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Comparison of outcomes for cancer patients discussed and not discussed at a multidisciplinary meeting

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ABSTRACT

Objectives: Comparison of outcomes for cancer patients discussed and not discussed at a multidisciplinary meeting (MDM).
Study design: Retrospective analysis of the association of MDM discussion with survival.
Methods: All newly diagnosed cancer patients from 2009 to 2012, presenting to a large regional cancer service in South West Victoria, Australia (620 colorectal, 657 breast, 593 lung and 511 haematological) were recorded and followed up to 5 years after diagnosis. Treatment patterns and survival of patients whose treatment was discussed at an MDM compared to those who were not, were explored.
Results: The proportion of patients presented to an MDM within 60 days after diagnosis was 56% ($n = 366$) for breast cancer, 59% ($n = 363$) for colorectal cancer, 27% ($n = 137$) for haematological malignancies and 60% ($n = 355$) for lung cancer. Seventy-three percent ($n = 886$) of patients discussed at an MDM had their tumour stage recorded in their medical records while only 52% ($n = 604$) of patients not discussed had their tumour stage recorded ($P < 0.01$). We found for haematological and lung cancer patients that those presented to an MDM prior to treatment had a significant reduction in mortality (lung cancer hazard ratio [HR] 0.62, 95% confidence interval [CI] 0.50–0.76, $P < 0.01$) (haematological cancer HR 0.58, 95% CI 0.35–0.96, $P = 0.03$) compared to patients whose cases were not discussed at an MDM after adjusting for the potential cofounders of age, stage, comorbidities and treatment. This was not the case for colorectal and breast cancer patients where there was no significant difference.
Conclusion: MDM discussion has been recommended as best practice in the management of cancer patients, however, from a public health perspective this creates potential issues around access and resources. It is likely that MDM presentation patterns and outcomes across tumour streams are linked in complex ways. We believe that our data would

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demonstrate that these patterns differ across tumour streams and that more detailed work is required to better allocate relatively scarce and potentially costly MDM resources to tumour streams and patient groups that may get the most benefit.

Introduction

Multidisciplinary meetings (MDMs) facilitate a team approach to the treatment and follow up of patients and are supported by evidence-based practice guidelines. The management of cancer is complex with input from a team of health professionals, including oncologists, radiologists, surgeons, pathologists, physicians and nursing staff, ideal for optimising treatment plans. Prior studies have acknowledged the challenge involved with many treatment choices available and not always a clear cut evidence-based option for each patient.[1]

There are two modes of multidisciplinary care: one where the patient presents to the cancer clinic on a single day to see all disciplines including oncology, radiotherapy, surgery and supportive care as a multidisciplinary team (MDT). The other method, the topic for our study, is for all clinicians to come together at an MDM soon after diagnosis to work towards a unified treatment plan. The responsibility of care is shared by many clinicians with multiple viewpoints and perspectives discussed until a treatment plan is agreed upon. Involvement in MDMs engages clinicians to assist with change, direction and implementation of cancer care.

MDMs support administration processes that result in sufficient and timely information to patients, reduce time from diagnosis to treatment, support the development of individualised treatment plans, allow access to a full range of therapies and promote easier pathways through the healthcare system.[2–5] Generic proforma and templates help minimise work load and reduce duplication of services.[4] From a clinician's perspective, the MDM provides peer support, enhances professional relationships and improves staff wellbeing.[6] Discussion of individual cases by experienced specialists at MDMs provides an excellent training opportunity for younger clinicians to witness the movement in varied thought processes that go into a final treatment decision. MDMs have initiated more awareness for supportive care and psychological needs of the patient.[7]

The Victorian Department of Health and Human Services has jurisdiction over the region served by Barwon Health and commissioned the Cancer Council Victoria to review Optimal Care Pathways with the recommendation that all newly diagnosed patients with cancer 'should be discussed with an MDT prior to the commencement of treatment' for many tumour streams.[8] Alternatively, due to the urgency for treatment of some cancers, predetermined and designed treatment plans endorsed by an MDT have also been suggested.

Prior research has reported on outcomes of MDTs. A report by Ke et al., in 2013 concluded from a systematic review of the literature that there was insufficient evidence to support or refute that MDTs in cancer care are cost effective.[9] A separate study by Chinai et al. on colorectal cancer patients in the UK exploring the cost effectiveness of MDTs in a large hospital found the cost of the meetings were as much as £160,000 annually. On investigation, very few changes were made to the original clinical decisions and recommendations before and after meeting were nearly identical.[10] Pillay et al. found in a separate systematic review that there was little evidence of improved survival for those presented to an MDT even though there was increased likelihood of calculation of tumour staging and a recorded plan for neoadjuvant and adjuvant treatment.[11] To our knowledge this current study will be the first report on outcomes and MDMs across a range of tumour streams in the one healthcare provider.

While it has been recommended that most if not all patients should be discussed at MDMs, time-poor clinicians and an ever-growing cancer population makes this recommendation unlikely to be achievable. It may be that patient stratification across and within tumour specific MDMs would make more efficient use of constrained health resources. Identifying ways in which patients could be triaged for MDMs with those either in most need of a critical review or those whose outcome is most likely to benefit from multiple viewpoints could reduce the number presented. Critical to any stratifying process being implemented, is first an understanding of current outcomes of those presented to different tumour stream MDMs—ideally within a single institution to minimise confounding variations across health services. Most prior studies have focussed on MDMs for single tumour streams. However, there may be different benefits and outcomes across different tumour streams and variations in care or outcomes linked directly or indirectly to the MDM intervention that need to be reported. This is the topic of our study.

Methods

The Barwon South Western Region Integrated Cancer Services administers the MDM system for South Western Victoria. The MDMs commenced in 2005 with extensive mapping of existing speciality-based meetings across the region. The MDMs in the study period of 2009–2012 were predominantly inclusive of patients residing within the Barwon region, therefore we have limited our analysis to Barwon Health patients to reduce extraneous confounding. The MDM programme is well supported by clinicians at Barwon Health and has seen an increase in the annual number of cases discussed from 715 patients in 2009 to 1163 in 2013. MDMs are presented weekly for breast and lung cancer and fortnightly for haematological and colorectal cancer. Each MDM has a defined participant list with a quorum of treating physicians consisting of at least one