Oncology teaching in Australian medical schools: opportunities for patient-centred change

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Ben went from zoology to medicine via a cancer diagnosis. He writes about colorectal cancer and issues as a patient-turned-student-doctor.

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Abstract

Introduction: Given the prevalence of cancer and its multidisciplinary and increasingly personalised treatments, this group of diseases is an ideal vehicle for teaching medicine and medical care. The teaching of oncology in medical school environments is of paramount importance to the skill sets and efficacy of future doctors. But do we do it well, and could we do it better?

Discussion: Oncology education in medical schools in Australia and abroad is explored through a personal lens, a qualitative survey, and a literature review in this article. First, the author reflects on his own experience of oncology education as a cancer survivor and third-year medical student. Qualitative data from a survey of medical students at one institution provide insight into the potential benefit of increased exposure to people living with cancer while in medical school. Australia's andragogic oncological landscape is critically evaluated, and opportunities for change are proposed.

Introduction

As a cancer survivor, the frightening experience of a cancer diagnosis is something I intimately understand. Cancer remains the major cause of mortality in Australia and many cancers still have very high mortality rates [1]. One in two Australians will be diagnosed with a cancer before the age of 85. In 2016, it was estimated that 130,466 people were diagnosed with cancer [2] and 46,880 people died from cancer. In this same year, 384,593 Australians reported living with cancer [2].

Despite large volumes of research, it is a disease that continues to kill indiscriminately and its treatment inflicts harsh side effects during therapy and late toxicities in survivorship. The contradictory way that the causes of cancer are communicated and the complexity of the disease all contribute to a fear of cancer. Medical students are not immune to this fear and many develop additional anxiety about cancer throughout their university training. Cancer, for medical students, is a complex disease process, often of unfamiliar and unknown aetiology. It challenges our understanding of genetics, anatomy, physiology, therapeutics, psychology, and public health. As a major health burden, all doctors and medical students should possess a foundational understanding of cancer screening, the pathophysiology underpinning its signs and symptoms, principles of diagnosis and cancer treatment, and appreciate the importance of multidisciplinary care. Simultaneously, doctors require the confidence to effectively and empathetically facilitate conversations with patients and their families about the diagnosis of cancer, fear and grief, prognosis, side-effects, palliative care, and end-of-life planning [3-5].

Reflections from a cancer survivor and their learning community

During my first two years of medical school, I was surprised to not once encounter a cancer advocate or patient as part of my learning. This was
surprising because patient narratives and engagement are regarded as central to medical education. Early exposure in preclinical years to cancer patients and oncology content has been shown to improve communication confidence and increase empathy towards cancer patients [6].

I am open about my stage-three colorectal cancer journey [7] and it felt natural to share my lived experience with my problem-based learning team of seven other students during first year. Learning about cancer within this context I believe benefited me and my colleagues. Their questions and knowledge allowed me to conceptualise my own experience in new ways, and helped me retain a greater amount of the material encountered during oncology cases. The prevalence of cancer and growing incidence of certain cancers in young adults means medical students will be increasingly confronted by cancer in some way during their learning. This should be embraced by medical curricula and extracurricular structures as a strategy to create more rewarding oncology learning environments that draw on lived experience within medical cohorts (when appropriate) and cancer groups in the wider community.

When in second year, I asked members of my first-year problem-based learning group to reflect on their experience of learning about cancer alongside me. At my medical school, we have traditional lectures, occasional workshops, and frequent tutorials with a problem-based learning group. Its membership remains the same for the academic year. Oncology is not taught as a block, but is weaved throughout the curriculum. There were no specific tutorials or workshops on oncology, but from time to time discussion in my tutorial group would turn to oncology and my experience and we would have involved discussions together.

An eight-item survey was distributed via SurveyMonkey to the seven other members (average age 24 years old; five females and two males) of the learning unit in April 2016 and data was anonymously collected from five respondents (two colleagues did not provide data for reasons I did not ascertain to protect anonymity). Closed questions concerned the quality of oncology teaching (for example: Do you believe the amount of oncology education provided by the school’s current curriculum is ideal? and Would you have liked more contact with cancer survivors last year?) and learning about cancer alongside a cancer survivor (for example: Was your cancer learning experience advantaged, disadvantaged or unaltered by the presence of someone in your problem-based learning group with direct lived experience with cancer?). Two questions asked students to list the topics they believed they would be most comfortable with when entering hospital and which format for learning about oncology was the most appreciated (for example: lectures, workshops, or tutorials). Two open questions asked for opinions on the role of cancer consumers in education and any other reflections related to oncology education.

Overall, students reported that contact with a colleague living with cancer was transformative, broadened their understanding of oncology, and helped form connections between the biological and humanistic aspects of cancer (Table 1). All five respondents indicated that their cancer learning experience had been positively influenced by the presence of a cancer survivor, and four of the five respondents indicated they would have preferred more contact with cancer survivors in their first year of medicine.

| “I felt so fortunate to be studying cancer alongside someone who had lived the experience, it made the discussions incredibly real and considered in our approach. It resulted in me retaining so much more information... It was an irreplaceable learning experience.” |
| “I enjoyed learning about the humanity aspect; that is associating the mechanistic and physiological dysregulation with the human and his/her lived experiences.” |
| “Best way to learn about cancer survivorship and cancer management... Also, early exposure is ideal.” |
| “I never truly understood the impact or the importance of a personal attachment to learning. How much more learning there is to be done besides the core information that you can read in a textbook. It was an incredible addition that I feel very fortunate to have been a part of.” |
| “Having cancer advocates actively involved in the tutorial sessions, or even sharing their recorded experiences whether that be at time of diagnosis, their journey, or events after would be fascinating and having more exposure to the journey would be enlightening to medical students.” |

Table 1. Responses from five members of the same problem-based learning group reflecting on their cancer education experience learning alongside a cancer survivor.

This small sample is neither robust nor generalisable, but these qualitative impressions demonstrate that early exposure to cancer survivors in a medical education environment was a transformative experience for these preclinical students. Given the nature of this survey, sources of bias are numerous and include the sample size, familiarity between myself and the subjects, that the benefits are self-reported only, and that the survey was done several months after the problem-based group was dissolved. However, learning alongside me and hearing about my disease informally throughout the year created patterns of change seen in more robust assessments of oncology educational experiences discussed below.

Given the benefits of early patient contact, why is contact with cancer patients not standard practice in medical schools? To address this question, this article evaluates the historical development and current status of oncology teaching more broadly.
The evolution of oncology teaching

The education of medical students must change over time in response to the changing needs of patients, society, and governments. Cancer education for Australian medical students has a history of responding and adapting to external drivers of change. In 1988, Cancer Council Australia released guidelines for core competencies for medical graduates and called for compulsory oncology education in all medical schools [3]. These guidelines were reviewed and amended as the Ideal Oncology Curriculum for Medical Schools in 1999 and in 2007 by the Oncology Education Committee [3]. Over the same period, a call for a foundation oncology curriculum in Europe was made in 1989. The independent International Union Against Cancer released a paper on oncology curricula in 1994 and an Australian Government inquiry into breast cancer in 1995 concluded that medical schools should urgently develop curricula enabling students to better acquire knowledge about the diagnosis and management of cancer [3].

Medical schools have undergone significant changes in the last decade, including growth in graduate-entry medical degrees, problem-based curricula, student-directed learning, and integrated content. Despite the increasing agility of medical schools to adopt improved teaching and learning models for oncology [5,8-10], assessments of medical students’ understanding of oncology have consistently found knowledge and skill deficits [5,10-16]. The curriculum is crowded, medicine grows more complex, and the volume of information available about a given topic is now unmanageable. This is on a background of a general fear of cancer that many students likely possess. The disjunction between students’ knowledge of cancer and the knowledge they are expected to have remains an active and rich research space in Australia and globally.

What should medical students know about cancer?

While the diagnosis of cancer is usually confirmed by oncologists, the responsibility for facilitating screening and detection remains primarily in the domain of general practitioners (GPs). GPs also provide the majority of general health care for cancer-diagnosed patients [17]. The role of the GP in cancer care and long-term follow-up is growing due to increasing cancer incidence and survivorship, the shift towards defining cancer as a chronic disease, and proposed policy changes aimed at restoring GPs as the keystone of chronic disease management [17-19]. Although approximately half of Australian medical graduates go on to train as GPs, access to oncology training is limited outside of specialist oncologist training programs. Thus, effective oncology training during medical school is of paramount importance in establishing an appropriate skill set for internship and beyond. Further, as the numbers of cancer survivors and people living with cancer grow, cancer care and support issues will impact an increasing number of specialists outside of oncology.

The role of medical curricula is to prepare students for their first year after university as interns. However, what students should know by this point will differ depending on the views of various stakeholders. From a patient perspective, medical graduates need to be able to recognise and identify cancer, understand treatments, engage in discussion around the psychosocial implications of cancer, and appreciate the roles of different health professionals involved in cancer journeys. From a senior doctor perspective, medical graduates should understand history-taking and examination, red flag symptoms, screening and diagnosis, treatment modalities and goals, chronic care needs, communication, and ethics [5,20]. From a public health perspective, medical graduates should understand the principles and guidelines for cancer prevention, screening and detection, and the relationships between cancer prevalence, demography, and geography [5,20]. Last but not least, medical graduates have expectations of their own cancer knowledge: they expect to know about cancer prevention, patterns of cancer prevalence, and the signs and symptoms of cancer. They also strive to effectively communicate with cancer patients, and be up-to-date on the principles of surgery, chemotherapy, immunotherapy, and radiotherapy.

Trends in the cancer knowledge of medical graduates

Two major surveys of Australian medical graduates’ attitudes and understanding of cancer were conducted in 1990 and 2001 [4,13]. According to these samples, students in 2001 had more exposure to palliative care and radiation oncology and better knowledge about breast cancer over other cancer types [4]. Procedural-based skills such as performing a Papanicolaou smear and analysing a pigmented skin lesion worsened, but breast examination competency and an understanding of screening guidelines for cervical cancer improved [4]. In the eleven years between surveys, the number of students who felt dissatisfied with the teaching of curable versus non-curable cancer management grew, while the number of students reporting little or no skills in discussing death with dying patients fell [4].

Overseas, a survey of medical graduates in the UK in 2005 found that only 61% of students completed a clinical attachment or special module in oncology, three-quarters would have liked more teaching on oncology, namely radiotherapy, chemotherapy, and symptom management, and only 40% felt prepared to care for cancer patients [14]. Evaluation of American medical graduates found that many lacked knowledge on cancer prevention and history-taking, alongside an unpreparedness to care for cancer patients [5]. In Canada, a 2011 survey found that only half of medical schools taught oncology as a separate topic [11]. It also found that 67% of final-year students felt that oncology education was inadequate and the most poorly taught subject at medical school, a sentiment shared by curriculum committees, residents, and training program managers alike [11].

How can we better teach and learn about cancer?

Medical school oncology education has suffered, and in many places continues to suffer, from neglect, fragmentation, a narrow scope, under-resourcing, and inconsistency between curricula and schools [5,21]. Despite acknowledgement almost 30 years ago of the need for common oncology teaching based on shared principles and standardised learning objectives, disparity in oncology education remains the norm [21,22]. Debate persists around the role of oncologists as educators within medical schools, and how much focus there should be on oncology at medical school. The degree to which oncology should be integrated into curricula [22] or taught as blocks of content is also disputed [23]. Despite a lack of congruence amongst medical oncology teaching, methods to improve oncology teaching have emerged from medical schools around the world.
Conflict of interest


References


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I don't know the answer but I can tell you of my similar experience with Australia. First, the website is like a Rubik's cube of diagrams and acronyms. I found it impossible to navigate myself. I also found it difficult to get advice. The AMC "no... In my case I was applying as a Foreign trained specialist trying to get licensed/certified as a specialist in Australia. There is a different pathway for every conceivable permutation. For instance if I was a Foreign trained specialist who trained in NZ there is a different pathway then a Foreign trained specialist trained in the US. What makes it difficult is that you might choose the wrong pathway or you might advise you to go down a pathway that is wrong however no one will know for months until they actually read your application. Mistreatment in Australian medical education. +61 (0)3 7000 6007 w w w . w o r k t h e w o r l d . c o m / w o r k t h e w o r l d. www.amsj.org. Design and layout ÂŠ 2018, Australian Medical Student Journal Australian Medical Student Journal, PO Box 2119, Carlingford Court, Carlingford NSW 2118 enquiries@amsj.org www.amsj.org Content ÂŠ 2018, The Authors ISSN (Print): 1837-171X ISSN (Online): 1837-1728 Cover design by Jason Vicary (James Cook University). Typesetting by Erwin Yi (Monash University). Health system and community level interventions for improving antenatal care coverage and health outcomes Oncology teaching and learning in medical schools: opportunities for patient-centred change. 56. 81.