

## CANCER COUNCIL AUSTRALIA'S STUDENT ESSAY COMPETITION

Cancer Council Australia's annual essay competition is open to Australian residents enrolled in a medical course in an Australian university. Students are required to submit an essay on an issue related to cancer control. In 2010, the topic was 'Cost and value of cancer care'. The essays are judged by members of Cancer Council Australia's Oncology Education Committee.

This article is the winning essay by Catherine Tang. As the winner, Catherine attended the 13th International Summer School 'Oncology for Medical Students' in Groningen, Netherlands (5 – 16 July, 2010).

### COST AND VALUE OF CANCER CARE IN AUSTRALIA: A MEDICAL STUDENT'S PERSPECTIVE

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Given that cancer directly affects one in three Australians,<sup>1</sup> it is inevitable that the costs of cancer prevention and care are borne by us all. However, appraising the value of such care is fraught with difficulty. Too often outcomes are assessed through mortality and financial costs alone – two finite ends of a spectrum that fail to take into account

factors such as disability adjusted life-years (DALY) and the even less tangible psychosocial aspects of care.

This report will examine the cost and value of cancer care, starting from the rewards of investing in prevention and early detection, to the burden of resourcing treatment and allowing equitable access to cancer treatment across Australia. Furthermore, it will explore the implications of both increasing cancer burden and improving cancer survival upon care of cancer survivors. In the context of current and future reforms in Australian cancer care, all these areas are of relevance to medical students as the next generation of doctors dealing with the rising burden of cancer.

#### Investing in prevention and early detection

The adage of "prevention is better than cure" is manifest in our current approach against cancer, where the value of upstream investment is judged by morbidity and costs averted through early prevention and detection. As Australia has the highest incidence of skin cancer worldwide,<sup>2</sup> our efforts in its prevention form a compelling

case in point. Although the absolute number of lives lost to both melanoma and non-melanoma skin cancers is low in comparison to other cancers,<sup>1</sup> it is the most expensive when considering direct costs of skin cancer diagnosis and treatment exceed \$294 million.<sup>2</sup> This has yet to account for the loss of productivity incurred. Australian SunSmart campaigns since the 1980s have aimed to stem these costs by modifying public attitudes towards sun exposure. Recent research suggests these campaigns have been a cost-effective exercise with \$2.32 returned for every \$1 invested.<sup>3</sup> Furthermore, the penetration of this 'SunSmart' message is evidenced by the decreased rates of skin cancer in younger age groups, who have been brought up with improved awareness of skin cancer prevention.<sup>2,4</sup> Thus, the true value of such preventive strategies extends beyond simple monetary returns, as it also addresses fundamental health behaviours that place the population at risk of cancer from the outset.

Similarly, the potential of screening to limit the high socioeconomic and human costs of treating advanced cancers is dependent on how the population values participation. The substantial reduction in breast cancer mortality by 28% in the past decade may be largely accorded to the effectiveness of Australia's national BreastScreen program.<sup>1</sup> Besides the organisational merits of this program, its success is also derived from cultivating a strong public awareness of the value of screening.<sup>5-6</sup> In contrast, similar levels of acceptance have yet to be procured for the recently initiated National Bowel Cancer Screening Program. Given that

bowel cancer is the second most common cancer in both sexes,<sup>1</sup> the demonstrated potential of biennial screening to reduce mortality rates by 13-17% should tackle a substantial portion of Australia's future cancer burden.<sup>7</sup> Indeed, considering costs alone, removal of a precancerous polyp detected on screening may save 18 times the cost of treating the cancer that subsequently develops from such a polyp.<sup>8</sup>

Although cost-effective, the value of this approach may be limited if participation rates remain below 50%.<sup>9</sup> Factors such as poor awareness of screening benefits and damaging reports of defective kits being used in 2009 need to be combatted by concerted efforts to raise public perception of bowel cancer screening as a valuable health exercise.<sup>10-11</sup> This should involve targeting groups identified to have lower participation in bowel cancer screening, such as migrants, Aboriginal and Torres Strait Islanders and males in general.<sup>11-12</sup> With the rising costs of expanding this program to all persons aged 50-74 years,<sup>7-8</sup> it will be vital to build public confidence in the value of participation if the benefits of screening are to be realised.

### The 'cost' of advances in care

With an ever expanding array of new therapeutic modalities in the context of resource limitations, cancer treatment is perceived to come at great expense. Yet this needs to be considered in the context of the substantial morbidity, productivity loss and psychosocial costs borne by cancer patients and their carers. Cancer treatment accounts for 6% of total healthcare expenditure in Australia, despite cancer being the leading cause of disease burden with respect to DALY, not just mortality.<sup>13,14</sup> Nevertheless, the cost of chemotherapy has been particularly contentious in Australia, with some suggesting that "minimal impact of cytotoxic chemotherapy on five year survival" may not justify sustained high level funding.<sup>15</sup> This view has yet to consider the potential value of chemotherapy in addressing symptoms and improving quality of life.<sup>16,17</sup> Furthermore, it is difficult to reconcile a broad "health economics" view of the cost of treatment to an individual patient's perspective on what value that chemotherapy may add to their care regimen. In order to address these uncertainties on impact of new therapies on patient outcomes, there should be greater support for local clinical trials in Australia.<sup>13</sup> Wider patient participation in clinical trials not only improves outcomes, but can also generate evidence upon which the value of investing in newer treatments can be gauged.<sup>18</sup>

Dynamic advances in different treatment modalities also necessitate a multidisciplinary approach to care provision. Despite increased outlay of expenses and time to conduct meetings, a team approach ultimately reduces resource and time costs for patients and team members otherwise incurred by poorly coordinated care.<sup>19-20</sup> Multidisciplinary models can also improve the value of care provided to patients by integrating the developing evidence bases of different fields and applying them to address an individual patient's specific needs. This has consistently been demonstrated to provide greater patient satisfaction and outcomes.<sup>21</sup> Conversely, patients themselves also

contribute to improving the overall value of cancer care through greater participation in clinical trials when they are managed in multidisciplinary settings.<sup>22-23</sup> Taken as a whole, Australia's shift toward a multidisciplinary model can ensure that the substantial advances in cancer care are harnessed in the most efficient way possible.

### Enhancing the value of care for all Australians

These improvements to provision of cancer care in Australia belie the inequities in access to care for rural and remote communities. The most telling evidence of such disparity is that greater distance from a metropolitan centre correlates to higher likelihood of death for rural/remote cancer patients within five years of diagnosis.<sup>24</sup> While comparatively lower socioeconomic status in remote areas contributes to this difference,<sup>25</sup> the effect of geographic isolation upon costs of providing 'best practice' care to these patients has significant impact on the subsequent quality of care.

As mentioned, a patient centred multidisciplinary approach has increasingly become the benchmark for cancer care, yet less than half of regional hospitals administering chemotherapy provide multidisciplinary clinics.<sup>25</sup> Furthermore, although 50% of cancer patients require some element of radiotherapy, its access by rural patients remains consistently below their metropolitan counterparts<sup>13,26</sup> an issue accorded to significant travel and accommodation costs accrued by rural patients.<sup>27</sup> Rural patients and carers may also have greater psychosocial needs than urban counterparts,<sup>28</sup> yet over 60% of centres servicing rural patients are requesting urgent access to psychosocial services.<sup>25,29</sup> Innovative strategies such as telephone counselling and internet based care may provide feasible alternatives in lieu of resident psychosocial services.<sup>28</sup> These issues reflect how dated efforts to address geographical barriers such as patient assisted travel schemes have failed to match the evolution of cancer care from a linear to multidisciplinary model. Recent funding towards regional cancer centres has the potential to address these access issues, provided adequate multidisciplinary staffing and capacity for patient accommodation can be achieved.<sup>30</sup>

Besides the physical barriers of distance, cultural barriers can also limit the value of care received by certain groups in Australia. Indigenous Australians have comparatively lower cancer incidence yet later diagnosis and ultimately higher cancer mortality.<sup>31-32</sup> Models of care that fail to address strong community taboos surrounding cancer are seen to have limited value by Indigenous patients,<sup>33-34</sup> leading to lower utilisation of services available. Similar findings have also been reported for other culturally diverse groups in Australia.<sup>35-36</sup> As attitudes to health and care seeking behaviour may be largely dictated by cultural beliefs, concerted efforts to address issues of cultural safety are necessary to enhance the value of cancer care for minority groups in Australia.

### Cancer care beyond 'cure'

If the value of care were simply considered using 'survival' as an end-point, substantial gains have been made

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in the last two decades - relative survival of Australian cancer patients is second only to the United States on an international comparison.<sup>1</sup> Yet a focus on survival alone overlooks both the value of palliative care and the ongoing costs of cancer survivorship in Australia.

Palliative care aims to address the physical, psychosocial and spiritual needs of patients throughout their cancer trajectory.<sup>37</sup> Patients who experience timely referral to specialist palliative care have been shown to require less hospital inpatient treatment and spend more time at home with less stress reported by carers.<sup>38</sup> However, a third of patients who may benefit from specialist palliative care are not referred and others suffer from delayed referral.<sup>13</sup> This may be related to general community and even health professional views that palliation refers only to “terminal care” and control of symptoms at the end of life.<sup>37,39</sup> These misconceptions need to be addressed such that earlier palliative planning may improve the value of care for these patients with complex needs.

Furthermore, cancer care does not end at ‘cure’. Cancer survivors face ongoing issues with physical, psychological and functional wellbeing that need to be addressed if care is to be truly holistic. Cancer survivors in Australia have been shown to report comparatively lower physical and mental health status, along with more days out of role than those who have not previously had cancer.<sup>40</sup> Part of this relates to physical consequences of cancer, but also the less anticipated later costs of treatment, such as post-treatment fatigue,<sup>41-42</sup> chemotherapy related cognitive and genitourinary issues,<sup>43-44</sup> and radiation related gastrointestinal sequelae.<sup>45</sup> The move from acute care to long-term follow-up also opens an array of psychosocial issues for patients, including anxiety about cancer recurrence and uncertainty on return to work and family relationships away from the ‘sick role’.<sup>40,46</sup> Cancer survivors also have higher rates of co-morbid chronic conditions and non-cancer related death,<sup>47-48</sup> making the transition to long-term care a vital juncture to instigate lifestyle modifications.

These issues of survivorship all highlight that good value care should involve supporting smooth transition to well co-ordinated follow-up. Conventionally in Australia, most follow-up is based on specialist oncology review and episodic communication with GPs, primarily focusing on monitoring treatment effects and recurrence.<sup>49</sup> Increasing numbers of cancer survivors may significantly raise the cost of providing review in specialist settings, while reducing the quality of care for each patient. A possible solution may be to shift toward greater involvement from the primary care sector in survivorship care.<sup>50</sup> Primary care based follow-up may be more comprehensive as other medical and psychosocial co-morbidities can be reviewed simultaneously.<sup>51</sup> Support for such follow-up would be invaluable in extending the focus of care beyond that of cancer alone and back towards patients overall health status.

## Education and strategies for the future

With the increasing prevalence of cancer in Australia, it is inevitable that medical students will become involved in the care of cancer patients regardless of their career

choices. Preparing students for the challenges of our rising cancer burden not only involves training skills in diagnosis and treatment, but broader understanding extending from preventive principles through to ongoing survivorship issues. However, current student experiences are largely centred on rotations in highly demanding clinical settings where they may only appreciate the acute aspects of cancer care.<sup>52</sup>

Strategies to address these issues may include:

- Increasing screening – Encouragement from healthcare professionals can influence patient attitudes to screening.<sup>11, 53, 54</sup> Involving students in simulated sessions to discuss the implications of screening with patients may help future doctors raise patient participation.
- Building teamwork skills – Medical students should participate in multidisciplinary team meetings to appreciate the role of allied health professionals and the dynamics of coordinating teamwork.
- Rural access – Building on current rural placements for local HECS supported students, rotations in regional cancer centres may attract and increase retention of future doctors in these areas of need.
- Cultural safety and communication – Workshops for medical students covering how cancer is conceived by other cultures may facilitate better engagement of Indigenous and migrant populations by future doctors.
- Other clinical settings – Cancer care is becoming increasingly decentralised from acute hospital care. Medical students should experience care provision in other clinical settings such as palliation at home. This may improve appropriate and timely referral in the future.
- Following the trajectory – To understand the complex issues patients face at different stages of cancer care, students should be encouraged to follow the course of patients as part of the curriculum. Particular emphasis may be given to survivorship issues that students may be unfamiliar with.

## Conclusion

The rising burden of cancer in Australia will unavoidably lead to increased costs associated with care. Sustaining the value of cancer care in the face of these pressures will require a co-ordinated approach, from increasing participation in preventive efforts and removing barriers to multidisciplinary care, to providing comprehensive supportive care beyond cure. Medical students need to be made aware of these issues throughout their training and apply this understanding in their future practice.

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