2011 Radiation Therapy Workforce Survey

RADIATION THERAPY ADVISORY PANEL

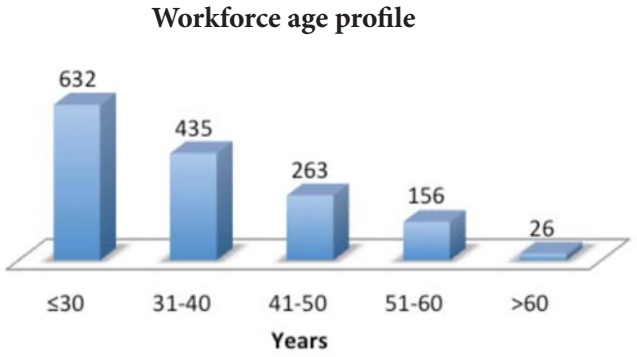

Figure 1 Age profile of the workforce

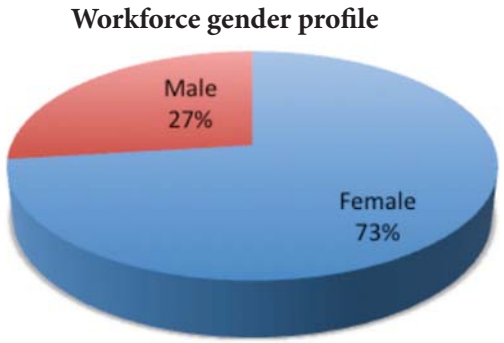

Figure 2 Gender profile of the workforce

Background

A national survey of the Australian Radiation Therapist workforce was conducted in August 2011 by the Radiation Therapy Advisory Panel (RTAP) of the Australian Institute of Radiography (AIR). This survey provides updated data on the radiation therapy (RT) workforce following the last survey performed in 2006. The need for recurring data regarding the Australian RT workforce was identified a decade ago after publication of the National Strategic Plan for Radiation Oncology[1] and the subsequent Baume Report.[2] In 2001, the Royal Australian and New Zealand College of Radiologists, (RANZCR), the AIR and the Australian College of Physical Scientists and Engineers in Medicine (ACPSEM) jointly presented the national strategic plan[1] which, at the time, described the parlous state of the radiation oncology workforce, in particular the radiation therapist workforce.

The strategic plan subsequently gave rise to the Baume Report,[2] which examined and made recommendations on a number of aspects to enhance radiation therapy services for cancer within Australia. The report examined and made recommendations on the number of radiation oncology units required across the country with reference to patient accessibility, as well as examining the roles, education and workload of radiation oncologists, radiation therapists and radiation physicists. In addition, the report recommended both Commonwealth and State government funding arrangements for radiation oncology in both the public and private sectors.

Since the Baume Report,[2] it has been RTAP's intention to conduct regular national surveys of the RT workforce to offer current information regarding the state of the workforce, so as to facilitate workforce planning for the future as well as to provide a basis for evaluating changes in the workforce resulting from the recommendations and initiatives that resulted from the Baume Report.[2]

Method

Each radiation therapy chief/manager in Australia was requested by their local RTAP member to complete an on-line questionnaire (using Google Docs cloud-based survey feature) regarding their staffing and machine operating hours for the week of 8th August 2011. Further contact was made with non-responding departments in an attempt to capture the entire Australian radiation therapy workforce.

Summary of the key findings

Twenty-nine responses out of a possible 36 were received, resulting in a response rate of 80.6%. 100% response was received from Australian Capital Territory, Northern Territory, South Australia, Tasmania and Victoria.

Based upon the responses made in the 2011 survey, the following results were obtained regarding the Australian RT workforce and equipment infrastructure.

The workforce

Nationally there were 1298.36 full time equivalent (FTE) RT positions were reported. Of these, 36.9 positions were vacant representing a vacancy rate of 2.8%.

There were 1512 qualified RTs reported as working either full- or part-time in Australia. Of these, 1191 (78.8%) individuals were working full-time and 321 (21.2%) working part-time.

Of the 1298.36 positions, 170.71 (13.2%) were filled by part-time staff.

Of RT vacancies, 89.6% were full-time positions (either ongoing or temporary) and 9.4% were part-time positions (ongoing or temporary).

150 positions were reported as being NPDP/PCP positions. Of these, 120 were supernumerary, with 30 positions being counted as part of FTE establishment. Eight NPDP/PCP positions were reported as being vacant

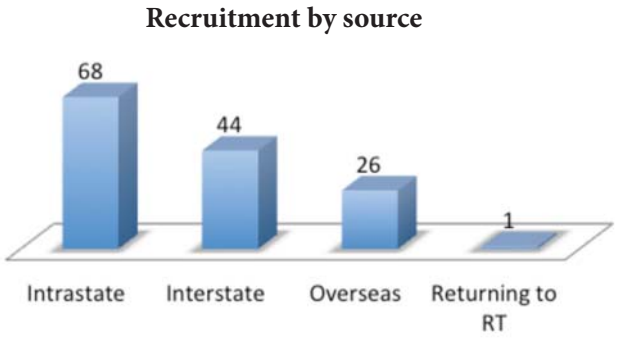

Figure 3 Recruitment of RTs by source during the 2010/11 financial year

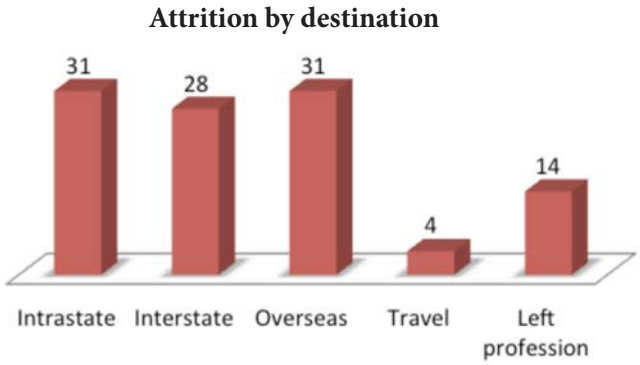

Figure 4 Attrition from the RT workforce by destination during 2010/11

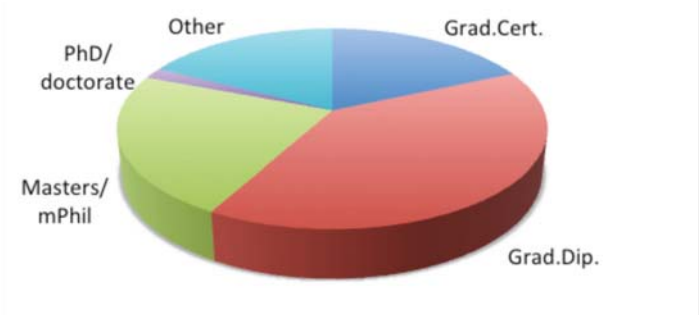

Figure 5 Postgraduate qualification profile

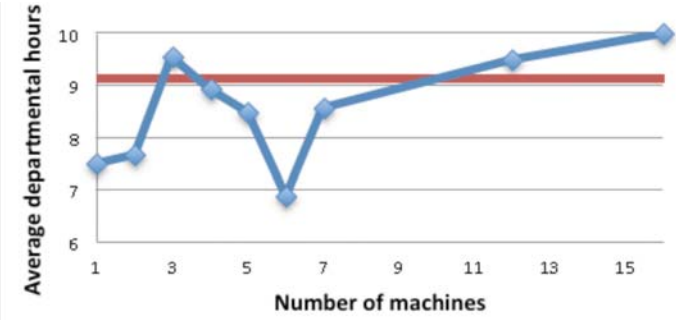

Figure 6 Average operational hours compared to number of linacs

at the time of survey, representing 5.3% of total NPDP/PCP positions.

Around 70% of the current RT workforce is below the age of 40 years (Figure 1), with a strong female gender profile (Figure 2).

Recruitment and attrition from the workforce in the financial year 1st July 2010 to 30th June 2011

- 139 RTs were recruited
- 108 RTs resigned from their positions
- 49 RTs left the Australian workforce. This number consists of 35 RTs who left for overseas/travel and 14 who left the profession entirely.

The majority of recruitment was from local state/interstate sources but overseas recruitment continues to be important, as was previously observed in the 2006 survey results.

Overseas destinations were an important factor in losses from the workforce, continuing the trend of the 2006 survey (Figures 3 and 4).

Postgraduate education

- 311 individuals (20.6%) hold postgraduate qualifications (69 graduate certificate, 149 graduate diploma, 86 masters, and seven PhD). This overall number has approximately doubled compared to that reported at the time of the 2006 survey.
- There were a further 86 RTs undertaking postgraduate qualifications at the time of the survey, 59 of which were at masters level or higher (19 graduate certificate, eight graduate diploma, 51 masters, eight PhDs)
- 65 RTs were reported as holding another qualification, with a further 16 RTs currently undertaking another qualification, but not yet completed.
- Of the centres that responded to the survey, 83 RTs were identified as currently working in an Advanced Practice Role (Figure 5).

Equipment base and staffing ratios of treatment units

- 132 linear accelerators (linacs) were reported as operating (120 dual energy, 12 single energy), with five linacs reported as working 1 hour or less per day. Of the remaining, the average operational hours were 9.1.
- Average staffing ratio was 9.6 FTE positions per operational linac.

Figure 6 demonstrates that there is no increase in the average number of operating hours where there are a lower number of machines operating.

Data analysis by state

The graphs that follow provide some basic comparisons between states.

Note that these are reported numbers only based upon the overall responses obtained. New South Wales (NSW) and Western Australia (WA) data is known to be incomplete.

Figure 8 indicates that the ACT, SA and WA showed a net loss in the number of working RTs, compared to the other states. The largest recruitment gain was reported in Vic.

Figure 9 illustrates the distribution of NPDP/PCP positions nationally. The information in this table should be viewed with caution due to obvious differences in the way such positions are defined as being budgeted or not. For example, all positions in Victoria are funded supernumerary positions, whereas this is not the case in all states.

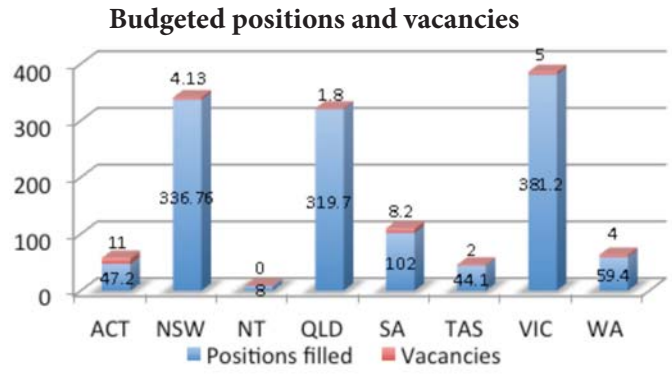

Figure 7 Budgeted qualified RT positions and vacancies

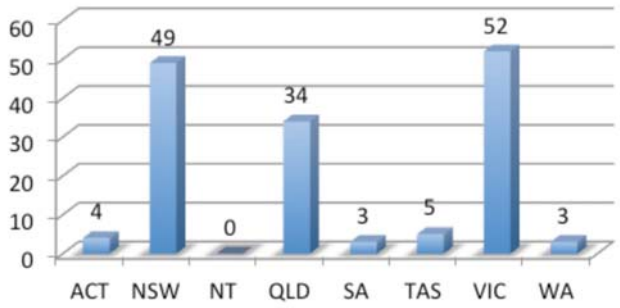

Figure 9 Distribution of training positions

Discussion

Since the last survey of the radiation therapist workforce in 2006, the RT workforce has grown from 1246 RTs filling 1163 FTE positions to 1512 RTs filling 1298 FTE positions. This represents a growth in the size of the RT workforce by approximately 11%, with the number of part-time positions being relatively consistent (21.2% compared to 23.2% in 2006).

Vacancy rates have shown a marked decline. The national average in 2000 (at the time of the National Strategic Plan for Radiation Oncology[1] was 10.3%, reducing to 6.6% in 2006 and now reported at 2.8% in 2011.

The attrition rate from the workforce has fallen to 3.2% from approximately 5.9% in 2006. There has been considerable change in the number of RTs being recruited from overseas (26) and those returning to the workforce (1); compared to 49 and 9 in 2006 respectively. The reasons for these changes are presumed to be multi-faceted; in part reflecting the increase in the total number of graduates from Australian education programmes following recommendations from the Baume Report[2] and Commonwealth funding to support such programmes, a reported reduction in the number of RTs who left the Australian workforce for overseas employment or travel compared to 2006 (35 to 49 respectively), as well as a less than 100% survey response rate across all states.

In the 2011 survey there were 132 linear accelerators, with 127 operating an average working day of 9.1 hours. This compares with 121 linear accelerators in 2006 operating an average working day of 9.1 hours. This represents an increase of 9% in the number of treatment units, with the number of operational hours remaining steady. It should be noted however, that this number excludes the fact that there were five linacs reported in the survey as operating 1 hour or less per day. It is assumed that this number reflects either new machine installations at the time of survey or inadequate staffing levels to enable operation.

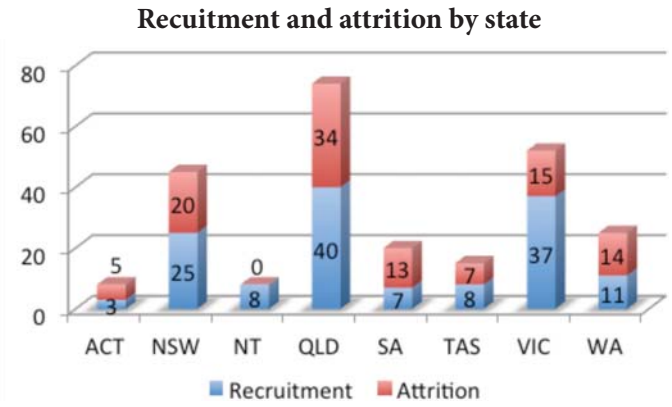

Figure 8 Recruitment and attrition by state

The average number of RT staff per operational linac is reported as 9.6 FTE, consistent with that of 2006.

Conclusion

The radiation therapist workforce in Australia has continued to grow since the last RT workforce results were published in 2006. Vacancy rates have continued to decline, although attrition from the workforce remains slightly higher than recruitment.

The ratio of staff per operational linac, as well as the average number of hours each linac operates has remained consistent since 2006.

The number of RTs now holding a postgraduate qualification has approximately doubled compared to those reported at the time of the 2006 survey. This number is expected to continue to grow given the number of RTs currently enrolled in postgraduate courses that had not yet completed at the time of survey.

The information resulting from this survey provides an updated perspective on the Australian RT workforce as reported for the week commencing 8th August 2011. While it is acknowledged that not all departments responded to the online survey, the results still provide useful data in comparing against the 2006 baseline for ongoing workforce planning. In addition, it also offers information regarding the effectiveness of workforce initiatives since the Baume Report[2] in 2002.

The RT workforce demographic will undoubtedly continue to evolve, as will the demands on health services with an increasingly ageing population. Consequently, it is paramount that the radiation therapy profession continue to undertake and participate in workforce surveys providing accurate and relevant information for effective workforce planning into the future.

It had initially been RTAPs intention that a national survey be conducted annually. However, poor response rates to previous attempted surveys as well as the potential workforce surveys proposed at a Federal government level in recent years have meant that this has not occurred. Despite the challenges, RTAP continue to believe in the value of this national data and therefore considers biennial surveys would reduce the workload on departmental chiefs in completing the survey, while being sufficiently frequent to track the changes in our workforce and identify workforce requirements as applicable.

References

1 Doherty T, RANZCR, AIR and ACPSEM, The National Strategic Plan for Radiation Oncology, 2001.
2 Baume P, A Vision for Radiotherapy, Report of the Radiation Oncology Inquiry, June 2002.