

## SHORT COMMUNICATION

# Disparity in cancer survival between urban and rural patients – how can clinicians help reduce it?

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## ABSTRACT

Many reasons for the disparity in survival of 5-7% between rural and urban cancer patients relate to government policies and funding issues. However rural healthcare workers, particularly medical practitioners, can make an impact on reducing this disparity with attention to factors such as reducing referral processing time, using telemedicine, and ensuring ongoing education of rural patients regarding risk factors and screening programs, among other strategies.

**Key words:** cancer, cancer survival, cancer management, GPs, rural–urban cancer survival.

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## Introduction

In 2003 the Australian Institute of Health and Welfare and the Australasian Association of Cancer Registries reported a 7% difference in five-year age-adjusted relative survival proportions for all cancers between remote centres and larger

rural and metropolitan centres<sup>1</sup>. In 2005, the Queensland Cancer Registry reported a similar trend<sup>2</sup>. The reported survival for major city, inner regional, outer regional and remote centres was 64.7%, 64.9%, 60.8% and 60.1%, respectively<sup>1</sup>.



In 2004, the following was summarised for the state of New South Wales<sup>3</sup>:

1. The more remote the area in which a person lives, the greater their chance of dying from cancer.
2. The worst survival figures are in areas where the proportion of Indigenous persons is highest.
3. The survival rates are particularly poor for cervical; prostate; head and neck, and colorectal cancers; and melanoma.

When survival figures are analysed it is difficult to separate the effects of socioeconomic status and Indigenous status on survival. These two factors are associated with poorer survival<sup>1</sup>.

This situation is not unique to Australia; the problem is shared by the many other developed countries that comprise a significant proportion of rural and remote residents<sup>4,5</sup>. There are many possible reasons; however, only a few are researched and many remain speculative. In order to devise solutions, insight into the known reasons for this disparity is essential.

## Possible reasons for the rural–urban disparity

Possible reasons for the disparity between metropolitan and non-metropolitan health outcomes for cancer include screening issues, the timing of presentation, delay in referral, rural healthcare professional shortages, treatment issues, the availability of clinical trials and specialist follow up, GPs' knowledge and the availability of support services.

### *Screening*

Early detection improves survival for most cancers. Contrary to popular belief, participation in mammography and Pap tests is similar throughout Queensland (pers comm, N Dunn [Cancer Screening Services Queensland], 2008).

For the 24 month period 2005–2006, for mammography the participation in the target age group (women 50–69 years) was 55.8% in metropolitan areas (Brisbane, Ipswich, Gold Coast, Caboolture and Townsville city centres) and 60.9% in rural/remote areas (the remainder of the state), according to Cancer Screening Services Queensland (pers comm, N Dunn, 2008). For Pap tests in 2003–2004 the participation rates for the target age group (women 20–69 years) were 57.7% for metropolitan areas and 57.4% for rural/remote areas.

### *Timing and stage of presentation*

Rural and remote patients tend to present with further progressed cancer compared with their urban counterparts<sup>3</sup>. It was found in Georgia, USA, that rural residents were twice as likely to have unstaged cancers, compared with urban residents<sup>5</sup>. Among patients with known stage at diagnosis, rural patients tended to have more advanced disease than urban patients.

### *Delay in referral*

A rural Scottish study found significant delay in GP referrals reaching specialists<sup>6</sup>. This could be due to poor administrative support, a lack of follow up or human error.

### *Lack of healthcare providers*

There is a shortage of GPs, nurses and allied health professionals in non-metropolitan areas. The lack of visiting oncologists is another problem, despite the altruism of many oncologists who visit rural and regional areas on weekly to six-monthly intervals. This is compounded by a difficulty in attracting radiation therapists and chemotherapy nurses to non-metropolitan areas, which results in patients travelling many hours to receive specialist services, potentially discouraging early presentation with suspected cancer and obtaining timely treatment.



## ***Treatment issues***

There is no evidence to support or refute the view that rural patients are treated later than their urban counterparts. However the intensity of treatment may be affected by rural residence.

Prostate cancer patients in remote NSW had less radical prostatectomies than their urban counterparts and this was associated with poorer survival<sup>7</sup>. There is no evidence that rural patients receive less intensive chemotherapy for some solid tumours, although this may be suggested anecdotally.

## ***Availability of clinical trials***

It is well known that participation in randomised controlled trials is associated with improved cancer survival. However, many trials demand frequent visits to and investigations by specialists. It is conceivable that patients could be excluded from trials due to the distance of their residence from the trial centre. There is a lack of literature in this area and studies are required to explore the impact of this factor.

## ***Follow up***

It has been reported that primary health carers may lack the knowledge required to deal with the follow-up of leukaemia, lymphoma and germ cell tumours, resulting in long travel for patients for what may be a brief consultation<sup>8</sup>.

A significant amount of preparation and organisation is needed before rural patients can travel to cities. It is usual for specialist review clinic appointments to be cancelled and rescheduled multiple times, which may discourage rural patients from attending subsequent appointments due to difficulties in reorganising work and family commitments.

## ***Decline in cancer education among medical schools***

Some cancer knowledge is important for all doctors, especially those who plan to be work in rural areas, isolated

from tertiary centres. This is relevant to all aspects of cancer care, for instance oral chemotherapeutic agents are used increasingly and GPs are asked to take part in patient supervision. Despite the need for cancer education, cancer knowledge among medical graduates has declined over the last 10 years<sup>9</sup>. Initiatives such as the 'Ideal Oncology Curriculum for Medical Schools' published by the Clinical Oncological Society of Australia<sup>10</sup> should be encouraged.

## ***Lack of support services***

Travelling to cancer centres requires money, time and family support. It has been suggested that having to give up work and the resulting financial hardship may discourage rural patients from attending regular clinics in major centres. Schemes such as Queensland's Patient Travel Subsidy Scheme are very important and a good beginning; however, the scheme does not completely cover travel costs<sup>11</sup>.

## **Moving forward**

Most of the barriers to improving non-metropolitan cancer health services are related to government policies and funding issues. Discussing these matters is beyond the scope of this article. However, leaving the politics and the politicians aside, healthcare providers can contribute to patient survival through a number of methods. The following brief discussion outlines areas where we can make a contribution without straining existing or future budgets.

## ***Education***

Patient education regarding screening programs and prevention initiatives such as 'Quit Smoking' campaigns should be encouraged to continue. Despite similar mammography and Pap test screening rates for rural and urban populations, health providers need to continue encouraging participation in screening and prevention initiatives because improvements can always be made.



## ***Reduce referral processing time***

One suggested strategy is making routine 'confirmation of receipt' telephone calls to specialists' rooms to ensure the timely arrival of cancer patients' referral letters.

## ***Maintain intensity of treatment***

In relation to chemotherapy, rural patients should not receive less intensive treatment because of their residential location. This treatment can be achieved with the highest degree of safety if there is adequate support for rural GPs and their patients, for example when patients return home between chemotherapy cycles.

## ***Clinical trials***

Rural cancer patients should be actively encouraged to participate in multinational trials, despite the potential increase in workload for their GP, and travel time requirements for the patient.

## ***Teaching***

Actively teaching and mentoring of medical students in rural settings is essential to attract them to eventual rural practice, so assisting resolution of doctor shortages in non-metropolitan regions.

## ***Telemedicine***

By using telemedicine facilities, rural patients can have immediate access to specialist services without having to travel long distances. Chemotherapy can also be supervised with the use of this technology. For example, the Townsville Hospital Medical Oncologists provide consultation to patients in the town of Mt Isa (a mining town approximately 800 km from Townsville) using videoconferencing. This avoids cancer patients in Mt Isa making a 10 hour drive or 2 hour flight to consult a specialist medical oncologist. The telemedicine clinics are conducted weekly, so urgent

consultations can be arranged and treatment started within a week.

This method of service delivery also saves specialists many hours of travel time in order to see six to seven patients. Mt Isa doctors and nurses also receive one-on-one support and education from the Medical Oncologists by telemedicine and, most importantly, patients can be treated in their home town. A preliminary analysis by the Department of Medical Oncology at Townsville Hospital shows that patients are mostly satisfied with this service, and that it allows the safe delivery of chemotherapy.

## ***Knowledge of services***

If GPs have an in-depth knowledge of available rural patient support services, patients' financial and emotional strains will be reduced.

## **Conclusion**

Despite the current literature, all is not bleak. Cancer survival is improving over time and the disparity between non-metropolitan and metropolitan patients is only 5-7%. With ongoing commitment from government and healthcare providers at all levels, we can look forward to bridging this gap in the future.

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