

# How can we ensure that people with lung cancer living in rural and remote areas are treated surgically when appropriate?

We have the will to improve cancer services for patients outside major cities but, thus far, not the way

In 2012, 30% of the Australians newly diagnosed with cancers other than non-melanoma skin cancer lived in rural and remote areas. Some rural locations have visiting cancer specialists or outreach services, others have telemedicine available to assist local clinicians, but many subspecialty surgical services are located only in major cities. Therefore, to have their cancers adequately staged and, if suitable, to have potentially curative surgery, most rural and remote cancer patients will have to travel to see an appropriately specialised surgeon. It is necessary to centralise cancer care to make it possible to give patients access to the full range of clinical expertise and to provide the surgical services needed to achieve the best outcomes.<sup>1,2</sup> This desired level of centralisation is rarely available except in major cities.

Using linked New South Wales cancer registry and admitted patients' data and death records for the years 2000–2008, with geocoded residential and institutional addresses, we showed that patients with potentially curable non-small-cell lung cancer (NSCLC) who lived farthest from the nearest accessible hospital with a thoracic surgical service were the most likely to be admitted to a general rather than to a specialist hospital and, as a result, the least likely to have potentially curative surgery.<sup>3</sup> Similar findings have been reported in other regions, for example, the East Anglian region of England. Moreover, in NSW, lack of surgical treatment fully explained the lower rate of survival from lung cancer observed in patients living farthest from an accessible thoracic surgical service.<sup>4</sup> Thus, distance from specialised surgical services puts NSCLC patients at a significant disadvantage.

There is policy-level awareness of the disadvantage experienced by rural and remote cancer patients. Australia's "National Strategic Framework for Rural and Remote Health" states that the goal of cancer care is to ensure that rural patients have increased access to diagnostic testing, coordinated care, multidisciplinary team review, patient accommodation, and appropriate medical oncology and radiotherapy services locally. To achieve this goal, the federal government has dedicated \$1.3 billion in its budget not only to building two comprehensive cancer centres in Melbourne and Sydney but also to enhancing or building ten regional cancer centres. These developments should greatly improve cancer diagnosis in rural and remote areas and some aspects of cancer treatment, but they will not remove the need for some patients to travel for specialised surgical assessment and surgery.

In recognition of this need as it relates to lung cancer, the National Health Pathways initiative<sup>5</sup> has, since 2013,

included a detailed lung cancer referral pathway that provides general practitioners with up-to-date advice on the closest specialist cancer services so that rural patients are referred early and to the right place. While welcome, it will require much more than just publishing and promoting information to ensure reliable rapid referral of patients with NSCLC to specialist assessment and care. The NSW Ministry of Health's planning for surgical services in greater Sydney<sup>6</sup> and Rural Surgery Futures<sup>7</sup> recommend that surgery be collocated with other specialist cancer services. While action on these recommendations may improve access to multidisciplinary care in general, it is unlikely to make highly specialised surgical care, such as thoracic surgery for lung cancer, more readily available in rural and regional areas, because of the large populations required to sustain such services.

There are guidelines and programs aimed at increasing early and appropriate surgical referral for cancer patients and some evidence that they work. For example, guidelines for recognition of and referral for suspected lung cancer of the United Kingdom's National Institute for Health and Care Excellence (updated in 2015) recommend immediate referral if a chest x-ray suggests cancer or if someone aged 40 years or older has unexplained haemoptysis; and urgent chest x-ray if a person has two or more of, or has smoked and has one of, cough, fatigue, shortness of breath, chest pain or weight loss.<sup>8</sup> Potentially more discriminating algorithms for urgent chest x-ray than these are being developed and evaluated.<sup>9</sup> Recent evaluations of urgent referral initiatives in the UK suggest that they increase cancer detection rates, reduce delays in diagnosis and reduce the risk of death from cancer.<sup>10,11</sup>

In summary, available evidence suggests that people living remotely in Australia have poorer outcomes from NSCLC because they are often not referred to specialist thoracic surgical centres where their disease will be adequately staged and, if appropriate, they will be offered potentially curative surgery.

Australian health policy supports rapid referral of patients with suspected lung cancer for expert assessment. However, at present, there is a substantial lack of well organised processes to ensure that such patients are referred and assessed appropriately. This must change.

**Competing interests:** No relevant disclosures.

**Provenance:** Not commissioned; externally peer reviewed. ■

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References are available online at [www.mja.com.au](http://www.mja.com.au).

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doi: 10.5694/mja15.01366

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