couraging pancreatic cancer survivor during a few of my treatments. With this opportunity, I would have been able to discuss how patients with similar treatments had managed and coped with some of their adverse effects. I would have been able to compare their adverse effects to what I experienced during my radiation, chemotherapy, and Whipple surgery.

For someone with the complex and frightening problem of pancreatic cancer, my experience at the clinic was as emotionally painless as it could be. On reflection, the distinction of the Multidisciplinary Clinic is the culture that exists. It is clear that these doctors developed a philosophy of care that was reflected by all of the staff, who all believed in and worked toward being part of this culture. The doctors, nurses, and receptionists all had the patient as their primary concern. This culture was manifest by the competent staff expressing a sense of urgency to get the job completed, and by the convenience of being able to see all the necessary medical staff in one day. The end result was that I was able to leave at the end of the first day with an effective action plan. Without a plan I would have left with a big hole in the puzzle, which works against the patient.

The trouble that was lurking in the background in July came to the foreground. It was dealt with and successfully treated by this wonderful, dedicated multidisciplinary team. I hope that these words will serve as a stimulus for oncologists to recognize the value of working together and developing cultures of care like the one I experienced. It certainly paid off, as I am happy to say I am cancer free.

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The author indicated no potential conflicts of interest.

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Does Multidisciplinary Care Enhance the Management of Advanced Breast Cancer?: Evaluation of Advanced Breast Cancer Multidisciplinary Team Meetings

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Abstract

Purpose: To assess the contribution of the advanced breast cancer (ABC) multidisciplinary team meetings (MDMs) to patient care and clinical outcomes.

Methods: Members of ABC MDMs at two health services completed questionnaires in November 2007. The questionnaire asked about the performance of the MDMs and their contribution to improvement in patient care in five domains: medical management, psychosocial care, palliative care, care in the community, and benefits for team members. A final section covered the perceived value and importance of the MDM in patient management. Descriptive statistics (frequencies, mean, and standard deviation) were used to summarize the performance, improvement, and importance scores.

Results: A total of 27 multidisciplinary team members (73%) completed the questionnaire. The MDM performed best in medical management (mean performance score out of 5 [M] = 3.78) and palliative care (M = 3.77). These were also the areas that were most improved through the MDM. Benefits to team members and care in the community (both M = 3.05) ranked lowest by both measures. The MDM provided the most benefit for patient management in the areas of "awareness of services available" (M = 4.32), "efficiency of referrals" (M = 4.27) and "supportive care for patients" (M = 4.27). "Awareness of services available," "psychological care for patients," and "continuity of care" were considered the most important (M = 4.64).

Conclusion: The study provides evidence that MDMs make an important contribution to the logistical and medical management of patients with advanced breast cancer.

Introduction

Multidisciplinary care (MDC) describes an integrated team approach to health care in which medical and allied health care professionals consider all relevant treatment options and collaboratively develop individual treatment care plans for all patients.[1,2] In recent years, this approach has become the standard of care in cancer management, and in Australia, the National Breast Cancer Centre formulated principles of MDC and im-

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plementation guidelines in 2005.[1,3,4] However, evidence demonstrating the value of MDC and multidisciplinary meetings (MDMs) remains scarce.[5]

The concept of MDC is not new. The potential for enhancing patient care was recognized more than 40 years ago.[6-8] In the 1990s, several studies in various cancers other than breast cancer[9-12] demonstrated improved clinical outcomes, which stimulated the widespread uptake of MDC, which was supported by national and international clinical practice guidelines in many countries.[13-15] There is some evidence that MDMs improve outcomes for patients with early breast cancer, although a consistent survival benefit has not been demonstrated.[16,17] A survey of 294 Australian specialists in breast cancer indicated that more than 90% of respondents considered the MDM an effective method of treatment planning,[18] and other studies demonstrate the practical benefits and effectiveness of MDMs.[8,19-24] There has, however, been little research regarding the value of MDMs in advanced breast cancer care, and this warrants further attention.

The focus of care for patients with advanced breast cancer is considerably different from that for patients with early breast cancer.[25,26] Treatment is not given with curative intent; care needs are often protracted over several years; and psychosocial and spiritual needs take on a higher priority.[26,27] Care provision is therefore complex and requires input from a broad range of specialist staff.[28]

The highest aspiration for an MDM is to improve overall survival. However, demonstration of a survival benefit for MDC in ABC will probably never be possible. Nevertheless, there are many other assumed benefits of MDC—including improvements in consistency, continuity, coordination, and cost effectiveness of care; communication between health professionals; clinical outcomes; clinical trial recruitment; audit; satisfaction and psychological well-being of patients and education; support; job satisfaction and psychological well-being of team members[5]—that might be of demonstrable value.

An ABC MDM was set up in 2003 at one health service and in 2007 at the second. The logistical setup of these MDMs and audit results have been reported previously.[29,30] The next phase of our study examined the views of clinicians participating in ABC MDMs to assess the clinicians' perception of how well the MDM performed and whether it had any perceived impact on patient care and clinical outcomes.

Methods

The members of the ABC MDMs at two health services were included in this study. A paper-based questionnaire was developed by the project team (a medical oncologist, a breast care nurse, a social worker, and a senior researcher) on the basis of the team's knowledge of MDMs, their potential benefits, and the National Breast Cancer Centre guide.[28] The questionnaire was piloted before use by two clinicians. It collected information on participant professional group, place of work, and logistical aspects of the meeting (not reported here). After that, five sections covered medical management, psychosocial care, palliative care, benefits for team members, and care in the community; each section included six to 16 items. Respondents were asked to rate the MDT in terms of its performance (1 = "not addressed well at all" to 5 = "addressed extremely well"); its importance (1 = "not required" to 5 = "extremely important"); and improvement (1 = "not improved at all" to 5 = "improved a great deal") for each question. Our findings focus on the performance and improvement ratings. The final section of the questionnaire explored respondents' perceptions of the benefits and importance of the MDM to the management of patients with ABC in 15 domains. Respondents were asked to provide a rating of value (1 = "not valuable" to 5 = "extremely valuable") and importance (1 = "not required" to 5 = "extremely important"). The option "not applicable" was included throughout the questionnaire.

The study was approved by the human research ethics committees at each site. The questionnaire was sent to 37 members of the multidisciplinary team in November 2007. The team members included medical specialists (medical and radiation oncology, palliative care, and registrars in training), specialist nurses (breast care, oncology, research, and palliative care), and allied health clinicians (social work and psychology) from the hospital and related local community services.

Descriptive statistics (frequencies, mean, and standard deviation) were calculated for the performance, improvement, and importance (where applicable) ratings of each question and domain.

Results

A total of 27 respondents (73%) completed the questionnaire. The professional groups included nursing (n = 9; 36%), allied health (n = 9; 36%), medical (n = 6; 24%), and research (n = 1; 4%). Sixteen respondents were from institution A; 10 were from institution B; and one was a community care provider.

MDM Performance in Specific Domains

Table 1 lists the performance ratings of various aspects of clinical outcomes and patient care, ranked within domains by the mean score. Items relating to medical management and palliative care rated well in terms of the perceived performance of the meetings. Items in which the meeting performed best were "early referral to palliative care services," "symptom management," "sharing of coordination of care," "appropriateness of palliative care referrals," and "assessment of response or progression." In these domains, 76.9% to 81.8% of respondents considered the areas to be addressed "well" or "very well."

Items related to benefits to team members and care in the community were areas in which the meeting did not perform as favorably. In particular, "reduced likelihood of burnout for team member," "management of bereavement," "emotional support for team members," and "involvement of the patients' general practitioners in their care" were rated worst. Only 20% to 28% of respondents considered these areas to be addressed well or very well.

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Table 1. Performance of MDM in Clinical Outcomes and Patient Care

Survey Item	Mean	SD	"Addressed Extremely Well" or "Addressed Well" Responses (%)
Palliative care			
Early referral to palliative care services	3.96	1.09	77.8
Symptom management	3.92	0.89	80.8
Referral for supportive care	3.77	0.95	73.1
Patient acceptance of palliative referral	3.58	0.88	50.0
Referral for terminal and end-of-life care	3.59	1.15	63.0
Overall palliative care	3.77		
Benefits for team members			
Sharing of coordination of care	3.92	0.85	76.9
Sharing of responsibility for patient's care	3.72	0.84	64.0
Improvement in working relationships with team members	3.65	1.16	65.4
Improvement of efficiency with work as a result of team membership	3.38	1.01	58.3
Practical support for team members	3.25	0.94	45.8
Emotional support for team members	2.72	1.06	28.0
Reduced likelihood of burnout for team members	2.68	0.99	20.0
Overall benefits for team members	3.28		
Psychosocial care			
Appropriateness of palliative care referrals	3.89	0.89	81.5
Assessment of patient needs	3.59	1.01	59.3
Assessment of practical issues	3.56	1.05	66.7
Value of meeting actions and recommendations	3.52	1.05	64.0
Assessment of patient's emotional status	3.48	1.01	55.6
Improved psychosocial outcomes for patients	3.44	1.19	63.0
Provision of practical support (eg, financial guidance, home help)	3.33	1.18	59.3
Assessment of care issues	3.26	1.26	59.3
Overall psychosocial care	3.51		
Medical management			
Symptom management	3.86	0.94	81.8
Assessment of response or progression	3.82	1.10	77.3
Management recommendations	3.78	0.85	82.6
Assessment of extent of disease	3.77	0.97	72.7
Confirmation of diagnosis (ABC)	3.76	1.00	81.0
Outcomes for patients medically	3.68	1.04	72.7
Overall medical management	3.78		
Care in the community			
Provision of community-based care	3.59	0.69	70.4
Communication with community care providers	3.16	0.94	44.0
Provision of support for the family, including children	3.04	1.20	41.7
Involvement of the patients' GPs in their care	2.80	1.00	20.0
Management of bereavement	2.68	1.18	28.0
Overall care in the community	3.05		

Abbreviations: MDM, multidisciplinary meeting; SD, standard deviation; ABC, advance breast cancer; GPs, general practitioners.

Perceived Improvements Achieved by the MDM in Specific Domains

Table 2 lists the perceived improvement rating of various aspects of clinical outcomes and patient care. Items relating to medical management and palliative care ranked highly. "Outcomes for patients medically," "management recommendations," "early referral to palliative care services," "symptom management," and "confirmation of diagnosis" were considered to have improved the most, and 73.9% to 83.3% of respondents considered these areas to have improved moderately or a great deal.

Items relating to benefits to team members and care in the community tended to be rated lower in perceived improvement. In particular, "involvement of the patients' general prac-

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Table 2. Improvements in Clinical Outcomes and Patient Care

Survey Item	Mean	SD	"Improved a Great Deal" or "Moderately Improved" Responses (%)
Palliative care			
Early referral to palliative care services	3.92	0.93	75.0
Symptom management	3.90	0.94	76.2
Referral for supportive care	3.74	0.92	73.9
Referral for terminal and end-of-life care	3.61	1.08	60.9
Patient acceptance of palliative referral	3.37	1.12	52.6
Overall palliative care	3.71		
Benefits for team members			
Improvement in working relationships with team members	3.61	1.20	65.2
Sharing of coordination of care	3.52	0.99	56.5
Sharing of responsibility for patient's care	3.45	0.91	50.0
Practical support for team members	3.26	0.86	39.1
Improvement of efficiency with work as a result of team membership	3.19	1.03	42.9
Emotional support for team members	2.95	1.00	36.4
Reduced likelihood of burnout for team members	2.78	0.95	21.7
Overall benefits for team members	3.23		
Psychosocial care			
Appropriateness of palliative care referrals	3.71	1.00	70.8
Assessment of patient needs	3.63	0.92	70.8
Assessment of practical issues	3.56	0.96	64.0
Improved psychosocial outcomes for patients	3.54	1.14	62.5
Value of meeting actions and recommendations	3.52	0.99	65.2
Assessment of patient's emotional status	3.50	1.02	58.3
Provision of practical support (eg, financial guidance, home help)	3.50	0.83	54.2
Assessment of care issues	3.32	0.85	48.0
Overall psychosocial care	3.53		
Medical management			
Outcomes for patients medically	4.11	0.68	83.3
Management recommendations	4.05	1.05	75.0
Symptom management	3.90	1.07	75.0
Confirmation of diagnosis (ABC)	3.88	0.86	70.6
Assessment of response or progression	3.68	0.89	68.4
Assessment of extent of disease	3.55	0.95	60.0
Overall medical management	3.86		
Care in the community			
Communication with community care providers	3.36	0.66	45.5
Provision of community-based care	3.32	0.84	54.5
Provision of support for the family, including children	3.10	1.22	38.1
Management of bereavement	2.80	0.95	25.0
Involvement of the patients' GPs in their care	2.70	1.03	15.0
Overall care in the community	3.06		

Abbreviations: SD, standard deviation; ABC, advance breast cancer; GPs, general practitioners.

titioners in their care," "reduced likelihood of burnout for team member," "management of bereavement," and "emotional support for the team members" were rated lower.

The areas in which performance and improvement ratings were the highest were also those that were rated highest in terms of importance. The ranking of areas from greatest to least importance were medical management, psychosocial care, palliative care, care in the community, and benefits to team members.

Perceived Benefits and Importance of the MDM for Patient Management

The areas in which the respondents considered the MDM to provide the most value (benefit) were "awareness of services

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Table 3. Value of the Multidisciplinary Team for Patient Management

Survey Item	Mean	SD	"Extremely Valuable" or "Somewhat Valuable" Responses (%)
Awareness of services available	4.32	0.75	84.0
Efficiency of referrals	4.27	0.83	84.6
Supportive care for patients	4.27	0.83	84.6
Appropriateness of referrals	4.23	0.91	84.6
Continuity of care	4.23	0.95	88.5
Knowledge of patient details	4.19	0.98	88.5
Medical care for patients	4.16	1.11	88.0
Use of services	4.08	0.80	88.5
Communication with other care providers	4.08	0.98	76.9
Psychological care for patients	4.04	1.00	80.8
Ease of referral to medical services	4.04	1.10	84.0
Practical care for patients	4.00	0.96	80.0
Ease of referral to psychological services	3.88	0.95	76.9
Data collection	3.88	1.05	76.0
End-of-life care	3.76	1.30	68.0
Overall	4.10		

Abbreviation: SD, standard deviation.

available," "efficiency of referrals," "supportive care for patients," "appropriateness of referrals." and "continuity of care" (Table 3). However, all domains performed well, with end-of-life care and data collection ranking the lowest.

Similarly, the items considered of most importance were "awareness of services available," "psychological care for patients," "continuity of care," "appropriateness of referrals," and "supportive care for patients." Again, all domains performed well, with "ease of referral to psychological services" and "data collection" ranked least important in relative terms. The discrepancy between importance and level of benefit gained by the MDM was largest between "end-of-life care," "psychological care for patients," and "practical care for patients."

Discussion

There is limited evidence that demonstrates the value of MDC and MDMs in the management of ABC. However, it seems logical that a multidisciplinary approach would benefit these patients, who have complex needs that require a wide range of specialist input including psychosocial and palliative care.

Our findings indicate that, overall, clinicians involved in the MDM found it valuable and felt that it had improved performance in a range of both patient care and logistical areas. Objectives of MDC[8] and the perceived benefits of the MDM[5] can be divided into three areas: clinical outcomes, care processes, and team member outcomes. Our study provides some evidence that the ABC MDM contributed a benefit in each of these areas, particularly in improving care processes.

Clinical Outcomes

Objective evidence of the improvement of clinical outcomes by MDC is relatively limited[16] and difficult to obtain, especially now that MDC is used widely as the standard for cancer care. However, the respondents in our survey estimated their impression of the contribution the MDM has made to ABC patient care in comparison with care provided before the implementation of the ABC MDM, thus giving an indication of the value of this approach.

Our results showed that MDMs performed well in the areas of medical management and palliative care and that, largely, the areas that performed the best were also those that respondents considered had been improved most and were the most important. The two most improved areas were "outcomes for patients medically" and (medical) "management recommendations." Other areas that were considered to have been much improved by the MDM were "symptom management" and "confirmation of ABC diagnosis." Areas that performed well included confirmation of ABC diagnosis and appropriateness of palliative care referrals. In addition, the clinical outcome items in the survey exploring the value of the multidisciplinary team (supportive care, medical care, psychological care, and practical care) all performed well; more than 80% of respondents considered the MDM contribution to be valuable. These results suggest that the MDM contributed to better clinical outcomes for these patients.

All domains within the psychosocial care area were perceived as benefiting from the MDM. This improvement may be attributable to the attendance of nursing and allied health professionals. Other research has shown that the presence of psychologists and allied health staff in MDMs is often limited,[18] despite clinical practice guidelines that highlight the importance of psychosocial care for patients with cancer.[31] Thus, the involvement of a range of allied health and nursing staff ensures that psychosocial and palliative care are strengths of our meetings.

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Care Processes

Our study highlighted the contribution of the MDM to improved referral processes, awareness of services, continuity of care, and knowledge of patient details. Both "early referral to palliative care" and "referral for supportive care" were among the areas most improved by the MDM. The areas in which the respondents considered the MDM to provide the most value were "awareness of services available," "efficiency of referrals," "appropriateness of referrals," and "continuity of care"; however, all domains performed well.

Care in the community was ranked lowest in the survey. Despite efforts to improve community participation, community care providers, particularly general practitioners (GPs), were only minimally involved in the MDM. The involvement of GPs in these meetings has been advocated as this improves communication between the acute hospital and community sectors. In attending meetings, GPs can act as advocates for their patients, ask about potential adverse effects of treatment and any trials enrolled onto,[18] and promote increased care in the community, which is particularly useful when patients reach the terminal phases of their illnesses. There are a range of barriers to GPs attending these meetings in person, so other avenues of communication need to be explored.

Team Member Outcomes

Although there were moderate improvements for many team member benefits for care processes, there was less improvement in emotional support and burnout prevention. Only 36% considered the MDM provided a mechanism for emotional support for clinicians, and 20% felt that it reduced the likelihood of burnout. The low ratings in the area of clinician benefits may be related to a focus on patient outcomes rather than on the meetings as a source of emotional support. Furthermore, although MDMs are considered valuable for patient outcomes, they might actually contribute to the clinicians' workloads and thus contribute to burnout.

The minimal benefit for team members was disappointing given that Carter et al[32] previously demonstrated improved mental health outcomes for members of health care teams. Our results suggest this may be an area for further development for our teams in the future.

More than 70% of MDM attendees responded to this survey with good multidisciplinary team membership representation. However, some areas were not sufficiently addressed by the questionnaire that could have provided additional information on the benefits of the MDM (eg, access to all care modalities, adherence to guidelines, coordination of care, and avoidance of duplication in testing). Despite these limitations, the study provides evidence that supports the value of the MDM and highlights its benefits in the management of advanced breast cancer.

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