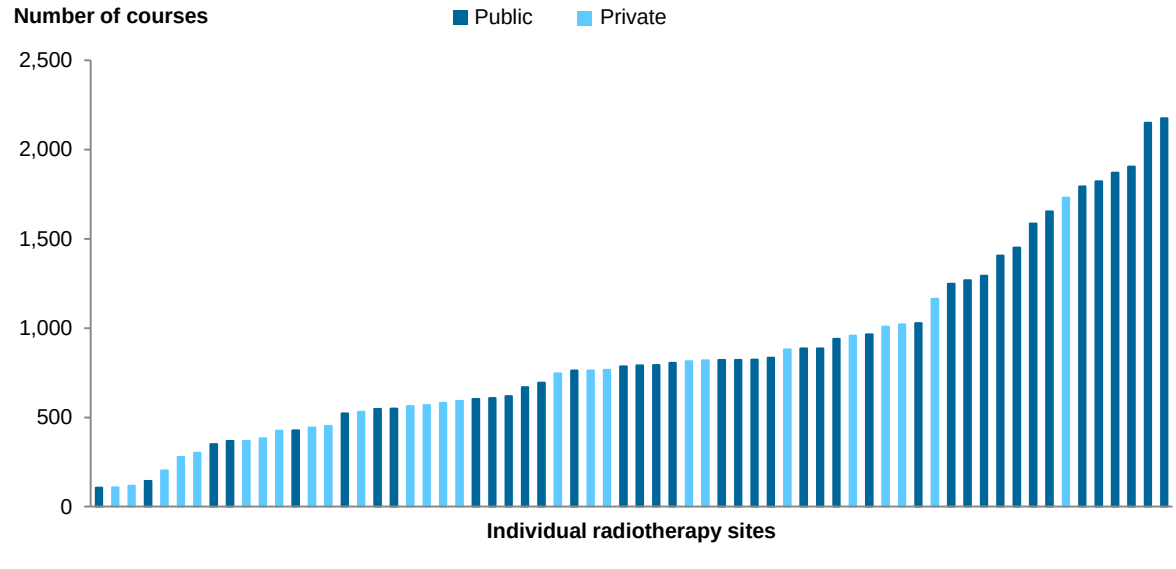
1. In 2013–14 and 2014–15 data in South Australia were under-counted, and in 2013–14 data for Victoria were under-counted—see Chapter 1.
2. The number of private providers contributing to this collection increased from 16 in 2013–14 to 26 in 2014–15.

Source: Table A4.1.

Figure 2.1: Radiotherapy courses, states and territories (public) and private, 2013–14 and 2014–15

Radiotherapy sites

The 66 sites that provided activity data in 2014–15 varied greatly in their treatment volume, reporting between 106 and 2,176 courses of radiotherapy. About half of the sites provided between 500 and 1,000 courses (Figure 2.2).



Source: AIHW NRWTD.

Figure 2.2: Radiotherapy site by number of radiotherapy courses, Australia, 2014–15

Radiotherapy sites are almost exclusively located in *Major cities* and *Inner regional* areas with smaller sites more likely to be located in *Inner regional* areas, and no sites located in *Remote* or *Very remote* areas. All 18 sites that provided more than 1,000 courses of radiotherapy in 2014–15 were located in *Major cities*. See Box 2.1 for information on the classification of remoteness areas.

Box 2.1: Remoteness areas

Australia can be divided into several types of regions based on their distance from urban centres, when the population size of the urban centre is considered to determine the range and types of services available. In the ABS Australian Statistical Geography Standard, these regions are classified in each Census year as being in 1 of the following 5 categories: *Major cities*, *Inner regional*, *Outer regional*, *Remote* or *Very remote* (ABS 2013a). Examples of urban centres in each remoteness area are:

- *Major cities* Sydney, Geelong, Gold Coast
- *Inner regional* Hobart, Ballarat, Coffs Harbour
- *Outer regional* Darwin, Cairns, Coonabarabran
- *Remote* Alice Springs, Broome, Strahan
- *Very remote* Coober Pedy, Longreach, Exmouth

2.2 Clinical characteristics of patients

This section presents the number and proportion of courses of radiotherapy by the following clinical variables:

- intention of treatment
- emergency status
- principal diagnosis.

Intention of treatment

Radiotherapy can be provided to patients with the aim of preventing or curing disease, or to offer palliation (see Box 2.2).

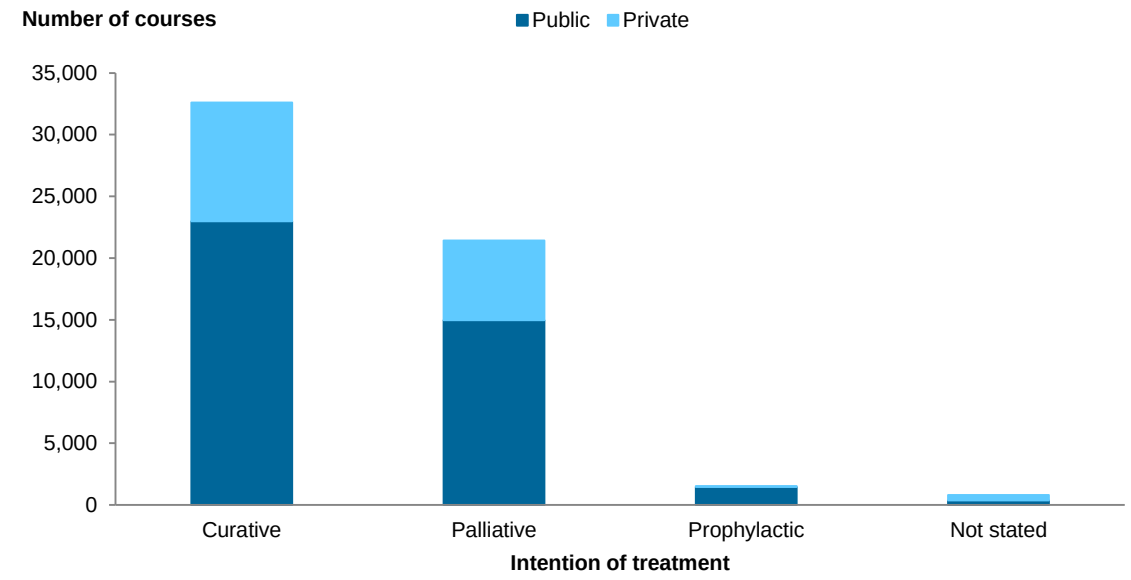
Box 2.2: Intention of treatment

The intention of treatment is the reason treatment is provided to a patient, as follows:

- *Curative* describes when treatment is given with the intention of curing disease.
- *Palliative treatment* is given primarily for the purpose of pain or other symptom control. Consequent benefits of the treatment are considered secondary contributions to quality of life.
- *Prophylactic treatment* is given to prevent the occurrence of disease at a site that exhibits no sign of active disease but is considered to be at risk.

(METeOR ID: 583857)

Over one-half of the radiotherapy courses that began in 2014–15 were identified as having curative intent (58%), while 38% were palliative and 2.7% were prophylactic. The intention of the treatment was not reported for 1.4% of courses (Figure 2.3). The proportion of different types of treatment intent varied by state/territory—courses of radiotherapy that had a curative intent varied from 40% in the Northern Territory to 68% in Western Australia; palliative treatment ranged from 29% in Queensland to 57% in the Northern Territory; and prophylactic treatment varied between 0% in Tasmania and the Australian Capital Territory to 8.3% in Queensland.

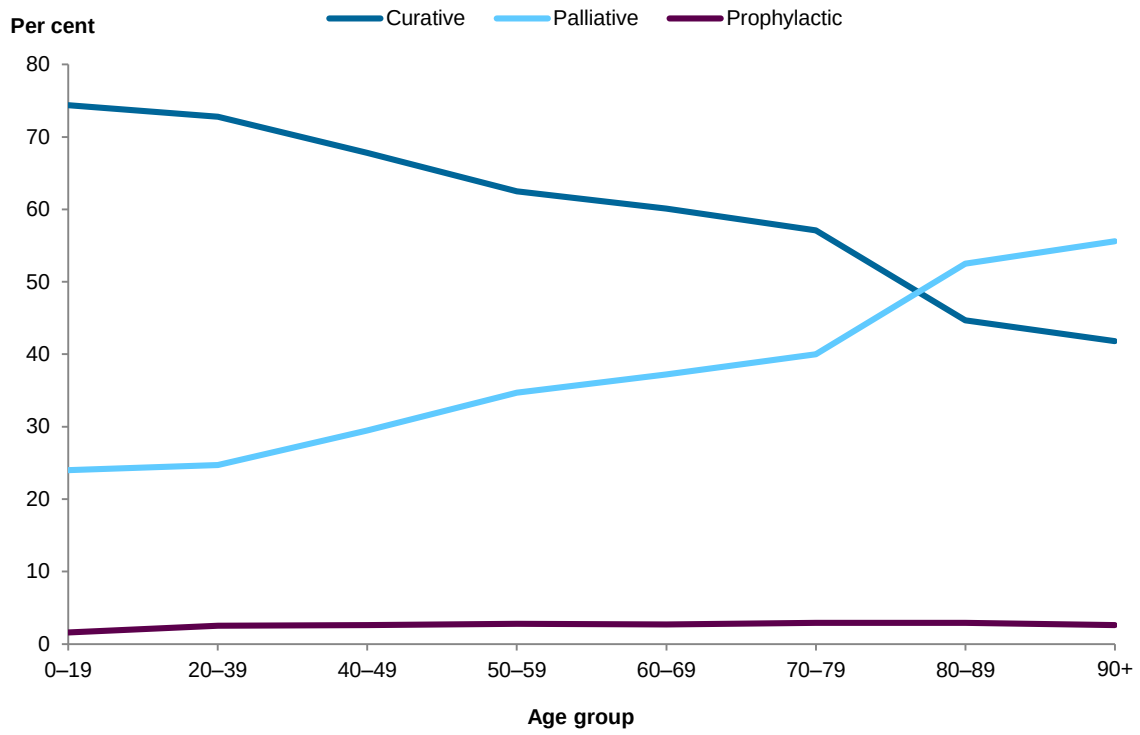


Source: Table A4.2.

Figure 2.3: Radiotherapy courses by intention of treatment by sector, Australia, 2014–15

If the small proportion of courses where the *intention of treatment* was not reported are excluded from the analysis, public and private radiotherapy providers carried out almost identical proportions of curative treatment (58% of courses in public settings, 58% of courses in private settings). Likewise, similar proportions of treatment were palliative (38% of courses in public settings, 39% of courses in private settings).

There is a clear relationship between the age of a patient and whether the intention of treatment is curative or palliative. That is, the younger a patient is, the more likely they are to be treated with curative intent (74% of patients aged 0–19, compared with 42% of patients aged 90 and over—Figure 2.4). The older a patient is, the more likely they are to be treated with palliative intent (56% of people aged 90 and over, compared to 24% of patients aged 0–19). The proportion of treatment that was prophylactic was relatively consistent across all age groups.



Source: Table A4.3.

Figure 2.4: Radiotherapy courses by intention of treatment by age group, Australia, 2014–15

Emergency status

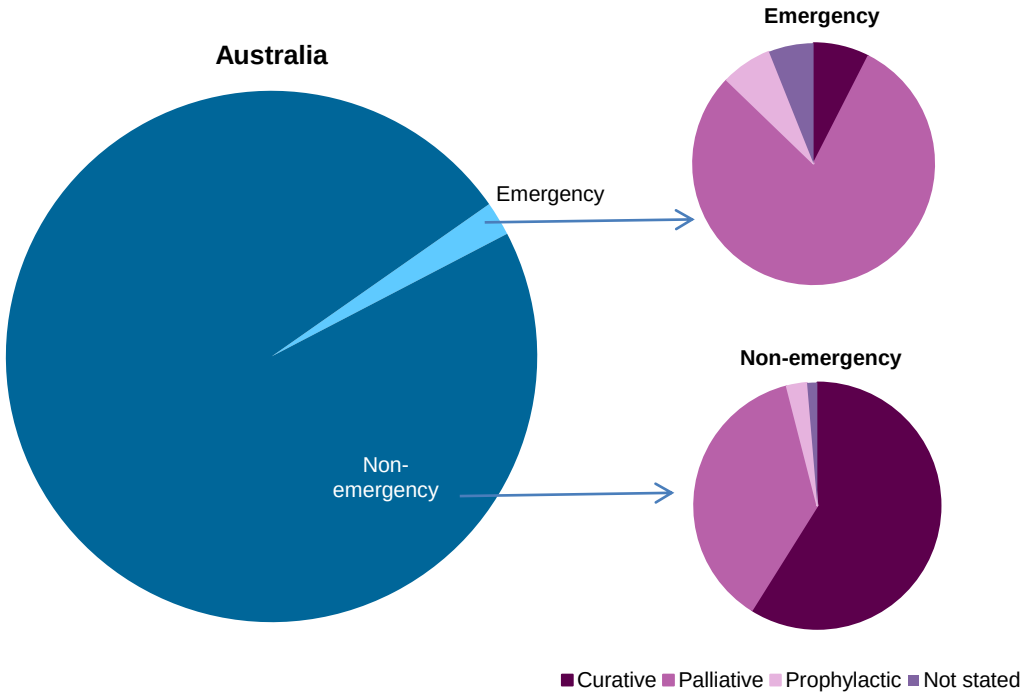
Overall, 2.1% of courses of radiotherapy that began in 2014–15 were clinically assessed to be emergency cases, that is, the radiation oncologist had assessed that radiation treatment should begin within 24 hours (Figure 2.5).

The proportion of radiotherapy courses that were clinically assessed to be emergency cases was 2.6% in the public sector and 0.9% in the private sector. Public sector rates varied from 0.6% in Victoria to 5.8% in South Australia and the Australian Capital Territory (Table A4.4).

Victoria and Western Australia have noted that there is likely to be some under-count of emergency cases in their jurisdictions.

Relationship between intention of treatment and emergency status

There is a clear relationship between the intention of treatment and the emergency status of cases. Fifty-nine per cent of non-emergency courses of radiotherapy were administered with the intention of curing disease, but most emergency courses were palliative (80%). This is illustrated in Figure 2.5.



Sources: Table 4.4 and Table A4.5.

Figure 2.5: Radiotherapy courses by emergency status and intention of treatment, Australia, 2014–15

Principal diagnosis

The principal diagnosis is the diagnosis established after study to be chiefly responsible for causing a patient's need for the current course of treatment. In the case of radiotherapy treatment, it is most typically a type of cancer. The type of cancer specified in a principal diagnosis does not necessarily reflect the primary site of the cancer—it may reflect the site of a secondary, or metastatic, cancer. Jurisdictional differences in the proportions of different cancers are unlikely to be representative of differences in cancer rates. For example, there is larger variation across jurisdictions in the proportion of courses in which the principal diagnosis was prostate cancer. This may be an indication of data quality issues, for example, where some providers may be reporting the primary site of the cancer, rather than the diagnosis code associated with the health condition being treated in the specific course of radiotherapy. For this reason, comparisons should be made with caution.

Tables 2.1 and 2.2 show the proportion of courses of radiotherapy associated with the top 5 cancers most commonly reported to the NRWTD in 2014–15 for males (Table 2.1) and females (Table 2.2), as well as records that were either *Other cancer*, *Non cancer* or *Not stated*. There were also a small number of non-cancer cases treated by radiotherapy in 2014–15 (88 courses, 0.1%) (Tables 2.1 and 2.2).

Table 2.1: Radiotherapy courses, males, by top 5 cancers[a] for which radiotherapy was provided, states and territories (public) and sector, 2014–15

	Public sector providers								Sector		
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Public (total)	Private	Australia
Number											
Prostate cancer	2,053	1,140	600	603	101	182	106	49	4,834	2,485	**7,319**
Lung cancer	1,167	986	420	201	96	84	46	46	3,046	875	**3,921**
Head and neck cancers	538	495	365	131	63	52	38	35	1,717	435	**2,152**
Colorectal cancer	464	326	176	58	27	49	45	18	1,163	465	**1,628**
Lymphoma	289	235	76	59	31	35	n.p.	n.p.	754	197	**951**
Other cancer	2,841	2,008	1,048	904	533	522	369	87	8,312	3,449	**11,761**
Non cancer	0	5	4	0	1	0	0	0	10	31	**41**
Not stated	44	26	369	92	2	3	n.p.	n.p.	542	334	**876**
Total	**7,396**	**5,221**	**3,058**	**2,048**	**854**	**927**	**635**	**239**	**20,378**	**8,271**	**28,649**
Per cent											
Prostate cancer	27.8	21.8	19.6	29.4	11.8	19.6	16.7	20.5	23.7	30.0	**25.5**
Lung cancer	15.8	18.9	13.7	9.8	11.2	9.1	7.2	19.2	14.9	10.6	**13.7**
Head and neck cancers	7.3	9.5	11.9	6.4	7.4	5.6	6.0	14.6	8.4	5.3	**7.5**
Colorectal cancer	6.3	6.2	5.8	2.8	3.2	5.3	7.1	7.5	5.7	5.6	**5.7**
Lymphoma	3.9	4.5	2.5	2.9	3.6	3.8	n.p.	n.p.	3.7	2.4	**3.3**
Other cancer	38.4	38.5	34.3	44.1	62.4	56.3	58.1	36.4	40.8	41.7	**41.1**
Non cancer	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.4	**0.1**
Not stated	0.6	0.5	12.1	4.5	0.2	0.3	n.p.	n.p.	2.7	4.0	**3.1**
Total[b]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) ICD-10-AM principal diagnosis codes—Prostate cancer (C61), Lung cancer (C33–C34), Head and neck cancer (C00–C14, C30–C32), Colorectal cancer (C18–C20), Lymphoma (C81–C85).

(b) Totals may not equal the sum of individual cells due to rounding.

Prostate cancer was recorded as the principal diagnosis for one-quarter of all males who began radiotherapy in 2014–15 (26%), although this varied greatly across states and territories and sectors, from 12% in South Australia to 29% in Western Australia and 30% in the private sector. The next most common diagnosis for males was lung cancer (14%). In 3.1% of cases for males, a principal diagnosis was not reported.

Almost one-half of all courses of radiotherapy that began in 2014–15 for females were for breast cancer (46%), ranging from 31% in South Australia to 49% in New South Wales and the Northern Territory. The second most common cancer treated for females was lung cancer (10%). In 3.4% of cases for females, a principal diagnosis was not reported.

Table 2.2: Radiotherapy courses, females, by top 5 cancers[a] for which radiotherapy was provided, states and territories (public) and sector, 2014–15

	Public service providers								Sector		
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Public (total)	Private	Australia
Number											
Breast cancer	3,297	2,595	1,211	774	246	301	253	92	8,769	3,947	**12,716**
Lung cancer	770	756	318	150	69	63	36	30	2,192	647	**2,839**
Colorectal cancer	257	247	69	44	20	29	17	6	689	264	**953**
Uterine cancer	193	134	92	46	13	10	n.p.	n.p.	514	140	**654**
Lymphoma	182	194	56	41	15	20	n.p.	n.p.	522	168	**690**
Other cancer	2,010	1,545	813	621	436	432	317	54	6,228	2,657	**8,885**
Non cancer	0	4	8	0	0	0	1	0	13	34	**47**
Not stated	40	11	339	77	1	6	1	0	475	465	**940**
Total	6,749	5,486	2,906	1,753	800	861	658	189	19,402	8,322	**27,724**
Per cent											
Breast cancer	48.9	47.3	41.7	44.2	30.8	35.0	38.4	48.7	45.2	47.4	**45.9**
Lung cancer	11.4	13.8	10.9	8.6	8.6	7.3	5.5	15.9	11.3	7.8	**10.2**
Colorectal cancer	3.8	4.5	2.4	2.5	2.5	3.4	2.6	3.2	3.6	3.2	**3.4**
Uterine cancer	2.9	2.4	3.2	2.6	1.6	1.2	n.p.	n.p.	2.6	1.7	**2.4**
Lymphoma	2.7	3.5	1.9	2.3	1.9	2.3	n.p.	n.p.	2.7	2.0	**2.5**
Other cancer	29.8	28.2	28.0	35.4	54.5	50.2	48.2	28.6	32.1	31.9	**32.0**
Non cancer	0.0	0.1	0.3	0.0	0.0	0.0	0.2	0.0	0.1	0.4	**0.2**
Not stated	0.6	0.2	11.7	4.4	0.1	0.7	0.2	0.0	2.4	5.6	**3.4**
Total[b]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) ICD-10-AM principal diagnosis codes—Breast cancer (C50), Lung cancer (C33–C34), Colorectal cancer (C18–C20), Uterine cancer (C54–C55) and Lymphoma (C81–C85).

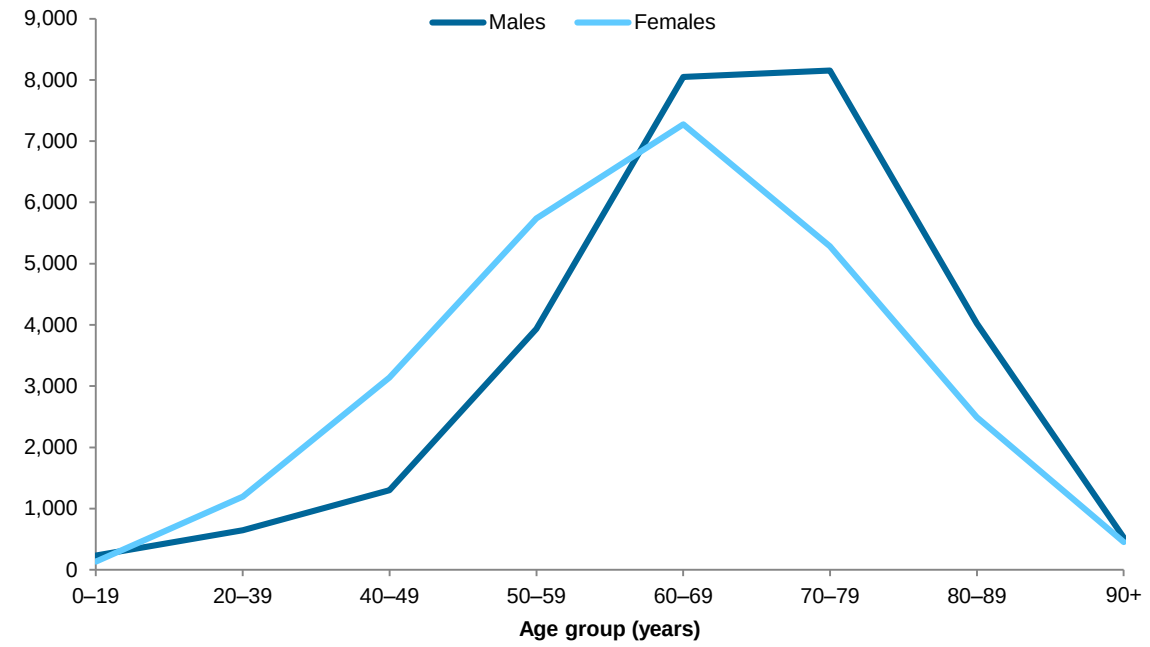
(b) Totals may not equal the sum of individual cells due to rounding.

2.3 Patient demographics

Sex and age of patients

Just over one-half of all courses of radiotherapy that began in 2014–15 were provided to males (51%) (Table A4.6), and over two-thirds of all radiotherapy courses were delivered to patients aged 60 or over (69%) (Table A4.7). Less than 1 per cent (0.7%) of courses were delivered to patients aged under 20. Sex and age was reported for almost 100% of courses.

Figure 2.6 shows the distribution of courses delivered to males and females by the age of the patient. For people aged less than 60, more radiotherapy courses were delivered to females, but for those aged over 60, more courses were delivered to males.



Source: Table A4.8.

Figure 2.6: Radiotherapy courses by sex and age (years), Australia, 2014–15

Indigenous status

Nationally, 0.8% of radiotherapy courses were delivered to patients who identified as being of Aboriginal or Torres Strait Islander origin (Table 2.3). However, there was a relatively high proportion of radiotherapy courses for which the Indigenous status of the patient was not reported (34%), with considerable variability across jurisdictions (ranging from 0% in the Northern Territory to 44% in Western Australia), and with a particularly high 'not stated' rate (78%) in the private sector. Therefore, some caution needs to be taken in comparing these figures. Excluding cases where Indigenous status was not stated, the proportion of courses provided to Indigenous patients overall was 1.2%; Indigenous people comprise 3% of the Australian population (ABS 2014). Indigenous status is not routinely collected in all services, although the number of courses which did report Indigenous status has improved since the last year of collection (66% in 2014–15, up from 53% in 2013–14).

Table 2.3: Radiotherapy courses by Indigenous status, states and territories (public) and sector, 2014–15

	Public sector providers								Sector		
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Public (total)	Private	Australia
Number											
Indigenous	166	26	64	16	13	9	20	79	393	65	**458**
Non-Indigenous	13,894	8,655	3,955	2,129	1,476	1,661	1,169	349	33,288	3,564	**36,852**
Not stated	85	2,026	1,945	1,656	165	119	104	0	6,100	12,966	**19,066**
Total	**14,145**	**10,707**	**5,964**	**3,801**	**1,654**	**1,789**	**1,293**	**428**	**39,781**	**16,595**	**56,376**
Per cent											
Indigenous	1.2	0.2	1.1	0.4	0.8	0.5	1.5	18.5	1.0	0.4	**0.8**
Non-Indigenous	98.2	80.8	66.3	56.0	89.2	92.8	90.4	81.5	83.7	21.5	**65.4**
Not stated	0.6	18.9	32.6	43.6	10.0	6.7	8.0	0.0	15.3	78.1	**33.8**
Total[(a)]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Totals may not equal the sum of individual cells due to rounding.

Area of usual residence of the patient

Area-of-residence data available in this collection enables reporting on the remoteness and socioeconomic status of the area where a patient usually resides. There are some limitations with the use of area of usual residence data (see Box 2.3).

Because the distribution of radiotherapy courses across remoteness areas and socioeconomic status quintiles for area of usual residence differ by sector (Table A4.10), caution should be applied in interpreting these results. Note that for 2014–15, 8 private radiotherapy sites in Australia did not provide data to the collection, and of the 2.7% of all courses that did not report *Area of usual residence*, most of these were delivered in the private sector.

Box 2.3: Use of area of usual residence of the patient in this data collection

Some providers were unable to code patients' area of usual residence using full address details to the required statistical area level 2 (SA2) code, a geographical mapping code which can have assigned to it the socioeconomic and remoteness characteristics of the area (see Glossary). In these cases, providers have, in most cases, assigned the SA2 code based on the mapping from postcode to SA2 that the Australian Bureau of Statistics (ABS) provided. The ABS has characterised the overall quality rating for this mapping as 'poor' (ABS 2012a, 2012b). This means that the ABS expects there is a high likelihood the correspondence will not convert data overall accurately and that the converted data should be used with caution as it may not reflect the actual characteristics of many of the geographic regions involved.

Area-of-residence data also enable analysis of the number of patients who seek treatment in a state or territory other than the one in which they usually live, which can be important for planning purposes. Cross-border flows had the most effect on the Australian Capital Territory—36% of treatment (comprising 459 courses) provided in the Australian Capital Territory was delivered to people who usually reside in New South Wales. Table 2.4 presents

data on cross-border flows for public sector providers. Private sector providers have been excluded from this analysis to protect confidentiality.

Table 2.4: Public sector radiotherapy courses by state/territory of usual residence of the patient and treatment location, states and territories, 2014–15

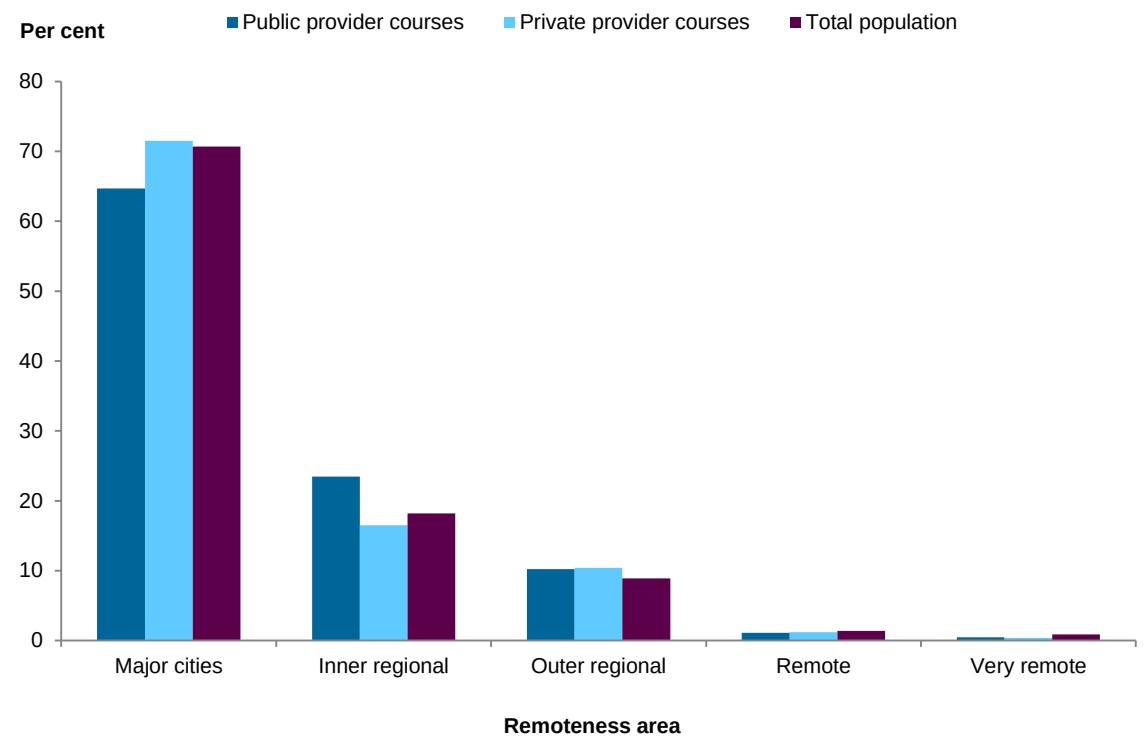
	State where treatment was provided (public sector providers)								
	NSW	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**ACT**	**NT**	**Total**[(a)]
Patient's usual residence									
NSW	14,057	115	56	1	45	0	459	n.p.	**14,733**
Vic	4	10,504	6	8	12	1	1	n.p.	**10,536**
Qld	30	6	5,883	5	1	1	1	n.p.	**5,927**
WA	0	10	4	3,780	0	0	0	n.p.	**3,794**
SA	10	15	1	2	1,558	0	0	n.p.	**1,586**
Tas	1	27	0	1	2	1,787	1	n.p.	**1,819**
ACT	21	2	0	0	0	0	767	n.p.	**790**
NT	4	0	4	0	34	0	0	n.p.	**42**
Other	18	0	7	1	1	0	0	n.p.	**27**
Not stated	0	28	3	3	1	0	64	n.p.	**99**
Australia	**14,145**	**10,707**	**5,964**	**3,801**	**1,654**	**1,789**	**1,293**	**n.p.**	**39,353**

(a) Total does not include the Northern Territory to meet data suppression requirements.

Remoteness areas

In 2014–15, 65% of courses of radiotherapy were delivered to patients whose area of usual residence was in *Major cities*, 21% lived in *Inner regional* areas, 10% in *Outer regional* areas, 1.1% in *Remote* areas, and 0.5% in *Very remote* areas; for 2.7% of courses, an area of usual residence was not stated (Table A4.9).

Figure 2.7 shows the remoteness area in which patients lived compared with the proportions living in these areas for the Australian population as a whole, for those courses where the area of usual residence of the person was reported (see Box 2.1 for a description of the remoteness areas used and Box 2.3 for an explanation of the limitations inherent in using area of usual residence data). This figure suggests that, nationally, residents of *Major cities* appeared to be under-represented and residents of *Inner regional* and *Outer regional* areas are more likely to access radiotherapy services than those who live in other remoteness areas. Note that geographic data on area of usual residence are not adjusted for age and other factors that may influence the need for services (see section on 'Standardisation' in Chapter 1).



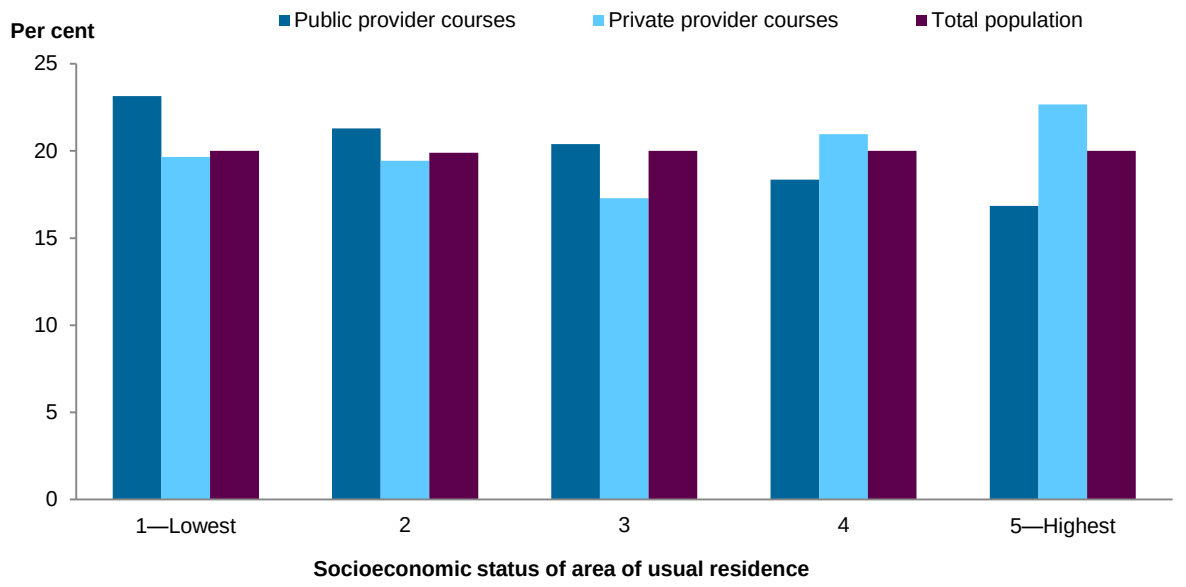
Note: Excludes data for which area of usual residence was not stated.

Sources: Derived from Table A4.9 and Table A4.10.

Figure 2.7: Proportion of radiotherapy courses and the total population, by remoteness area, Australia, 2014–15

Socioeconomic status

Figure 2.8 provides information on the socioeconomic status of the areas in which radiotherapy patients lived compared with the distribution of the Australian population as a whole, for those courses where the area of usual residence of the person was reported (see Box 2.4 for information on the way this information is derived and Box 2.3 for an explanation of the limitations inherent in using area of usual residence data).



Note: Excludes data for which area of usual residence was not stated.

Source: Derived from Table A4.11 and Table 4.12.

Figure 2.8: Proportion of radiotherapy courses and the total population, by socioeconomic status of area of usual residence, Australia, 2014–15

In 2014–15, patients who began receiving radiotherapy were more likely to be living in areas classified as being of low socioeconomic status (that is, most disadvantaged) than in areas of high socioeconomic status (that is, least disadvantaged). Overall, 21% of courses of radiotherapy that began in the period were provided to patients who lived in areas classified as being of the lowest socioeconomic status compared with 18% who lived in areas classified as being of the highest socioeconomic status (Table A4.11). Note that data presented in this publication are not adjusted for age and other factors that may influence the need for services (see section on 'Standardisation' in Chapter 1).

Box 2.4: Socioeconomic status

Data on socioeconomic status groups are defined using the ABS's Socio-Economic Indexes for Areas (SEIFA) 2011 (ABS 2013b).

The ABS generated the SEIFA 2011 data using a combination of 2011 Census data such as income, education, health problems/disability, access to Internet, occupation/unemployment, wealth and living conditions, dwellings without motor vehicles, rent paid, mortgage repayments, and dwelling size. Composite scores are averaged across all people living in Census collection districts and also compiled for higher levels of aggregation. The SEIFAs are described in detail on the ABS website <www.abs.gov.au>.

The SEIFA Index of Relative Socio-Economic Disadvantage (IRSD) is one of the ABS's SEIFA indexes. The relative disadvantage scores indicate the collective socioeconomic status of the people living in an area, with reference to the situation and standards applying in the wider community at a given point in time. A relatively disadvantaged area is likely to have a high proportion of relatively disadvantaged people. However, such an area is also likely to contain people who are not disadvantaged, as well as people who are relatively advantaged.

Each socioeconomic group contains 20% of the national population—however this distribution is not even within each state and territory.

Disaggregation by SES group is based on the area of usual residence of the patient, not the location of the radiotherapy service.

Socioeconomic status groups are as follows:

1—Lowest	Most disadvantaged
2	Second most disadvantaged
3	Middle
4	Second least disadvantaged
5—Highest	Least disadvantaged.

3 Radiotherapy waiting times

This chapter examines waiting times by state and territory (for public providers, excluding Western Australia), private providers, and for Australia. A waiting time was calculated for every record with a valid ready-for-care date and radiotherapy course start date reported to the NRWTD, representing courses of radiotherapy that began in 2014–15 (or, for public and private providers in Victoria, courses that ended in 2014–15—see Chapter 1). See Box 3.1 for details of data exclusions for this chapter.

Of the 66 sites that participated in this second pilot year, 63 were able to provide waiting times data for 2014–15 (Table 1.2). These 63 providers contributed almost 52,500 records (Table A4.13) representing 93% of all records submitted.

As noted, data are disaggregated by public and private sector in this chapter; however, results should be interpreted with caution because some data recording practices may differ across individual sites, jurisdictions and sectors, particularly in the setting of ready-for-care dates which affects the calculation of waiting times. These differences cannot be rectified nor compensated for in this retrospective collection, and may also reflect differing service provision arrangements between the public and private sectors (and in both sectors across jurisdictions). Data providers have supported a continuing work program to address problems with the data and to improve the comparability of the data.

Comparison of waiting times between 2013–14 and 2014–15 should be treated with caution due to increased participation by private radiotherapy providers (as outlined in Chapter 2), which generally report shorter waiting times. Submission of data on courses with valid waiting times by private providers in the 2014–15 collection was much greater than in 2013–14—up from almost 2,600 from 5 private radiotherapy sites, to over 14,300 courses from a total of 26 (out of 34) sites. There was also some variation in the basis of data provision for Victoria between the 2 years, as noted in Chapter 1, which may affect data comparability for Victoria between 2013–14 and 2014–15.

Results are generally presented as waiting times (in days) at the 50th and 90th percentiles (rounded to the nearest number of whole days). The 50th percentile (the median waiting time or the middle value in a group of data arranged from lowest to highest for days waited) represents the number of days within which 50% of patients commenced radiotherapy treatment. The 90th percentile data represent the number of days within which 90% of patients began treatment.

One exception is in the presentation of information on emergency courses. For emergency courses, data are presented as the proportion of courses where treatment commenced either on the same day or the day after they were ready for care. This is as for the proposed performance indicator discussed in Chapter 1.

Waiting times and ready-for-care dates are further explained in Box 1.2.

Box 3.1: Data exclusions and suppressions for waiting times analysis

Suppression of Western Australia data

To protect the confidentiality of patients and service providers who provide data to the collection, the AIHW suppresses certain results in some circumstances. For this report, permission was sought to report by jurisdiction for states and territories where numbers of providers were low. Western Australia requested that their waiting times data be treated confidentially as they had only 1 participating provider. However, waiting times data for Western Australia are included in the totals for public providers and the overall totals for Australia.

Exclusion of missing data from waiting times analysis for specific variables

In this chapter, waiting times for records where the variable being analysed was 'not stated' are not reported as part of that disaggregation (but are included in other waiting times analyses based on other variables). For example, if the 'intention of treatment' is not stated, there are no waiting times published for these records in the intention-of-treatment disaggregation. The extent of missing data for each variable is reported in Chapter 2 and in the associated appendix tables.

Exclusion of negative waiting times

Negative waiting times, that is, where the *Ready-for-care date* is after the *Radiotherapy start date*, are considered to be errors and have been excluded from all waiting times calculations.

Suppression of data with small numbers of courses

In this report, waiting times are suppressed for all calculations where the number of contributing courses of radiotherapy was less than 20, that is for the 50th and the 90th percentile and proportion of emergency patients calculations. This is because the waiting times reported are likely to be highly volatile when the number of courses of radiotherapy is small.

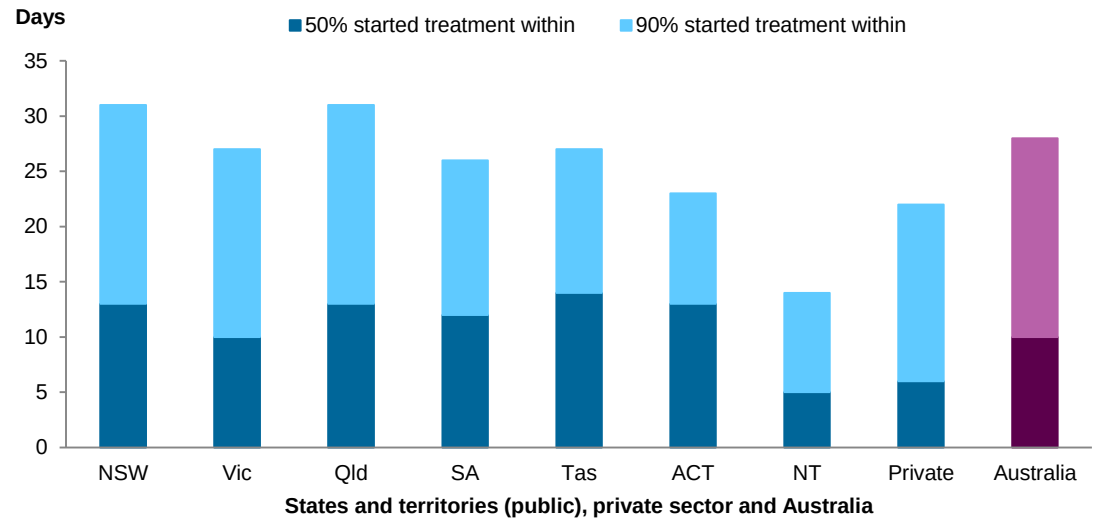
3.1 Overview of waiting times

Overall, in 2014–15, 50% of patients waited for 10 days or less (12 days in 2013–14,) and 90% of patients waited for 28 days or less (compared with 31 days or less in 2013–14) for their course of radiotherapy to begin (Figure 3.1). Note that the change in profile of participating providers (see discussion that follows) has had an impact on the changes in waiting times between 2013–14 and 2014–15.

In relation to public providers, states and territories with lower waiting times at the 50th percentile also generally had lower waiting times for the majority of patients (as represented by the 90th percentile) (Figure 3.1). Waiting times at the 50th percentile varied from 5 days in the Northern Territory to 14 days in Tasmania. At the 90th percentile, results varied from 14 days in the Northern Territory to 31 days in New South Wales and Queensland.

Private providers that reported waiting times for 2014–15 reported a waiting time of 6 days at the 50th percentile, and 22 days at the 90th percentile. This compares to 12 days and 28 days, respectively, for 2013–14; however, private provider participation rates were much lower in 2013–14 than in 2014–15 and this difference reduces comparability between the 2 reporting periods.

Note that comparison of waiting times across sectors should be treated with some caution as the data were sourced from a smaller number of private providers (than public providers) and comparability across sectors may be problematic, as outlined previously. Data for private providers are included in the total figures for Australia.



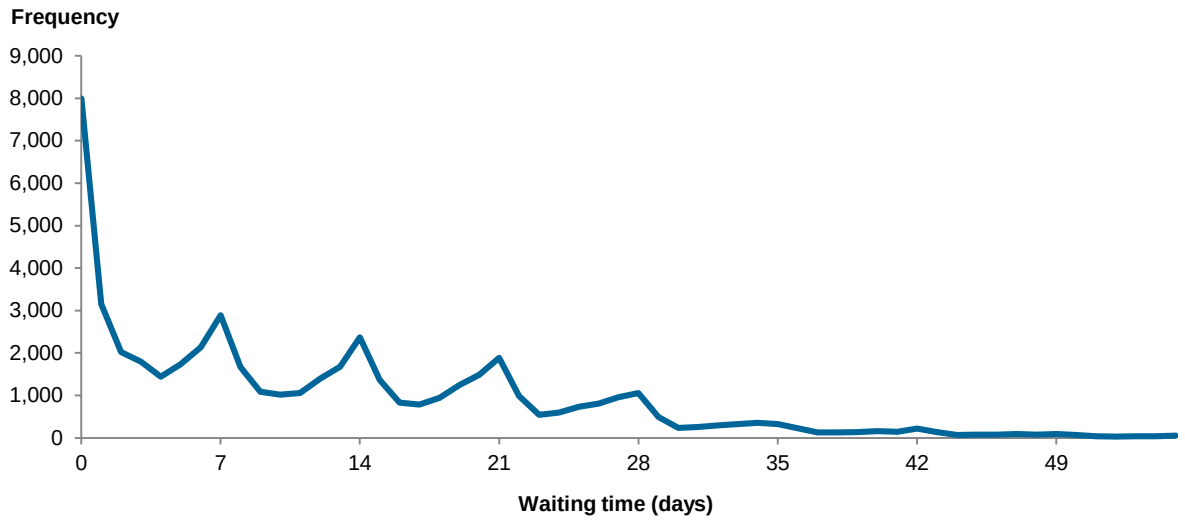
Notes

1. Data for South Australia should be treated with caution due to concerns regarding the setting of ready-for-care dates—see Chapter 1.
2. Western Australian data are not reported separately (see Box 3.1), but are included in data for 'Australia'.

Source: Table A4.13.

Figure 3.1: Radiotherapy waiting times at 50th and 90th percentiles (days), states and territories (public), total private, and Australia, 2014–15

Figure 3.2 shows the frequency of waiting times (in days) reported in 2014–15 across Australia. Waiting times peak approximately each 7 days reflecting the fact that most services are closed on the weekend, and that patients who start a course of radiotherapy are usually scheduled to start towards the beginning of a working week. Ninety-nine per cent of patients were treated within 55 days during 2014–15—a reduction in waiting times from 62 days in 2013–14, although caution should be used in interpreting these results due to the increase in participation by private providers in the 2014–15 data collection, compared with the 2013–14 collection. The remaining 1.0% of courses (not shown in Figure 3.2) included some waiting times substantially greater than 55 days, which are likely to indicate data quality issues associated with reporting of data for some courses of radiotherapy.



Note: The 1% of courses with the longest waiting times are not shown; these courses are included in the other analyses presented in this report.

Source: AIHW NRWTD.

Figure 3.2: Frequency by waiting time (days), Australia, 2014–15

3.2 Clinical characteristics of patients

This section presents radiotherapy waiting times by the following clinical variables:

- intention of treatment
- emergency status
- principal diagnosis.

Intention of treatment

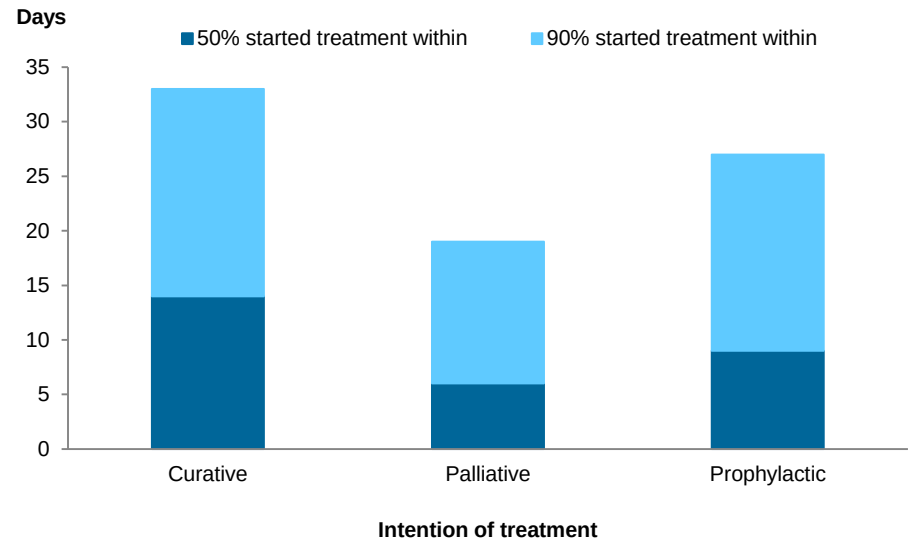
The intention of treatment may be prophylactic, curative or palliative (as described in Box 2.2). There may be a change in intent during the course of treatment following additional diagnostic information. For example, this is not uncommon in cases of lung cancer where patients may have commenced curative treatment when additional results become available that lead to the re-classification of the treatment as palliative. At this time the treatment plan should be modified based on the most recent results, the patient's ready-for-care date should be reviewed, and (potentially) a new course of radiotherapy would begin. However, this may not be current practice in all services, and therefore is likely to affect some reported waiting times and data quality overall in this pilot collection.

When considering waiting times by intention of treatment, note that in most (but not all) cases, palliative patients require less complex treatment techniques and therefore it is 'often relatively simple to fit in a short palliative schedule without causing significant delay to other patients' (RANZCR 2013:15).

For patients who received radiotherapy where the intent was to cure disease, 50% started treatment within 14 days, and 90% within 33 days (Table A4.14). Of those patients who received palliative radiotherapy, 50% started treatment within 6 days, and 90% within 19 days. For those who were treated to prevent further disease (prophylactic), 50% of patients began treatment within 9 days, and 90% within 27 days (Figure 3.3).

For radiotherapy delivered with a curative intent, the median waiting times ranged between 7 days in the Northern Territory and 19 days in New South Wales and the Australian Capital Territory (Table A4.14). Across jurisdictions, public sector median waiting times for palliative radiotherapy varied between 4 days in the Northern Territory and 12 days in Tasmania.

For radiotherapy with a curative intent, median waiting time was 7 days in the private sector and 17 days in the public sector. Median waiting time for palliative radiotherapy was 4 days in the private sector and 7 days in the public sector (Table A4.14).



Source: Table A4.14.

Figure 3.3: Radiotherapy waiting times (days) at 50th and 90th percentiles, by intention of treatment, Australia, 2014–15

Emergency status

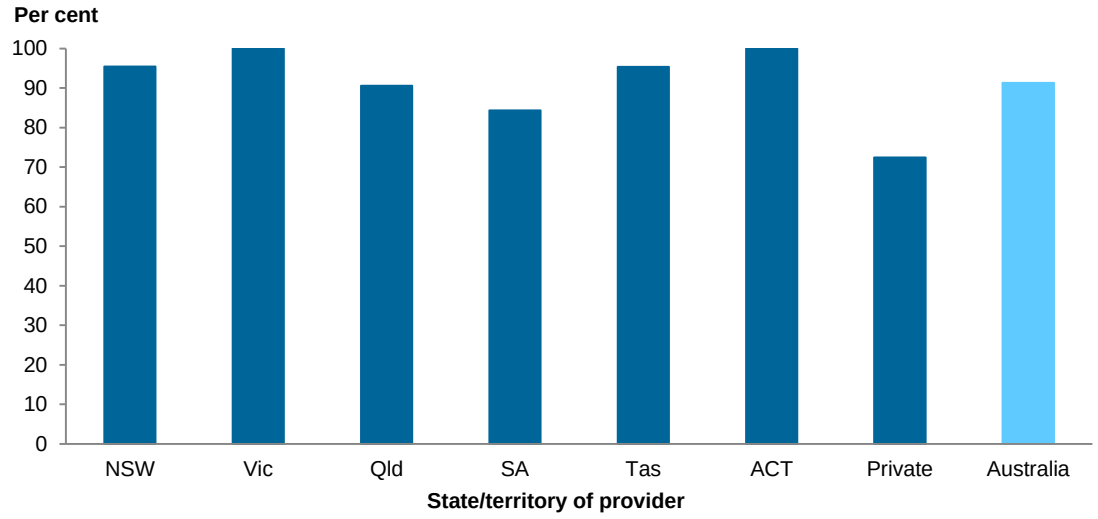
Patients who require emergency treatment are those for whom the treating clinician has assessed that the waiting time for treatment should not exceed 24 hours. However, as this collection does not measure waiting times in terms of hours, only in days, in this report patients needing emergency treatment are reported as having had treatment 'on time' if they had their treatment either on the same day they were ready for care, or the following day.

For patients clinically assessed as an emergency case, treatment usually does not rely on radiotherapy alone; a patient is likely to begin other treatments (for example, medication or chemotherapy) almost immediately after being recognised as needing emergency treatment, with the intention that radiotherapy will follow within 24 hours.

For those who started emergency treatment in 2014–15, 91% began treatment within the emergency timeframe and 9% waited 2 days or longer (Figure 3.4). These percentages are similar to those seen in 2013–14. The proportion treated within the emergency timeframe varied from 84% in South Australia to 100% in the Australian Capital Territory and Victoria. Note that in some jurisdictions the number of emergency courses was very small.

There was variation between the public and private sectors, with 94% of emergency patients beginning treatment within the recommended timeframe in the public sector, compared with

73% in the private sector. Analysis of the distribution of the data suggests that the low percentage of courses meeting the emergency timeframe in the private sector may be due to poor data quality.



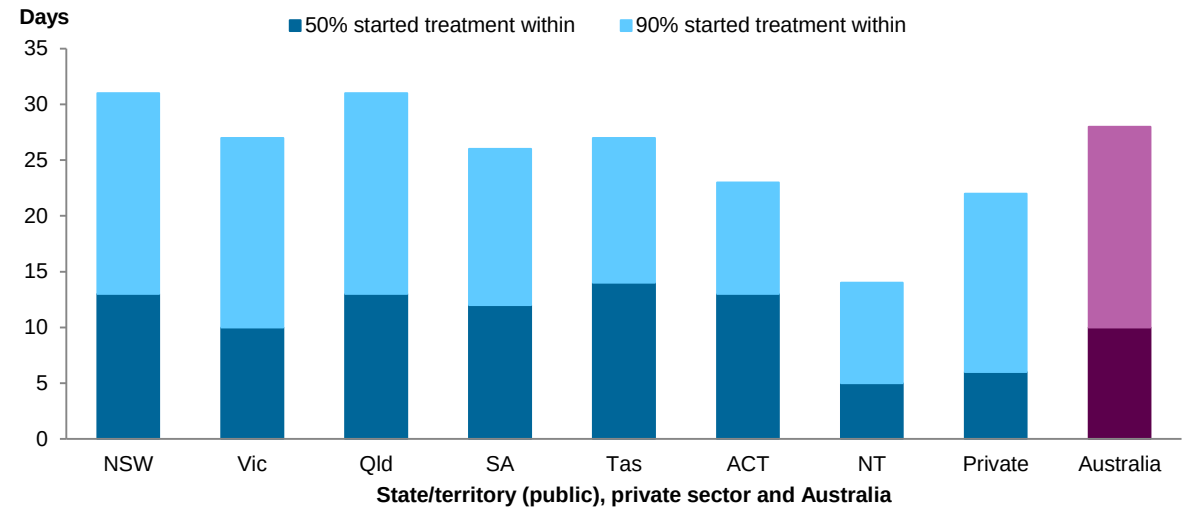
Note: Western Australian and Northern Territory data are not reported separately (see Box 3.1), but are included in data for 'Australia'.

Source: Table A4.15.

Figure 3.4: Proportion of emergency patients treated within emergency timeframe, states and territories (public), total private, and Australia, 2014–15

In 2014–15, 50% of non-emergency patients waited for 10 days or less and 90% of patients waited for 28 days or less (Figure 3.5). As emergency patients make up a very small number of radiotherapy cases, the results for non-emergency patients are similar to the results for all courses. The median waiting times across jurisdictions (for public sector providers) varied from 5 days in the Northern Territory to 14 days in Tasmania, and 90% of non-emergency courses started within a range of 14 days in the Northern Territory to 31 days in New South Wales and Queensland (Table A4.16).

The median waiting time for non-emergency patients in the private sector was 6 days, and 22 days at the 90th percentile.



Note: Western Australian data are not reported separately (see Box 3.1), but are included in data for 'Australia'.

Source: Table A4.16.

Figure 3.5: Radiotherapy waiting times (days) at 50th and 90th percentiles for non-emergency treatment, states and territories (public), total private, and Australia, 2014–15

Principal diagnosis

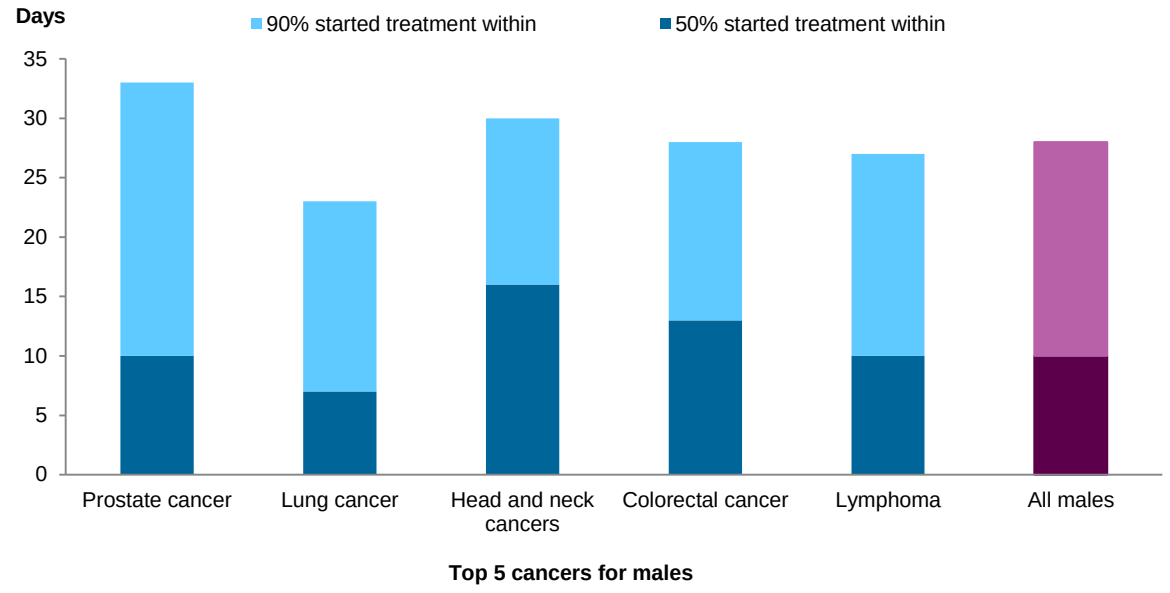
The majority of radiotherapy treatment is delivered to treat cancer. Figure 3.6 presents waiting times for radiotherapy for the top 5 most frequently reported cancers in the NRWTD for males. Figure 3.7 presents the equivalent data for females. For those cancers that appear in the top 5 for both males and females (lung cancer, colorectal cancer and lymphoma) there is little difference between waiting times for males and females.

Jurisdictional differences in the proportions of different cancers is unlikely to be representative of differences in cancer rates (see Chapter 2) and are more likely an indication of data quality issues. For this reason, comparisons should be made with caution.

For males, the longest waiting times at the 50th percentile were for head and neck cancer (16 days); the principal diagnosis associated with the longest waiting times at the 90th percentile was prostate cancer (33 days) (Table A4.17). For females, the longest waiting times at the 50th percentile were for uterine cancers (13 days), and at the 90th percentile for breast cancer at 30 days (Table A4.18).

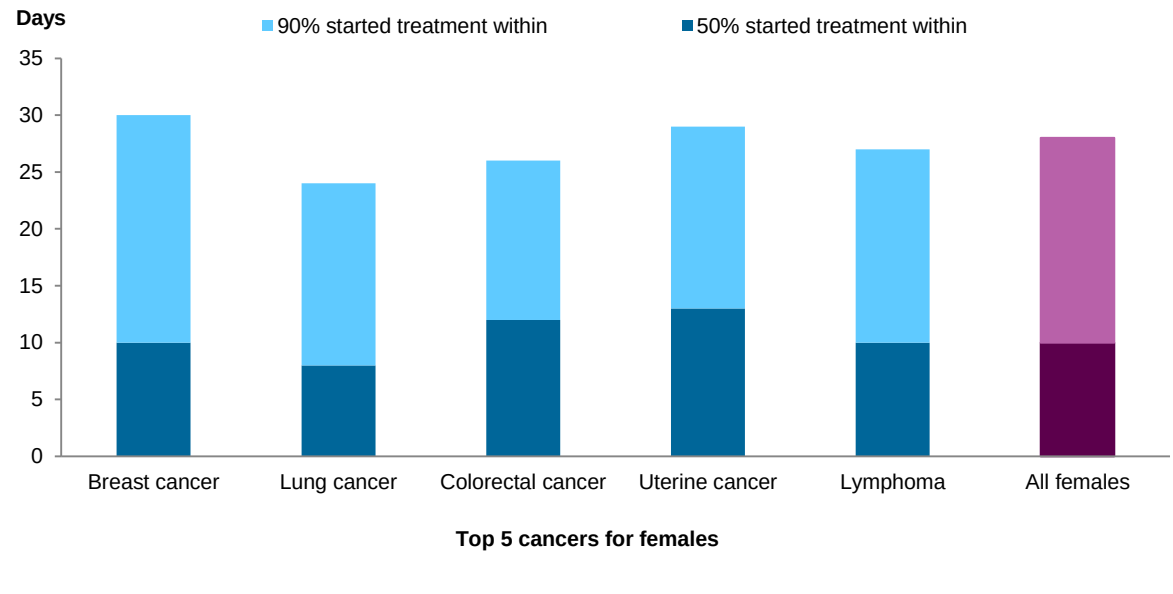
Median waiting times varied greatly by principal diagnosis, jurisdiction and sector. The longest median waiting time among the top 5 principal diagnoses for males was for prostate cancer in South Australia (28 days, compared with 7 days in the Northern Territory and in the private sector), while the shortest waiting time was for head and neck cancer in the Northern Territory (1 day, compared with 20 days across Victoria, Queensland and the Australian Capital Territory). The longest median waiting time among the top 5 principal diagnoses for females was for breast cancer in South Australia (21 days, compared with 5 days in the private sector and 6 days in the Northern Territory) and the shortest waiting time was for lung cancer in the Northern Territory (3 days, compared with 14 days in South Australia and Tasmania).

As noted in Chapter 2, there are a small number of non-cancer conditions which are treated with radiotherapy. Of these non-cancer cases, 50% started treatment within 9 days, and 90% within 22 days.



Sources: Table A4.17 and Table A4.19.

Figure 3.6: Radiotherapy waiting times (days) at 50th and 90th percentiles for the top 5 cancers for which radiotherapy was provided, males, Australia, 2014–15



Sources: Table A4.18 and Table A4.19.

Figure 3.7: Radiotherapy waiting times (days) at 50th and 90th percentiles for the top 5 cancers for which radiotherapy was provided, females, Australia, 2014–15

3.3 Patient demographics

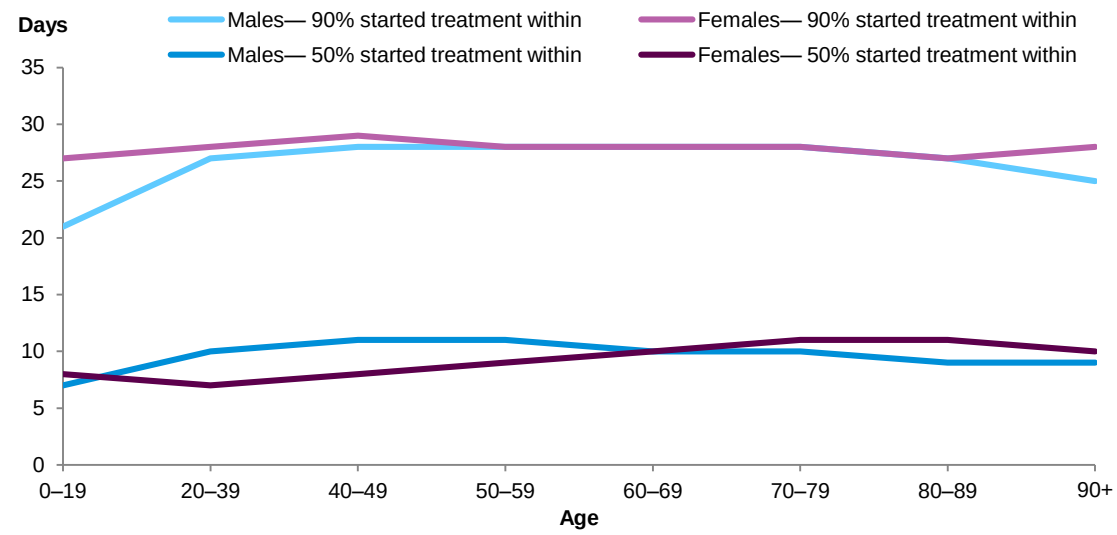
Sex and age of patients

Figure 3.8 shows waiting times by sex and age in Australia. Nationally, males and females were treated within very similar timeframes, with some variation across states and territories (Table A4.19). The differences that do occur for males and females across states and territories may reflect differences in the types of cancers being treated.

Although there were variations in waiting times across the age groups (Table A4.20), children and adolescents usually waited for shorter periods than other people, with 50% of those under 20 starting treatment within 7 days (compared with 10 days for other patients), and 90% within 23 days (compared with 28 days for other patients).

Among public sector providers, median waiting times for males ranged between 6 days in the Northern Territory and 14 days in Tasmania, and for females the range was between 4 days in the Northern Territory and 14 days in Queensland and Tasmania.

For both males and females receiving treatment in the private sector, 50% were treated within 6 days, compared with 12 days in the public sector (Table A4.19).



Source: Table A4.21.

Figure 3.8: Radiotherapy waiting times (days) at 50th and 90th percentiles by sex and age, Australia, 2014–15

Indigenous status

Overall, waiting times for patients who were of Aboriginal or Torres Strait Islander origin were lower than those for non-Indigenous patients—50% of Indigenous patients waited 8 days or less (compared with 12 days or less for non-Indigenous patients) and 90% of Indigenous patients waited 27 days or less (compared with 29 days for non-Indigenous patients) (Table A4.22).

Shorter waiting times for Indigenous people may, in part, reflect a disproportionately high percentage of courses delivered to Indigenous people in the Northern Territory, where overall waiting times for radiotherapy are shorter than other jurisdictions—in the Northern

Territory, 19% of courses were delivered to Indigenous people, compared with 0.8% of courses delivered nationwide. Because of the extent of missing data, as well as data quality concerns (as outlined in Chapter 2, Table 2.3), these results should be interpreted with caution.

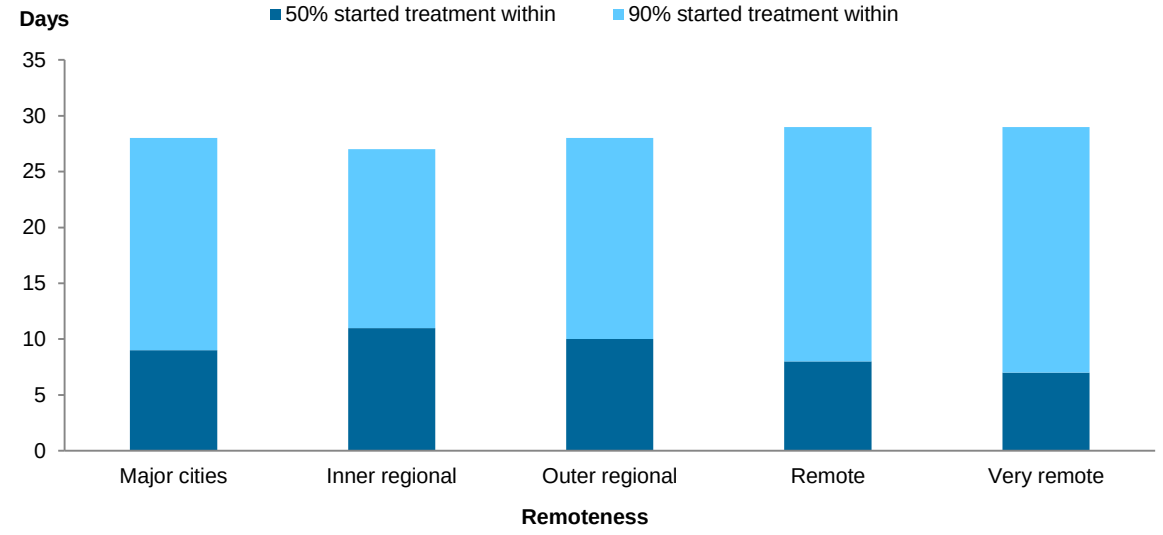
Area of usual residence of the patient

Area-of-residence data available in this collection enables reporting on the remoteness and socioeconomic status of the area where a patient usually resides. See Box 2.3 for an explanation of the limitations inherent in using area of usual residence data.

Remoteness areas

Figure 3.9 shows waiting times for patients based on the remoteness area in which they usually live (see Box 2.1 for a description of the remoteness area categories). People who live in *Very remote* areas have lower reported median waiting times (7 days) compared with those living in the other geographic areas, the highest being *Inner regional* at 11 days. At the 90th percentile, waiting times varied from 27 days in *Inner regional* to 29 days in *Remote* and *Very remote* areas.

It should be noted that for people who live remotely, these data may not give a comparable picture of how long they wait for radiotherapy—there may be different treatment pathways, possibly involving waiting for radiation oncologists who visit remote areas on a regular basis, or having to make arrangements to visit treatment sites elsewhere.



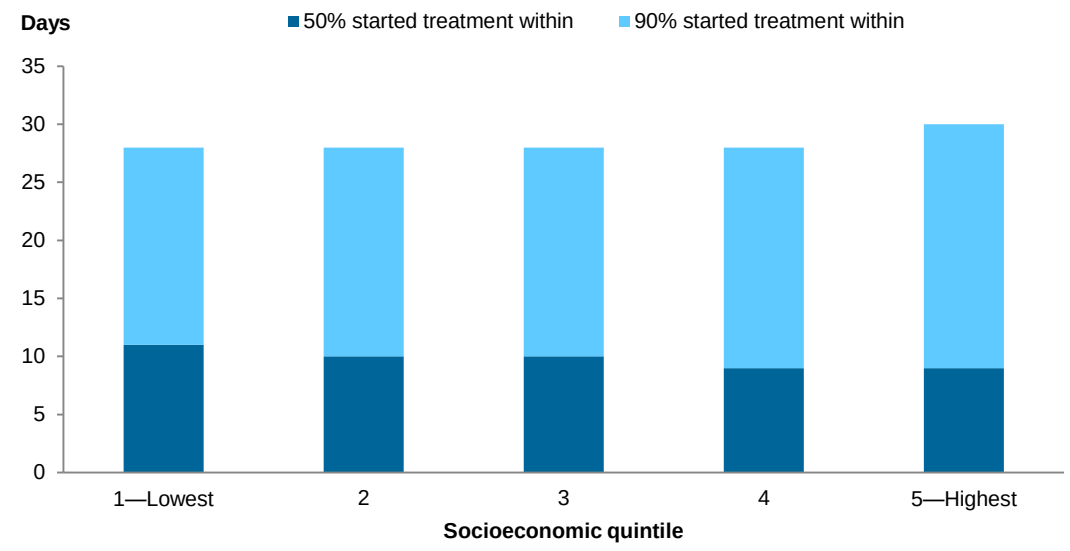
Source: Table A4.23.

Figure 3.9: Radiotherapy waiting times (days) at 50th and 90th percentiles by remoteness, Australia, 2014–15

Socioeconomic status

Waiting times by socioeconomic status are presented in Figure 3.10. Quintile 1 represents the areas of lowest socioeconomic status (that is, the most disadvantaged areas) in Australia, and quintile 5 the areas of highest socioeconomic status (that is, the least disadvantaged areas; see Box 2.4 for an explanation of socioeconomic status). Nationally, the median waiting time for patients in quintile 1 (the group with the lowest socioeconomic status) was 11 days and for

patients in quintiles 4 and 5 (the groups with the highest socioeconomic status) it was 9 days. At the 90th percentile, patients in quintiles 1 to 4 started treatment within 28 days and patients in quintile 5 (the group with the highest socioeconomic status) started treatment within 30 days.



Source: Table A4.24.

Figure 3.10: Radiotherapy waiting times (days) at 50th and 90th percentiles by socioeconomic status, Australia, 2014–15

Appendix 1: Participating radiotherapy providers

Table A1.1: Radiotherapy service providers that contributed data to the 2014–15 pilot collection, by public/provider status and participation status for the 2013–14 collection

	Public provider	Private provider	2013–14	2014–15
New South Wales				
Calvary Mater Newcastle	●		●	●
Central Coast Cancer Centre (Gosford Hospital)	●		●	●
Central West Cancer Service (Orange Base Hospital)	●		●	●
Chris O'Brien Lifehouse (Sydney)[(a)]		●	●	●
Crown Princess Mary Cancer Centre (Westmead Hospital, Sydney)	●		●	●
Genesis CancerCare Hurstville (Waratah Private Hospital)		●		●
Genesis CancerCare, Macquarie University Hospital (Sydney)		●		●
Genesis CancerCare, Newcastle (Lake Macquarie Private Hospital)		●		●
Genesis CancerCare St Vincent's Clinic (Sydney)		●		●
Genesis CancerCare, The Mater Hospital (Sydney)		●		●
Illawarra Cancer Care Centre (Wollongong Hospital)	●		●	●
Liverpool Cancer Therapy Centre	●		●	●
Macarthur Cancer Therapy Centre (Campbelltown Hospital)	●		●	●
Mid North Coast Cancer Institute, Coffs Harbour	●		●	●
Mid North Coast Cancer Institute, Port Macquarie	●		●	●
Nepean Cancer Care Centre	●		●	●
North Coast Cancer Institute (Lismore Base Hospital)	●		●	●
North West Cancer Centre (Tamworth Hospital)	●		●	●
Prince of Wales Hospital (Sydney)	●		●	●
Radiation Oncology Centres, Gosford		●		●
Radiation Oncology Centres, Wahroonga		●		●
Riverina Cancer Care Centre (Wagga Wagga)		●	●	●
Royal North Shore Hospital (Sydney)	●		●	●
Shoalhaven Cancer Care Centre (Shoalhaven District Memorial Hospital)	●		●	●
St George Cancer Care Centre (Sydney)	●		●	●
St Vincent's Hospital (Sydney)	●		●	●
Victoria				
Andrew Love Cancer Centre (University Hospital, Geelong)	●		●	●
Austin Radiation Oncology Centre, Olivia Newton-John Cancer and Wellness Centre (Melbourne)	●		●	●
Ballarat Austin Radiation Oncology Centre	●		●	●

(continued)

Table A1.1 (continued): Radiotherapy service providers that contributed data to the 2014–15 pilot collection, by public/provider status and participation status for the 2013–14 collection

	Public provider	Private provider	2013–14	2014–15
Epworth Radiation Oncology, Freemasons (Melbourne)		●	●	●
Epworth Radiation Oncology, Richmond		●	●	●
Peter MacCallum Cancer Centre, Bendigo (Bendigo Radiotherapy Centre)	●		●	●
Peter MacCallum Cancer Centre, Box Hill (Epworth Eastern Medical Centre)	●		●	●
Peter MacCallum Cancer Centre, East Melbourne	●		●	●
Peter MacCallum Cancer Centre, Moorabbin (Monash Medical Centre)	●		●	●
Peter MacCallum Cancer Centre, Sunshine (Sunshine Hospital Radiation Therapy Centre)	●		●	●
Radiation Oncology Victoria, Casey (Casey Radiation Oncology Centre)		●		●
Radiation Oncology Victoria, Epping (Epping Medical and Specialist Centre)		●	●	●
Radiation Oncology Victoria, Frankston (Frankston Private)		●	●	●
Radiation Oncology Victoria, Murray Valley (Murray Valley Private Hospital, Wodonga)		●	●	●
Radiation Oncology Victoria, Ringwood (Ringwood Private Hospital)		●	●	●
Radiation Oncology Victoria, Western (Western Private Hospital, Footscray)		●	●	●
William Buckland Radiotherapy Centre, Gippsland (La Trobe Regional Hospital, Traralgon)	●		●	●
William Buckland Radiotherapy Centre, The Alfred Hospital (Melbourne)	●		●	●
Queensland				
Princess Alexandra Hospital (Brisbane)	●		●	●
Radiation Oncology at the Mater Centre (Brisbane)[(b)]	●		●	●
Radiation Oncology Centres, Toowoomba[(c)]		●	●	●
Radiation Oncology Centres, Bundaberg		●		●
Radiation Oncology Centres, Cairns[(c)]		●	●	●
Radiation Oncology Centres, Fraser Coast		●		●
Radiation Oncology Centres, Gold Coast[(c)]		●	●	●
Radiation Oncology Centres, Maroochydore[(d)]		●	●	
Royal Brisbane and Women's Hospital	●		●	●
Townsville Hospital	●		●	●
Western Australia				
Bunbury Hospital	●			●
Fiona Stanley Hospital (Perth)	●			●
Royal Perth Hospital	●			●
Sir Charles Gardiner Hospital (Perth)	●		●	●

(continued)

Table A1.1 (continued): Radiotherapy service providers that contributed data to the 2014–15 pilot collection, by public/provider status and participation status for the 2013–14 collection

	Public provider	Private provider	2013–14	2014–15
South Australia				
GenesisCare, Adelaide (St Andrews's Hospital)		●	●	●
GenesisCare, Bedford Park (Flinders Private Hospital, Adelaide)		●	●	●
GenesisCare, Elizabeth Vale (Calvary Central Districts Hospital, Adelaide)		●	●	●
GenesisCare, Kurralta Park (Tennyson Centre, Adelaide)		●	●	●
Royal Adelaide Hospital	●		●	●
Tasmania				
Launceston General Hospital	●		●	●
Royal Hobart Hospital	●		●	●
Australian Capital Territory				
The Canberra Hospital	●		●	●
Northern Territory				
Alan Walker Cancer Care Centre (Darwin)	●		●	●

(a) This site was known as Royal Prince Alfred Hospital (a public provider) until November 2013. In this report, this site is reported as a private provider, but in the report of 2013–14 data (AIHW 2015), it was treated as a public provider.

(b) This site participated as part of the Princess Alexandra Hospital in 2013–14.

(c) Previously known as Radiation Oncology Queensland (ROQ).

(d) Previously known as Oceania, Maroochydore.

Appendix 2: Data quality summary

National Radiotherapy Waiting Times Database, 2014–15 (pilot collection)

The National Radiotherapy Waiting Times Database (NRWTD) (METeOR ID: 598445) is a compilation of data supplied to the AIHW based on the Radiotherapy Waiting Times Data Set Specification (DSS) (METeOR ID: 517220) which was collected from participating radiotherapy providers for the period 2014–15 as the second year of a pilot collection. Each record provides information relating to a course of radiotherapy that began in the reference period (that is, where the waiting period associated with the course of radiotherapy ended in the reference period). Other data collected includes administrative details, patient demographic characteristics and some clinical information, as follows:

- Establishment identifier
- Establishment location (Australian Statistical Geography Standard 2011, SA2)
- Ready-for-care date
- Radiotherapy start date
- Person identifier
- Emergency status (yes, no)
- Intention of treatment (curative, palliative, prophylactic)
- Principal diagnosis (ICD-10-AM 8th edition)
- Sex
- Date of birth
- Indigenous status
- Patient area of usual residence (SA2).

Summary of key issues

Reporting by radiotherapy providers for this second pilot year of collection was not mandatory, however full coverage of public providers was achieved, and a high proportion of private providers chose to provide data. The retrospective and pilot nature of this collection increases the likelihood that definitions such as the *Ready-for-care date* and *Radiotherapy start date*, that clinicians and providers use, may vary from the agreed DSS definition. These differences cannot be resolved or compensated for in this retrospective collection. This may particularly affect comparisons of data across states/territories and across sectors.

Institutional environment

The Australian Government set up the AIHW as a major national agency under the *Australian Institute of Health and Welfare Act 1987* to provide reliable, regular and relevant information and statistics on Australia's health and welfare. It is an independent corporate Commonwealth entity that a management board governs, and it is accountable to the Australian Parliament through the Health portfolio.

The AIHW aims to improve the health and wellbeing of Australians through better health and welfare information and statistics. It collects and reports information on a wide range of topics and issues, ranging from health and welfare expenditure, hospitals, disease and injury, and mental health, to ageing, homelessness, disability and child protection.

The Institute also plays a role in developing and maintaining national metadata standards. This work contributes to improving the quality and consistency of national health and welfare statistics. The Institute works closely with governments and non-government organisations to achieve greater adherence to these standards in administrative data collections to promote national consistency and comparability of data and reporting.

One of the main functions of the AIHW is to work with the states and territories to improve the quality of administrative data and, where possible, to compile national data sets based on data from each jurisdiction, to analyse these data sets and disseminate information and statistics.

The *Australian Institute of Health and Welfare Act 1987*, in conjunction with compliance to the *Privacy Act 1988* (Commonwealth), ensures that the data collections that the AIHW manages are kept securely and under the strictest conditions with respect to privacy and confidentiality.

For further information, see the AIHW website <www.aihw.gov.au>.

The state and territory health authorities received the data used in this report from public radiotherapy providers. States and territories use these data for service planning, monitoring and internal and public reporting. These public radiotherapy providers may be required to provide data to states and territories through a variety of administrative arrangements, contractual requirements or legislation.

Some private providers that have a contract or partnership arrangement to provide services to public patients were required to participate, while other private providers (that were not obliged by a contract or a partnership agreement to participate) did so voluntarily. Some private providers submitted data directly to the AIHW while others submitted through their state or territory health authority.

Timeliness

The reference period for this data set is 2014–15. This includes records for all patients who started a course of radiotherapy between 1 July 2014 and 30 June 2015. These data were first published in October 2016.

Accessibility

The AIHW publishes data from this collection on the AIHW website at <www.aihw.gov.au>.

Interpretability

Metadata information for the RWT DSS is published in the AIHW's Metadata Online Registry (METeOR).

METeOR can be accessed at the following AIHW web address:

<http://meteor.aihw.gov.au/content/index.phtml/itemId/517220>.

Relevance

The purpose of the radiotherapy waiting times DSS is to collect information about the times that patients wait for radiotherapy in Australia, and the factors that affect waiting times. Information is also collected on the number of courses of radiotherapy provided and key demographic and clinical information about the patients who received this treatment. The scope of the DSS is patients who began a course of radiotherapy in the reporting period in Australia.

Accuracy

A number of quality issues were identified, but it is not possible to quantify impact.

- For 2014–15, all public radiotherapy centres provided data for the RWT DSS. Participation by private providers was lower—76% of private providers are included in this collection; therefore, the reported data may not be representative of that sector as a whole. A small proportion of sites were unable to provide waiting time data, but did provide other requested data.
- This is a pilot collection—and the data were requested retrospectively—so some providers may not have recorded all data items or may not have recorded items according to agreed definitions. This may particularly affect assignment of ready-for-care dates which are used to calculate waiting times.
- Providers are primarily responsible for the quality of the data they provide. However, the AIHW undertakes extensive validations on receipt of data. Data are checked for valid values and logical consistency. Potential errors are queried with jurisdictions at the time data are loaded, and corrections and resubmissions may be made in response to these edit queries. The AIHW does not adjust data to account for possible data errors or missing or incorrect values. However, negative waiting times were disregarded in the calculation of waiting times.
- Victoria and Western Australia have noted that there is likely to be some under-count of emergency cases in their jurisdictions. Some codes have been mapped by data providers from local coding systems, such as *Emergency status* in Victoria. This practice has led to possible under-identification of emergency cases in Victoria. Some providers were unable to code patients' area of usual residence using full address details to the required SA2 code. In these cases, providers have, in most cases, assigned the SA2 code based on the mapping from postcode to SA2 correspondences published by the ABS. The ABS has characterised the overall quality rating for this mapping as 'poor'. This means that the ABS expects there is a high likelihood the correspondence will not convert data overall accurately and that the converted data should be used with caution as it may not reflect the actual characteristics of many of the geographic regions involved.
- Data on Indigenous Australians should be interpreted with caution as there was a high proportion of courses of radiotherapy for which the Indigenous status of the patient was not reported (34%); where Indigenous status was reported, the quality of the data is unknown.
- Data reported for principal diagnosis may not be a reflection of the incidence of certain cancers in the Australian population. The differences in principal diagnoses activity in this report may indicate data quality issues, for example, where some providers may be reporting the primary site of the cancer, rather than the diagnosis code associated with the health condition being treated in the specific course of radiotherapy.

- In 2014–15, data for public and private service providers in Victoria was provided on a different basis to other data suppliers—Victoria provided data for courses of radiotherapy that *ended* (not started) in the collection period. As these records are considered to be broadly equivalent to data that other data suppliers submitted, all data reported by Victoria have been included in this report. However, some care is needed in comparing 2014–15 data to 2013–14 data for Victorian public providers as, although the same issue occurred in the 2013–14 data, there was an under-count of courses for Victorian public providers in that year's data due to the non-inclusion of records where courses started prior to the reference period.
- In 2013–14 and 2014–15 public provider activity in South Australia was understated due to technical issues with the data extraction process. Waiting times in South Australia may also have been affected by data quality issues associated with the setting of ready-for-care dates, particularly for breast and prostate cancers.
- Western Australia provided waiting times data for 1 public radiotherapy site only. To protect the confidentiality of that service provider, waiting times have not been published for Western Australia, at their request.

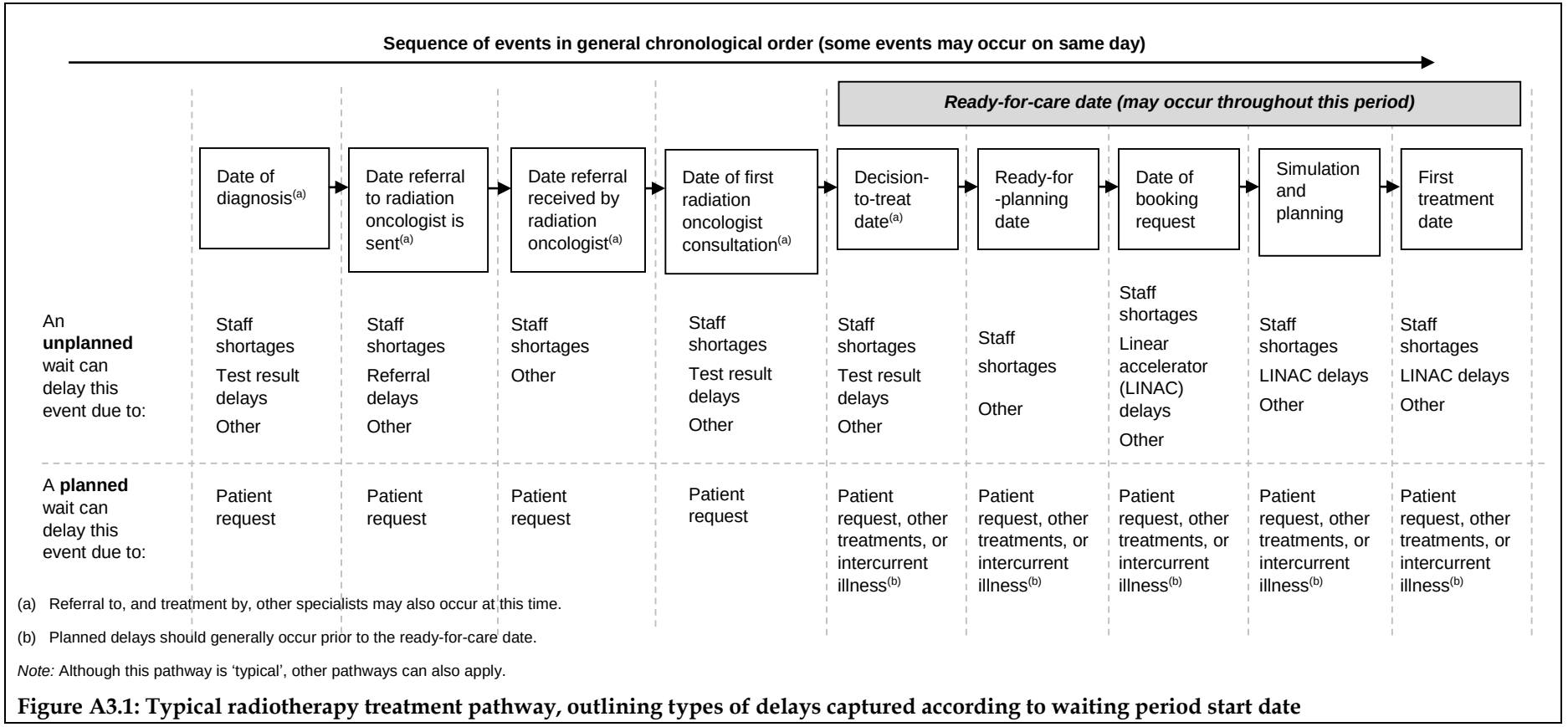
Coherence

2014–15 is the second pilot year of collection of radiotherapy waiting times data. There were no changes to the metadata upon which the data collections are based and the 2013–14 and 2014–15 data collections are broadly comparable. However, the following differences should be noted:

- there was substantially increased participation by private providers in the 2014–15 data collection, compared with the 2013–14 data collection
- as mentioned previously, some care is needed in comparing 2014–15 data to 2013–14 data for Victorian public providers as there was an under-count of courses for Victorian public providers in that year's data due to the non-inclusion of records where courses started prior to the reference period.

Appendix 3: A typical radiotherapy treatment pathway

Figure A3.1 displays many of the dates which occur through a typical radiotherapy treatment pathway. There are many components of this treatment pathway that could be viewed as contributing to a patient's waiting times. In the National Radiotherapy Waiting Times Database, the waiting time reported is measured as the date the patient is ready for care to the radiotherapy start date for the course of radiotherapy. Factors that are, and are not, expected to influence the ready-for-care date are described in the metadata for *Ready-for-care date* available in the Metadata Online Registry (METeOR), METeOR ID: 448141 (<meteor.aihw.gov.au>).



(a) Referral to, and treatment by, other specialists may also occur at this time.

(b) Planned delays should generally occur prior to the ready-for-care date.

Note: Although this pathway is 'typical', other pathways can also apply.

Figure A3.1: Typical radiotherapy treatment pathway, outlining types of delays captured according to waiting period start date

Appendix 4: Detailed statistical tables

Radiotherapy activity and patients

Table A4.1: Radiotherapy courses, states and territories (public) and sector, 2014–15

	Public sector providers								Sector		
	NSW	Vic[a]	Qld	WA	SA[a]	Tas	ACT	NT	Public (total)	Private[b]	Australia
Number											
2013–14	15,226	9,480	6,254	1,924	1,581	1,647	1,364	189	37,665	9,992	**47,657**
2014–15	14,145	10,707	5,964	3,801	1,654	1,789	1,293	428	39,781	16,595	**56,376**
Per cent											
2013–14	31.9	19.9	13.1	4.0	3.3	3.5	2.9	0.4	79.0	21.0	**100.0**[c]
2014–15	25.1	19.0	10.6	6.7	2.9	3.2	2.3	0.8	70.6	29.4	**100.0**[c]

(a) In 2013–14 and 2014–15 data in South Australia were under-counted, and in 2013–14 data for Victoria were under-counted—see Chapter 1.

(b) The number of private providers contributing to this collection increased from 16 in 2013–14 to 26 in 2014–15.

(c) Totals may not equal the sum of individual cells due to rounding.

Table A4.2: Radiotherapy courses by intention of treatment, states and territories (public) and sector, 2014–15

	Public sector providers								Sector		
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Public (total)	Private	Australia[a]
Number											
Curative	7,972	5,980	3,687	2,575	816	1,065	726	170	22,991	9,620	**32,611**
Palliative	5,089	4,609	1,746	1,197	826	695	565	244	14,971	6,444	**21,415**
Prophylactic	891	37	494	4	12	0	0	14	1,452	90	**1,542**
Not stated	193	81	37	25	0	29	2	0	367	441	**808**
Total	14,145	10,707	5,964	3,801	1,654	1,789	1,293	428	39,781	16,595	**56,376**
Per cent											
Curative	56.4	55.9	61.8	67.7	49.3	59.5	56.1	39.7	57.8	58.0	**57.8**
Palliative	36.0	43.0	29.3	31.5	49.9	38.8	43.7	57.0	37.6	38.8	**38.0**
Prophylactic	6.3	0.3	8.3	0.1	0.7	0.0	0.0	3.3	3.6	0.5	**2.7**
Not stated	1.4	0.8	0.6	0.7	0.0	1.6	0.2	0.0	0.9	2.7	**1.4**
Total[a]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Totals may not equal the sum of individual cells due to rounding.

Table A4.3: Radiotherapy courses by intention of treatment by age group (years), 2014–15

	Intention of treatment			
	Curative	Palliative	Prophylactic	Australia[a]
Number				
0–19	273	88	6	**367**
20–39	1,418	479	49	**1,946**
40–49	3,165	1,380	123	**4,668**
50–59	6,407	3,555	283	**10,245**
60–69	9,712	6,014	439	**16,165**
70–79	8,118	5,691	418	**14,227**
80–89	3,077	3,613	197	**6,887**
90+	438	583	27	**1,048**
Per cent				
0–19	74.4	24.0	1.6	**100.0**
20–39	72.8	24.7	2.5	**100.0**
40–49	67.8	29.5	2.6	**100.0**
50–59	62.5	34.7	2.8	**100.0**
60–69	60.1	37.2	2.7	**100.0**
70–79	57.1	40.0	2.9	**100.0**
80–89	44.7	52.5	2.9	**100.0**
90+	41.8	55.6	2.6	**100.0**

(a) Totals may not equal the sum of individual cells due to rounding.

Table A4.4: Radiotherapy courses by emergency status, states and territories (public) and sector, 2014–15[a]

	Public sector providers								Sector		
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Public (total)	Private	Australia
Number											
Emergency	485	60	180	n.p.	96	87	75	n.p.	1,021	152	**1,173**
Non-emergency	13,660	10,647	5,784	n.p.	1,558	1,702	1,218	n.p.	38,760	16,443	**55,203**
Total	**14,145**	**10,707**	**5,964**	**3,801**	**1,654**	**1,789**	**1,293**	**428**	**39,781**	**16,595**	**56,376**
Per cent											
Emergency	3.4	0.6	3.0	n.p.	5.8	4.9	5.8	n.p.	2.6	0.9	**2.1**
Non-emergency	96.6	99.4	97.0	n.p.	94.2	95.1	94.2	n.p.	97.4	99.1	**97.9**
Total[b]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) There were no records for which emergency status was not stated.

(b) Totals may not equal the sum of individual cells due to rounding.

Table A4.5: Radiotherapy courses by intention of treatment and emergency status, 2014–15

	Emergency status		
	Emergency	**Non-emergency**	**Australia**
Number			
Curative	88	32,523	**32,611**
Palliative	935	20,480	**21,415**
Prophylactic	79	1,463	**1,542**
Not stated	71	737	**808**
Total	1,173	55,203	**56,376**
Per cent[(a)]			
Curative	0.2	57.7	**57.8**
Palliative	1.7	36.3	**38.0**
Prophylactic	0.1	2.6	**2.7**
Not stated	0.1	1.3	**1.4**
Total	2.1	97.9	**100.0**

(a) Totals may not equal the sum of individual cells due to rounding.

Table A4.6: Radiotherapy courses by sex of patient, states and territories (public) and sector, 2014–15

	Public sector providers								Sector		
	NSW	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**ACT**	**NT**	**Public (total)**	**Private**	**Australia**
Number											
Males	7,396	5,221	3,058	2,048	854	927	635	239	20,378	8,271	**28,649**
Females	6,749	5,486	2,906	1,753	800	861	658	189	19,402	8,322	**27,724**
Not stated	0	0	0	0	0	1	0	0	1	2	**3**
Total	14,145	10,707	5,964	3,801	1,654	1,789	1,293	428	39,781	16,595	**56,376**
Per cent											
Males	52.3	48.8	51.3	53.9	51.6	51.8	49.1	55.8	51.2	49.8	**50.8**
Females	47.7	51.2	48.7	46.1	48.4	48.1	50.9	44.2	48.8	50.1	**49.2**
Not stated	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	**0.0**
Total[(a)]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Totals may not equal the sum of individual cells due to rounding.

Table A4.7: Radiotherapy courses by age group (years), states and territories (public) and sector, 2014–15

	Public sector providers								Sector		
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Public (total)	Private	Australia
Number											
0–19	127	95	70	36	19	1	n.p.	n.p.	353	18	**371**
20–39	413	431	253	156	70	54	53	19	1,449	509	**1,958**
40–49	1,126	923	611	323	144	114	115	42	3,398	1,339	**4,737**
50–59	2,528	1,983	1,188	697	290	311	296	107	7,400	3,009	**10,409**
60–69	4,161	2,942	1,823	1,117	451	598	388	127	11,607	4,786	**16,393**
70–79	3,707	2,723	1,368	969	426	457	275	96	10,021	4,420	**14,441**
80–89	1,837	1,423	557	440	227	224	133	36	4,877	2,107	**6,984**
90+	246	187	94	63	27	30	n.p.	n.p.	661	407	**1,068**
Not stated	0	0	0	0	0	0	15	0	15	0	**15**
Total	**14,145**	**10,707**	**5,964**	**3,801**	**1,654**	**1,789**	**1,293**	**428**	**39,781**	**16,595**	**56,376**
Per cent											
0–19	0.9	0.9	1.2	0.9	1.1	0.1	n.p.	n.p.	0.9	0.1	**0.7**
20–39	2.9	4.0	4.2	4.1	4.2	3.0	4.1	4.4	3.6	3.1	**3.5**
40–49	8.0	8.6	10.2	8.5	8.7	6.4	8.9	9.8	8.5	8.1	**8.4**
50–59	17.9	18.5	19.9	18.3	17.5	17.4	22.9	25.0	18.6	18.1	**18.5**
60–69	29.4	27.5	30.6	29.4	27.3	33.4	30.0	29.7	29.2	28.8	**29.1**
70–79	26.2	25.4	22.9	25.5	25.8	25.5	21.3	22.4	25.2	26.6	**25.6**
80–89	13.0	13.3	9.3	11.6	13.7	12.5	10.3	8.4	12.3	12.7	**12.4**
90+	1.7	1.7	1.6	1.7	1.6	1.7	n.p.	n.p.	1.7	2.5	**1.9**
Not stated	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	**0.0**
Total[(a)]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Totals may not equal the sum of individual cells due to rounding.

Table A4.8: Radiotherapy courses by sex and age group (years), 2014–15

	Number			Per cent		
	Males	**Females**	**Australia**	**Males**	**Females**	**Australia**[(a)]
0–19	234	133	**367**	0.4	0.3	**0.7**
20–39	646	1,198	**1,844**	1.2	2.3	**3.5**
40–49	1,302	3,138	**4,440**	2.5	6.0	**8.4**
50–59	3,937	5,736	**9,673**	7.5	10.9	**18.4**
60–69	8,050	7,273	**15,323**	15.3	13.8	**29.1**
70–79	8,153	5,284	**13,437**	15.5	10.0	**25.5**
80–89	4,023	2,492	**6,515**	7.6	4.7	**12.4**
90+	528	453	**981**	1.0	0.9	**1.9**
Not stated	10	5	**15**	0.0	0.0	**0.0**
Australia	**26,883**	**25,712**	**52,595**	**51.1**	**48.9**	**100.0**

(a) Totals may not equal the sum of individual cells due to rounding.

Table A4.9: Radiotherapy courses by remoteness area of usual residence, states and territories (public) and sector, 2014–15

	Public sector providers								Sector		
	NSW	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**ACT**	**NT**	**Public (total)**	**Private**	**Australia**
Number											
Major cities	9,760	7,266	3,956	1,664	1,093	2	n.p.	n.p.	24,579	9,439	**34,018**
Inner regional	3,522	2,617	1,061	129	168	1,181	n.p.	n.p.	8,923	2,177	**11,100**
Outer regional	783	768	807	228	270	575	150	313	3,893	1,372	**5,265**
Remote	52	17	89	82	95	24	1	57	416	161	**577**
Very remote	11	2	42	45	25	7	0	55	186	51	**238**
Not stated	18	28	10	2	2	0	64	0	124	1,276	**1,400**
Total	**14,145**	**10,698**	**5,964**	**2,151**	**1,654**	**1,789**	**1,293**	**428**	**38,122**	**14,476**	**52,598**
Per cent											
Major cities	69.0	67.9	66.3	77.4	66.1	0.1	n.p.	n.p.	64.5	65.2	**64.7**
Inner regional	24.9	24.5	17.8	6.0	10.2	66.0	n.p.	n.p.	23.4	15.0	**21.1**
Outer regional	5.5	7.2	13.5	10.6	16.3	32.1	11.6	73.2	10.2	9.5	**10.0**
Remote	0.4	0.2	1.5	3.8	5.8	1.4	0.1	13.3	1.1	1.1	**1.1**
Very remote	0.1	0.0	0.7	2.1	1.5	0.4	0.0	12.9	0.5	0.4	**0.5**
Not stated	0.1	0.3	0.2	0.1	0.1	0.0	4.9	0.0	0.3	8.8	**2.7**
Total[(a)]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Totals may not equal the sum of individual cells due to rounding.

Table A4.10: Proportion of the total population, 2014, and radiotherapy courses[a], by remoteness area of usual residence, 2014–15 (%)

	Australian population distribution									Radiotherapy courses
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia	
Major cities	74.3	76.8	62.2	76.9	73.5	. .	99.6	. .	**70.7**	**66.0**
Inner regional	19.2	18.9	20.3	9.1	10.9	65.7	0.4	. .	**18.2**	**22.2**
Outer regional	6.0	4.2	14.6	7.3	12.0	32.2	. .	57.3	**8.9**	**10.3**
Remote	0.4	0.1	1.7	4.1	2.7	1.6	. .	20.4	**1.4**	**1.1**
Very remote	0.1	. .	1.3	2.5	0.9	0.5	. .	22.4	**0.9**	**0.5**
Total[b]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) For courses where a valid area of usual residence was provided.

(b) Totals may not equal the sum of individual cells due to rounding.

Source: For Australian population data—ABS unpublished data (for 2014).

Table A4.11: Radiotherapy courses by socioeconomic status of area of usual residence, states and territories (public) and sector, 2014–15

SEIFA quintile	Public sector providers								Sector		
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Public (total)	Private	Australia
Number											
1—Lowest	4,228	1,441	1,359	535	523	791	122	114	9,113	2,907	**12,020**
2	3,376	2,148	1,109	762	476	285	155	72	8,383	2,876	**11,259**
3	2,464	2,586	1,406	852	196	317	160	48	8,029	2,556	**10,585**
4	1,884	2,543	1,229	566	231	354	293	124	7,224	3,101	**10,325**
5—Highest	2,172	1,845	850	1,029	133	42	498	65	6,634	3,353	**9,987**
Not stated	21	144	11	57	95	0	65	5	398	1,802	**2,200**
Total	**14,145**	**10,707**	**5,964**	**3,801**	**1,654**	**1,789**	**1,293**	**428**	**39,781**	**16,595**	**56,376**
Per cent											
1—Lowest	29.9	13.5	22.8	14.1	31.6	44.2	9.4	26.6	22.9	17.5	**21.3**
2	23.9	20.1	18.6	20.0	28.8	15.9	12.0	16.8	21.1	17.3	**20.0**
3	17.4	24.2	23.6	22.4	11.9	17.7	12.4	11.2	20.2	15.4	**18.8**
4	13.3	23.8	20.6	14.9	14.0	19.8	22.7	29.0	18.2	18.7	**18.3**
5—Highest	15.4	17.2	14.3	27.1	8.0	2.3	38.5	15.2	16.7	20.2	**17.7**
Not stated	0.1	1.3	0.2	1.5	5.7	0.0	5.0	1.2	1.0	10.9	**3.9**
Total[a]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Totals may not equal the sum of individual cells due to rounding.

Table A4.12: Proportion of the total population, 2014, and radiotherapy courses by socioeconomic status of usual residence[a], 2014–15 (%)

	Australian population distribution									
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia	Radiotherapy courses
1—Lowest	24.7	16.8	18.9	9.5	25.3	43.6	0.2	32.5	**20.0**	**22.6**
2	22.5	17.4	18.8	18.5	28.9	16.2	1.3	14.3	**19.9**	**20.7**
3	17.2	22.0	24.6	22.5	14.9	18.6	2.9	13.6	**20.0**	**19.2**
4	13.7	24.6	22.2	20.3	21.7	19.4	32.2	23.7	**20.0**	**19.0**
5—Highest	22.0	19.2	15.5	29.2	9.2	2.2	63.4	15.9	**20.0**	**18.5**
Total[b]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) For courses where a valid area of usual residence was provided.

(b) Totals may not equal the sum of individual cells due to rounding.

Sources: For Australian population—ABS 2013b and ABS 2015.

Radiotherapy waiting times

Table A4.13: Radiotherapy waiting times at 50th and 90th percentiles (days), states and territories (public) and sector, 2013–14 and 2014–15

	Public sector providers								Sector		
	NSW	Vic	Qld	WA	SA[a]	Tas	ACT	NT	Public (total)	Private	Australia[b]
2013–14											
50% started treatment within	12	10	16	n.p.	n.a.	13	12	7	12	12	**12**
90% started treatment within	33	28	34	n.p.	n.a.	26	24	22	31	28	**31**
Number of courses with valid waiting times data	15,226	9,480	6,254	1,924	0	1,647	1,364	189	36,084	2,565	**38,649**
2014–15											
50% started treatment within	13	10	13	n.p.	12	14	13	5	12	6	**10**
90% started treatment within	31	27	31	n.p.	26	27	23	14	29	22	**28**
Number of courses with valid waiting times data	14,145	10,683	5,964	2,148	1,654	1,789	1,293	428	38,104	14,340	**52,444**

(a) Data for South Australia should be treated with caution due to concerns regarding the setting of ready-for-care dates—see Chapter 1.

(b) 'Australia' includes Western Australia.

Table A4.14: Radiotherapy waiting times (days) at 50th and 90th percentiles, by intention of treatment, states and territories (public) and sector, 2014–15

	Public sector providers								Sector		
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Public (total)	Private	Australia[(a)]
Curative											
50% start treatment within	19	15	15	n.p.	17	16	19	7	17	7	**14**
90% start treatment within	36	29	34	n.p.	28	29	26	18	34	27	**33**
Palliative				.							
50% start treatment within	8	6	6	n.p.	6	12	8	4	7	4	**6**
90% start treatment within	21	16	22	n.p.	16	22	18	12	20	15	**19**
Prophylactic											
50% start treatment within	6	7	24	n.p.	n.p.	. .	. .	n.p.	10	4	**9**
90% start treatment within	18	27	42	n.p.	n.p.	. .	. .	n.p.	27	35	**27**

(a) 'Australia' includes Western Australia.

Table A4.15: Proportion of emergency patients treated within emergency timeframe, states and territories (public) and sector, 2014–15 (%)

	Public sector providers								Sector		
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Public (total)	Private	Australia[(a)]
Within emergency timeframe	95.5	100.0	90.6	n.p.	84.4	95.4	100.0	n.p.	94.1	72.5	**91.3**
Longer	4.5	0.0.	9.4	n.p.	15.6	4.6	0.0	n.p.	5.9	27.5	**8.7**

(a) 'Australia' includes Western Australia and the Northern Territory.

Table A4.16: Radiotherapy waiting times (days) at 50th and 90th percentiles for non-emergency treatment, states and territories (public) and sector, 2014–15

	Public sector providers								Sector		
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Public (total)	Private	Australia[(a)]
50% start treatment within	13	10	13	n.p.	12	14	13	5	12	6	**10**
90% start treatment within	31	27	31	n.p.	26	27	23	14	29	22	**28**

(a) 'Australia' includes Western Australia.

Table A4.17: Radiotherapy waiting times (days) at 50th and 90th percentiles by the top 5 cancers for which radiotherapy was provided, males, states and territories (public) and sector, 2014–15

	Public sector providers								Sector		
Principal diagnosis[(a)]	**NSW**	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**ACT**	**NT**	**Public (total)**	**Private**	**Australia**[(b)]
50% start treatment within											
Prostate cancer	13	9	9	n.p.	28	17	22	7	13	7	**10**
Lung cancer	8	7	8	n.p.	13	14	11	4	8	5	**7**
Head and neck cancers	19	20	20	n.p.	14	18	20	1	19	6	**16**
Colorectal cancer	17	13	14	n.p.	17	18	16	n.p.	14	5	**13**
Lymphoma	11	11	13	n.p.	8	16	13	n.p.	12	6	**10**
90% start treatment within											
Prostate cancer	37	34	31	n.p.	39	33	28	20	35	25	**33**
Lung cancer	23	21	27	n.p.	20	22	21	14	24	19	**23**
Head and neck cancers	32	29	34	n.p.	23	34	26	14	32	21	**30**
Colorectal cancer	32	27	28	n.p.	23	33	27	n.p.	28	23	**28**
Lymphoma	26	26	28	n.p.	24	33	18	n.p.	27	19	**27**

(a) ICD-10-AM principal diagnosis codes—Prostate cancer (C61), Lung cancer (C33–C34), Head and neck cancer (C00–C14, C30–C32), Colorectal cancer (C18–C20), Lymphoma (C81–C85).

(b) 'Australia' includes Western Australia.

Table A4.18: Radiotherapy waiting times (days) at 50th and 90th percentiles by top 5 cancers for which radiotherapy was provided, females, states and territories (public) and sector, 2014–15

	Public sector providers								Sector		
Principal diagnosis[(a)]	**NSW**	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**ACT**	**NT**	**Public (total)**	**Private**	**Australia**[(b)]
50% start treatment within											
Breast cancer	14	9	16	n.p.	21	16	14	6	13	5	**10**
Lung cancer	8	8	10	n.p.	14	14	12	3	9	5	**8**
Colorectal cancer	14	11	13	n.p.	14	15	n.p.	n.p.	13	6	**12**
Uterine cancer	17	16	12	n.p.	n.p.	n.p.	17	n.p.	15	5	**13**
Lymphoma	13	12	11	n.p.	n.p.	15	n.p.	n.p.	13	6	**10**
90% start treatment within											
Breast cancer	34	26	36	n.p.	28	31	21	14	32	25	**30**
Lung cancer	25	23	28	n.p.	24	24	21	11	25	19	**24**
Colorectal cancer	28	26	32	n.p.	24	27	n.p.	n.p.	27	20	**26**
Uterine cancer	29	32	35	n.p.	n.p.	n.p.	21	n.p.	29	30	**29**
Lymphoma	27	27	28	n.p.	n.p.	26	n.p.	n.p.	27	21	**27**

(a) ICD-10-AM principal diagnosis codes—Breast cancer (C50), Lung cancer (C33–C34), Colorectal cancer (C18–C20), Uterine cancer (C54–C55) and Lymphoma (C81–C85).

(b) 'Australia' includes Western Australia.

Table A4.19: Radiotherapy waiting times (days) at 50th and 90th percentiles by sex, states and territories (public) and sector, 2014–15

	Public sector providers								Sector		
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Public (total)	Private	Australia[a]
50% started treatment within[b]											
Males	13	10	12	n.p.	12	14	13	6	12	6	**10**
Females	13	10	14	n.p.	13	14	12	4	12	6	**10**
90% started treatment within[b]											
Males	32	27	29	n.p.	25	27	25	15	29	21	**28**
Females	31	26	33	n.p.	26	27	21	13	29	24	**28**

(a) 'Australia' includes Western Australia.

(b) Excludes data for 3 records where the person's sex was not stated.

Table A4.20: Radiotherapy waiting times (days) at 50th and 90th percentiles by age, states and territories and sector, 2014–15

	Public sector providers								Sector		
Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Public (total)	Private	Australia[a]
50% started treatment within											
0–19	7	8	4	n.p.	12	n.p.	n.p.	n.p.	7	4	**7**
20–39	13	9	12	n.p.	13	11	11	n.p.	12	5	**8**
40–49	12	10	14	n.p.	12	15	10	3	12	5	**9**
50–59	13	9	14	n.p.	10	14	12	6	12	6	**9**
60–69	13	10	14	n.p.	13	14	13	5	13	6	**10**
70–79	14	10	12	n.p.	13	15	13	6	13	6	**10**
80–89	13	9	12	n.p.	12	15	13	5	12	6	**9**
90+	14	10	12	n.p.	7	20	n.p.	n.p.	12	6	**9**
90% started treatment within											
0–19	21	20	27	n.p.	27	n.p.	n.p.	. .	23	28	**23**
20–39	30	26	31	n.p.	25	28	21	n.p.	29	19	**27**
40–49	31	27	32	n.p.	26	28	21	12	29	24	**28**
50–59	32	27	33	n.p.	23	28	22	14	29	23	**28**
60–69	32	27	32	n.p.	24	27	24	15	30	23	**28**
70–79	32	28	29	n.p.	27	28	24	14	30	22	**28**
80–89	28	25	29	n.p.	26	27	23	18	28	20	**27**
90+	28	23	27	n.p.	21	28	n.p.	n.p.	28	21	**27**

(a) 'Australia' includes Western Australia.

Table A4.21: Radiotherapy waiting times (days) at 50th and 90th percentiles, by sex and age, Australia, 2014–15

	Age group							
	0–19	**20–39**	**40–49**	**50–59**	**60–69**	**70–79**	**80–89**	**90+**
50% started treatment within								
Males	7	10	11	11	10	10	9	9
Females	8	7	8	9	10	11	11	10
Australia[(a)]	**7**	**8**	**9**	**9**	**10**	**10**	**9**	**9**
90% started treatment within								
Males	21	27	28	28	28	28	27	25
Females	27	28	29	28	28	28	27	28
Australia[(a)]	**23**	**27**	**28**	**28**	**28**	**28**	**27**	**27**

(a) 'Australia' only includes those courses where the person's sex was reported as either male or female.

Table A4.22: Radiotherapy waiting times (days) at 50th and 90th percentiles by Indigenous status, states and territories (public) and sector, 2014–15

	Public sector providers								Sector		
	NSW	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**ACT**	**NT**	**Public (total)**	**Private**[(a)]	**Australia**[(b)]
50% started treatment within											
Indigenous	13	14	14	n.p.	n.p.	n.p.	12	4	10	n.p.	**8**
Non-Indigenous	13	11	12	n.p.	12	14	13	5	13	n.p.	**12**
90% started treatment within											
Indigenous	33	25	27	n.p.	n.p.	n.p.	20	14	28	n.p.	**27**
Non-Indigenous	31	27	29	n.p.	26	27	23	14	29	n.p.	**29**

(a) Waiting times for private providers were not publishable due to a large number of missing records (78%).

(b) 'Australia' includes Western Australia.

Table A4.23: Radiotherapy waiting times at 50th and 90th percentile (days) by remoteness, states and territories and sector, 2013–14 and 2014–15

	Public sector providers								Sector		
Remoteness area	**NSW**	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**ACT**	**NT**	**Public (total)**	**Private**	**Australia[(a)]**
50% started treatment within											
Major cities	13	10	12	n.p.	12	n.p.	13	n.p.	12	5	**9**
Inner regional	14	8	14	n.p.	12	15	12	n.p.	13	7	**11**
Outer regional	14	8	14	n.p.	8	14	10	5	12	7	**10**
Remote	15	n.p.	14	n.p.	12	13	n.p.	6	13	3	**8**
Very remote	n.p.	n.p.	9	n.p.	13	n.p.	. .	3	8	7	**7**
90% started treatment within											
Major cities	32	27	31	n.p.	26	n.p.	23	n.p.	30	21	**28**
Inner regional	29	25	30	n.p.	27	27	24	n.p.	28	23	**27**
Outer regional	29	26	35	n.p.	23	27	24	14	28	22	**28**
Remote	34	n.p.	34	n.p.	21	33	n.p.	14	33	18	**29**
Very remote	n.p.	n.p.	33	n.p.	24	n.p.	. .	14	31	27	**29**

(a) 'Australia' includes Western Australia.

Table A4.24: Radiotherapy waiting times at 50th and 90th percentile (days) by socioeconomic status, states and territories (public) and sector, 2014–15

	Public sector providers								Sector		
	NSW	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**ACT**	**NT**	**Public (total)**	**Private**	**Australia[(a)]**
50% started treatment within											
1—Lowest	14	10	13	n.p.	12	14	14	4	13	6	**11**
2	14	8	13	n.p.	13	15	12	6	12	7	**10**
3	13	10	13	n.p.	13	13	9	6	12	6	**10**
4	13	10	12	n.p.	12	15	13	5	12	6	**9**
5—Highest	13	11	14	n.p.	11	18	13	6	13	5	**9**
90% started treatment within											
1—Lowest	29	27	31	n.p.	23	27	24	14	28	21	**28**
2	31	26	32	n.p.	25	27	22	15	29	22	**28**
3	29	27	29	n.p.	25	25	24	18	28	21	**28**
4	34	27	33	n.p.	27	28	21	14	29	21	**28**
5—Highest	34	28	33	n.p.	27	28	23	14	32	27	**30**

(a) 'Australia' includes Western Australia.

Glossary

Many definitions used in this report can be found in the Radiotherapy waiting times DSS 2013–15, available on the METeOR website < http://meteor.aihw.gov.au> (METeOR ID: 517220).

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.

chemotherapy: The use of drugs (chemicals) to prevent or treat disease, with the term being applied for treatment of cancer rather than for other uses.

course of radiotherapy: A series of 1 or more external beam radiotherapy treatments prescribed by a radiation oncologist.

curative: Treatment given with the intention of curing disease. See also **intention of treatment**.

emergency status (radiotherapy): An indicator of whether the treatment required for the patient is clinically assessed as an emergency. An emergency is where the treating clinician has assessed the waiting time for treatment cannot exceed 24 hours (METeOR ID: 448126).

Indigenous: A person of Aboriginal and/or Torres Strait Islander descent who identifies as an Aboriginal and/or Torres Strait Islander (METeOR ID: 291036).

intention of treatment: The reason treatment is provided to a patient (METeOR ID: 583857).

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. The ICD-10-AM is the Australian modification of the ICD-10; it is used for diagnoses and procedures recorded for patients admitted to hospitals.

metastasis: See **secondary site cancer**.

palliative treatment: Treatment given primarily for the purpose of pain or other symptom control. Consequent benefits of the treatment are considered secondary contributions to quality of life. See also **intention of treatment**.

primary site of cancer: The site of origin of the tumour, as opposed to the secondary or metastatic sites (METeOR ID: 391340) (see also **secondary site cancer**).

principal diagnosis: The diagnosis established after study to be chiefly responsible for occasioning a patient's service event or episode (METeOR ID: 433356).

prophylactic treatment: Treatment given to prevent the occurrence of disease at a site that exhibits no sign of active disease but is considered to be at risk. See also **intention of treatment**.

radiotherapy: Radiation directed at a localised area to kill or damage cancer cells. (See also Box 1.1.)

ready for care: The date, in the opinion of the treating clinician, on which a patient is ready to commence treatment (METeOR ID: 448141).

SA2 (Statistical area level 2): A geographic unit used to analyse social, physical and economic differences across Australia. SA2 is defined in the Australian Statistical Geography Standard (ASGS). Wherever possible SA2s are based on officially gazetted state suburbs and localities. In urban areas SA2s largely conform to whole suburbs and combinations of whole suburbs, while in rural areas they define functional zones of social and economic links.

secondary site cancer: A tumour that originated from a cancer elsewhere in the body. Also referred to as a metastasis.

waiting time: The number of days between when the patient was ready for care, and when the radiotherapy started (METeOR ID: 517220).

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In this report on the second pilot year collection of national radiotherapy data, data were received from 66 out of 74 service locations across Australia. These services contributed information on over 56,400 courses of radiotherapy delivered in 2014–15.

For non-emergency treatment, 50% of patients started treatment within 10 days and 90% started within 28 days. For those who needed emergency treatment, 91% began treatment within the emergency timeframe.