

The change to radiotherapy utilisation in a rural area after the establishment of a local service

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Background: The first radiotherapy centre in Western NSW Local Health District (WNSWLHD) was opened at Orange in 2011. Prior to this patients travelled outside the health service, primarily to Sydney, to receive treatment.

Aim: To investigate if the establishment of a 'local' radiotherapy service in a geographically sparse rural area has impacted on the number of patients accessing treatment. In particular to investigate if change has been widespread and if patients' demographics, cancer and treatment intent changed significantly with the introduction of the new service.

Method: Data were collected on every WNSWLHD patient 17 years of age and above who received radiotherapy in either 2010 or 2012 in NSW or ACT. The age, gender, treatment intent, cancer type and residential town were recorded.

Results: The number of patients who accessed radiation increased from 573 to 667 between 2010 and 2012 ($\chi^2(1)=6.0$, $p=0.014$). The corresponding radiotherapy utilisation rates were 29.3% in 2010 and 33.4% in 2012, an improvement of 4.1%. The change in the number of patients accessing radiotherapy became significant for those living within 150km of the new service ($\chi^2(1)=5.1$, $p=0.02$). There was some improvement outside this area until a distance of 300km from the new service, at which radiation treatments decreased. The number of palliative treatments increased significantly only within the Orange region (95% CI 1.2-3.0, $p=0.004$), with minimal change in the other regions. Male treatments also significantly increased as there were 81 new treatments (292 vs 373, $\chi^2(1)=9.6$, $p=0.002$) as did patients with a respiratory cancer (66 vs 97, $\chi^2(1)=8.7$, $p=0.003$).

Conclusion: A new radiotherapy service in a sparsely populated health district significantly changed the pattern of radiotherapy use by those who lived in the Orange region, particularly those living within 150km of the new service.