

## Abstract Form

<b>Abstract author/s</b>	<b><i>Gabriel Gabriel, Michael Barton, Jesmin Shafiq, Geoff Delaney</i></b>  <b><i>Ingham Institute for Applied Medical Research, Collaboration of Cancer Outcomes, Research and Evaluation CCORE and University of New South Wales, Liverpool - NSW, Australia</i></b>
<b>Presenting author</b>	<b><i>Gabriel Gabriel</i></b>
<b>Organisation</b>	<b><i>UNSW Australia, Ingham Institute for Applied Medical Research, CCORE</i></b>

**Title of abstract:** RT underutilization in prostate cancer patients and its effect on overall survival & local control, NSW

**Authors:** Gabriel Gabriel, Michael Barton, Jesmin Shafiq, Geoff Delaney.

### Background:

Evidence-based modelling estimates show that 52% of prostate cancer patients would benefit from radiotherapy at diagnosis<sup>1-3</sup>. It was estimated that 5-year overall survival (OS) and local control (LC) shortfall due to not receiving RT were 1.1% and 12.4%<sup>4,5</sup>, respectively. Previous study indicated that radiotherapy utilization (RTU) rates decreased with increasing travel distance to the nearest RT department (RTD)<sup>6</sup>.

### Aims:

To calculate actual RTU rate, estimate shortfall in OS and irreplaceable LC and identify factors affecting RTU.

### Method:

NSWCCR data for prostate cancer patients diagnosed from 2009-2011 were linked to radiotherapy, admitted patient, clinical cancer registry and death datasets. Patients located near the State border where their closest RTD was outside NSW (cross borders) were excluded from the analysis. The irreplaceable benefit of RT counted only where there was no guideline-recommended alternative treatment<sup>5</sup>.

### **Results:**

There were 19,816 prostate cancer patients during the study period. Median age was 67 years, 65% had localized disease, 4% had distant disease and 30% had unknown stage. Of patients with localized disease, 18% received RT, 37% had radical prostatectomy (RP) and 4% had both RP and RT. 28% of patients had RP alone, 3% had RP & RT, 20% had RT alone and 49% had neither RP nor RT. Overall, 23% of all prostate cancer patients received RT within 1-year of diagnosis. OS and irreplaceable LC person-shortfall were 124 and 1398. Univariate analysis showed that younger age, patients with loco-regional disease, living in least disadvantaged areas and outside major cities and living >100 km of RTD were predictors for RT underutilization. Patients living in least disadvantaged areas were 33% more likely to have RP than patients living in most disadvantaged areas. On multivariate logistic regression model, all factors remained significant.

### **Implications that impact on your project:**

Prostate cancer was the most diagnosed cancer in NSW and contributed to 18% of the total patients diagnosed with cancer during the study period. Underutilization of RT increases the disease burden on health system due higher risks of local failure and overall survival shortfall. Giving RT according to evidence-based guidelines would probably have prevented 41 early deaths and 466 local failures each year.

### **References:**

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