

## Descriptive analysis of the delays in management of cancer In rural Australia

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Cancer patients in rural Australia are likely to have poorer outcome due to delay in diagnosis (primary delay), in referral (referral delay), and in treatment (secondary delay) as compared to the urban population. While these delays are likely to be due to diverse reasons, each category of delay in relation to cancer type is an important initial consideration that would help understand and develop strategies to improve health care in rural Australia. Our study aim to quantify the category of delays in relation to the type of cancers at a large GP practice in a rural Australian city.

Study design was a retrospective case note review of cancer patients presenting to a large general practice in a south Australian rural city. Inclusion criteria were first presentation between January 2011 to June 2013 with cancers. Exclusion criteria were skin cancers. Symptoms of initial presentation, primary delay, referral delay, secondary delay, locations of oncologists, treatment and follow up were included as study variables. A total of 127 malignancies were included in 121 patients. Descriptive analysis of data was carried out using an EXCEL database.

The most common were breast, prostate, and colorectal cancers at 24%, 24% and 16% respectively. Cervical and stomach cancers were less common, each accounting for 2% of cases. Breast cancer patients typically had a primary delay of 7.5 days, a referral delay of 15.1 days and a secondary delay of 24.75 days. Prostate cancer patients had a primary delay of weeks to months, a referral delay of 30.7 days and a secondary delay of 30 days. Colorectal cancer patients had a primary delay of weeks to months, a referral delay of 48 days and a secondary delay of 51.3 days for a colonoscopy. Lymphoma and leukaemia patients typically had a combined primary and referral delay period of 99 days. Lung cancer patients had a referral delay of 18.7 days, and a secondary delay of 10 days. Bladder cancer patients typically had a referral delay of 27.8 days and a secondary delay of 10 days. Endometrial cancer patients experienced a 35 day referral delay and a 27.8 day secondary delay.

Prostate and colorectal cancers had the highest delays between initial symptoms and specialist treatment. Main limitation of this study was inclusion of only one general practice. However, this study provides valuable insight into distribution of types delays.