# National Breast Cancer Audit: the use of multidisciplinary care teams by breast surgeons in Australia and New Zealand

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## ABSTRACT

**Objective:** To explore the involvement of members of the Royal Australasian College of Surgeons (RACS) Section of Breast Surgery in Australia and New Zealand in multidisciplinary care (MDC) teams.

**Design and setting:** Questionnaire sent to all full members of the RACS Section of Breast Surgery in December 2006.

**Participants:** 239 of 262 active full members of the RACS Section of Breast Surgery (response rate, 91.2%).

**Main outcome measures:** Surgeons' use of, and the composition and functioning of, MDC teams in public and private practice, and in metropolitan, regional and rural settings.

**Results:** 85% of responding surgeons reported participating in at least one fully established MDC team. Public-sector teams were operationally more consistent and functional than private teams, and rural teams were less well developed than those in metropolitan and regional centres. The six core disciplines recommended by the National Breast Cancer Centre appear to be well represented in most teams. Patients and their general practitioners were not considered to be part of the treatment team by surgeons.

**Conclusions:** MDC is supported by most breast surgeons, but there are deficits in rural areas, and in the private sector relative to the public sector.


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*For editorial comment, see page 380. See also page 401*

Multidisciplinary care (MDC) is a collaborative approach to cancer care, whereby the treatment plan for the patient is discussed by health professionals in various fields of cancer treatment as an integrated team, considering all treatment options and the preferences of the patient.[1,2] MDC has been shown to provide benefits to medical professionals[1,3] as well as patients.[4,5]

The National Health and Medical Research Council (NHMRC) *Clinical practice guidelines for the management of early breast cancer* state that all patients with early breast cancer should have access to care from a range of disciplines.[6]

The National Breast Cancer Centre (NBCC) encouraged MDC as a new standard of cancer care, conducting large studies and forums.[2,7] The results of these were formulated into guidelines on how to implement MDC.[7] Few studies have looked at how these guidelines are followed by the medical community. The definition of MDC remains fluid in the literature and among health professionals, with no one interpretation being a perfect fit for all situations.[1,7,8]

We examined how MDC is being implemented by breast surgeons who are members of the Royal Australasian College of Surgeons (RACS) Section of Breast Surgery in Australia and New Zealand. We expected that the establishment of MDC may be dependent on a variety of factors including, at a fundamental level, the nature of practice, the environment in which it is set and the availability of health professionals and resources.

## METHODS

The National Breast Cancer Audit identified MDC as an important emerging area relating to quality patient care that is not included in the Audit's dataset. Information on MDC was captured in a questionnaire consisting of 16 items based on the NBCC's "Principles of multidisciplinary care".[7]

The questionnaire and a covering letter were distributed in December 2006 to all 281 surgeons then listed as active full members of the RACS Section of Breast Surgery. Questionnaires were identified by the surgeon's name and College identification number to allow for follow-up of missing replies, and consent was implied by the return of the surgeon's survey. Surgeons who were not members of the RACS Section of Breast Surgery, who contribute around 10% of the National Breast Cancer Audit's data, were not included.

The data were summarised and analysed in a Microsoft Access database and with Microsoft Excel (Microsoft Corporation, Redmond, Wash, USA), and Instat (GraphPad Inc, San Diego, Calif, USA). Questions not answered were treated as missing values. As the survey required separate answers for the participants' public and private practices, most of the results presented refer to "teams" or "practices" to represent the separate sides of a surgeon's practice. Therefore, an individual surgeon may be represented more than once in some results where public and private practice are treated separately, and *P* values provide a rough guide only to non-random findings, as multiple responses from the same surgeon cannot be assumed to be statistically independent. Surgeons identified their practice setting as metropolitan, regional or rural in response to a questionnaire item.

## RESULTS

The overall response rate was 91.8% (258/281), although 19 of these surgeons replied that they were no longer practising breast surgery, were retired, or were no longer full members of the Section of Breast Surgery, and were excluded from our analysis. The valid survey responses used for analysis therefore gave a response rate of 91.2% (ie, 239/262). The distribution of participating

**1 Settings in which responding surgeons practised**

| Public or private | No. of responding surgeons | Metropolitan setting | Regional setting | Rural setting |
|---|---|---|---|---|
| Public only | 16 (6.7%) | 9 (6.5%) | 5 (6.1%) | 2 (11.1%) |
| Private only | 33 (13.8%) | 22 (15.8%) | 9 (11.0%) | 2 (11.1%) |
| Public and private | 190 (79.5%) | 108 (77.7%) | 68 (82.9%) | 14 (77.8%) |
| Total | 239 | 139 | 82 | 18 |

**2 Practices with a multidisciplinary care (MDC) team established: public versus private***

| Practices with MDC team established | Public | Private |
|---|---|---|
| Yes | 85.4% (176) | 63.7% (142) |
| Partly or in process | 6.8% (14) | 12.6% (28) |
| No | 7.9% (16) | 14.8% (33) |
| Total practices | 206 | 223† |

* All % differences between public and private were significant at $P < 0.001$. † 20 surgeons with private practices did not answer this question. ◆

surgeons in public and private practice, and in metropolitan, regional and rural settings is shown in Box 1.

## Surgeons' use of MDC teams

Most surgeons (84.9%; 203/239) were involved in at least one MDC team, and only a very small percentage of surgeons had no MDC team at all (4.6%; 11/239). The percentage of individual surgeons involved in at least one MDC team was much higher among metropolitan surgeons (89.2%) and regional surgeons (82.9%) than among rural surgeons (61.1%).

Box 2 shows the establishment of MDC teams by practice type (some surgeons may have both public and private aspects to their practice). While the majority of both public and private practices have MDC teams established, a much higher proportion of public practices have MDC teams.

## Composition of MDC teams

Respondents reported a wide range of individuals in various roles who are involved in discussions about patient care, as core team members and also as part of an expanded team; these were grouped into categories to determine which disciplines were most often involved (the list of recoded responses can be obtained from the authors).

Box 3A shows that the six core specialist disciplines recommended by the NBCC (surgery, medical oncology, radiation oncology, pathology, radiology and supportive care indicated by nursing)[2,7] were well represented among MDC teams, and there appears to be little difference between public and private teams. The vast majority of responses categorised as nursing (80.9%) refer to a specialist breast care nurse. Box 3B shows that rural teams were less likely than metropolitan and regional teams to include radiation oncologists and pathologists, possibly because these professionals are in short supply in these areas. Ninety-six MDC teams overall included all six core disciplines.

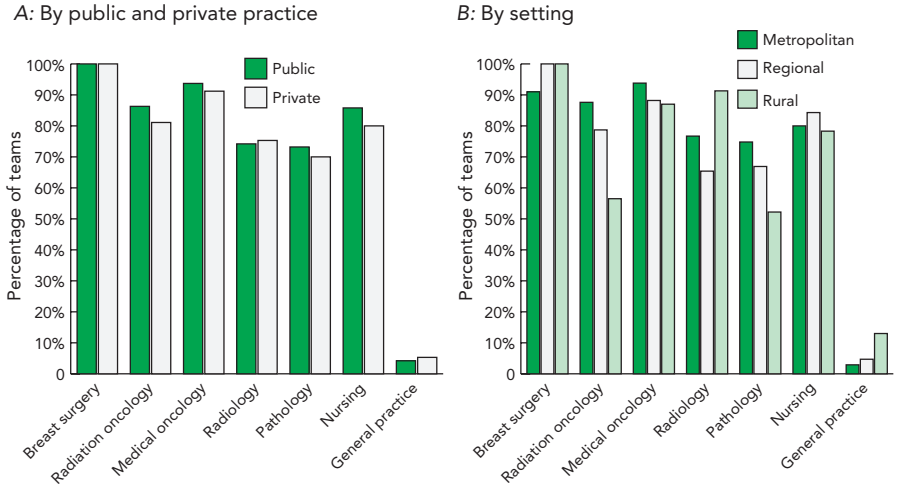
Very few teams included the patient's general practitioner as a core or expanded team member (Box 3 and Box 4), despite the recommendation by the NBCC that the GP be included in the treatment team.[2,7] Rural teams had the most involvement with GPs.

Box 4 shows the teams that included the disciplines shown as members of the expanded MDC team. Most notable additions to the core team were disciplines that focus on the patients' quality of life and other issues secondary to the cancer — psychosocial, allied health, genetics, and plastic surgery. Box 4B shows that rural teams were lacking these services as part of their expanded team.

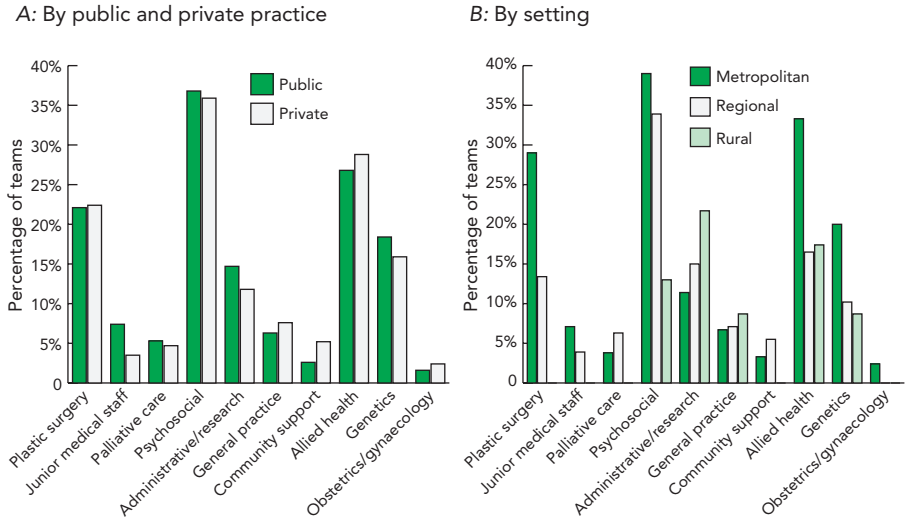
## Functioning of MDC teams

***Communication frameworks:*** A communication framework allows all MDC participants to communicate on a regular basis, namely through dedicated meetings. The proportion of MDC teams with communication frameworks in place was high, although significantly fewer rural MDC teams had communication frameworks. A greater proportion of public teams had communication

**3 Inclusion of the six recommended specialist disciplines and general practice in the core team by public and private practice and by setting**




**4 Inclusion of other specialist disciplines and general practice in the expanded team by public and private practice and by setting***




* 28.1% of surgeons with multidisciplinary care teams did not respond to these items in the questionnaire. ◆

**5 Multidisciplinary care (MDC) teams established or partly established in public versus private practices and in metropolitan, regional and rural settings**

| | Public v private practice | | | Setting | | | |
|---|---|---|---|---|---|---|---|
| | Public | Private | *P* | Metropolitan | Regional | Rural | *P* |
| Total teams | 190 | 170 | | 210 | 127 | 23 | |
| Communication framework established | 91.5% (174) | 82.8% (139) | 0.0093 | 90.4% (190) | 85.8% (109) | 60.9% (14) | 0.0003 |
| Frequency of MDC team meetings | | | | | | | |
| Weekly | 58.4% (111) | 34.7% (59) | < 0.0001 | 60.0% (126) | 30.7% (39) | 21.7% (5) | < 0.0001 |
| Fortnightly | 20.0% (38) | 24.7% (42) | 0.3445 | 19.5% (41) | 27.6% (35) | 17.4% (4) | 0.1932 |
| Monthly | 13.5% (26) | 18.5% (32) | 0.2378 | 10.0% (21) | 24.4% (31) | 26.1% (6) | 0.0009 |
| Other* | 5.3% (10) | 15.9% (27) | 0.0017 | 9.0% (19) | 10.2% (13) | 26.1% (6) | 0.0408 |
| Timing of MDC meeting during treatment† | | | | | | | |
| Before surgery | 46.8% (89) | 38.2% (65) | 0.1233 | 41.9% (88) | 43.3% (55) | 47.8% (11) | 0.8524 |
| Before adjuvant therapy | 80.0% (152) | 73.5% (125) | 0.1836 | 83.8% (176) | 66.1% (84) | 73.9% (17) | 0.0009 |
| Other | 17.4% (33) | 20.0% (34) | 0.6137 | 16.1% (34) | 21.2% (27) | 26.1% (6) | 0.3248 |
| Protocols for discussing patients | | | | | | | |
| Every case discussed | 84.7% (161) | 68.8% (117) | 0.0005 | 81.0% (170) | 72.4% (92) | 69.6% (16) | 0.1301 |
| Not all cases discussed | 11.1% (21) | 20.6% (35) | 0.0190 | 14.3% (30) | 16.5% (21) | 21.7% (5) | 0.6005 |

* Meetings less frequent than monthly or on a case-by-case basis. † 74/193 surgeons (38.3%) indicated that MDC meetings were held both before surgery and before adjuvant therapy (both boxes were ticked) for public practice and 49/173 surgeons (67.1%) ticked both boxes for private practice. These data do not indicate whether the surgeons meant that two meetings were held or that sometimes meetings are held before surgery and sometimes before adjuvant therapy. ◆

frameworks in all practice settings. This difference was particularly notable in the rural setting (public, 75.0% [9/12] v private, 45.5% [5/11]).

Box 5 shows that a weekly meeting was the most popular schedule for MDC teams, although this was significantly less common in private practice. Box 5 also shows that a much higher proportion of private practice MDC collaborations did not fit into a common weekly, fortnightly or monthly schedule, with a significantly higher proportion ticking "other". In comments about the "other" scheduling category, 24 surgeons (14.1%) noted that their private practice MDC team meetings were not scheduled, but were held on an as-needed, ad-hoc or case-by-case basis. Nine surgeons (4.7%) responded that this was the case for their public practice MDC team. Eight surgeons in private practice (4.6%, compared with three surgeons in public practice [1.6%]) commented that their team did not formally meet at all, but that MDC was coordinated through personal communication between individuals from other disciplines. Rural MDC teams were significantly more likely to have infrequent meetings, either monthly, or at a frequency in the "other" category, suggesting a variable, case-by-case basis (Box 5).

***Timing of MDC meeting during treatment:*** MDC meetings were most commonly held between surgery and adjuvant therapy (Box 5). This was consistent across public and private practice and all settings, although Box 5 suggests that the more geographically remote the practice, the more likely that the timing of the MDC meeting would vary from case to case. Additional surgeon comments indicated that the timing of meetings can depend on the features of individual cases, prescheduled meeting times, or on relapse, recurrence or development of metastases.

***Protocols for deciding which patients require discussion:*** Most public and private MDC teams did not have a local protocol in place for deciding which patients require MDC discussion and prefer to discuss all patients. However, the proportion of MDC teams that used a protocol for choosing patients for discussion was significantly higher among private teams, and the proportion of teams who discuss every patient was higher for public teams (Box 5). Among the MDC teams that did use a protocol for discussing patients, there was little difference between public and private practice in the proportion of patients discussed, with about three-quarters of teams in both sectors discussing more than 50% of patients (71.4% v 74.3%, respectively).

Geographical remoteness made little difference for private MDC teams in terms of having a protocol for deciding which cases should be discussed. However, for public teams the difference was more notable; only 7.2% of metropolitan public teams had a protocol in place compared with 25% of rural public teams.

## DISCUSSION

The results of our survey show that the recommendations of the NHMRC and the NBCC are largely supported by the Australian and New Zealand breast surgery community; most surgeons had an MDC team established in their practice, whether private or public.

MDC teams operate differently in private and public practice, with private practice teams more likely to take an informal approach to case discussion. Private teams are less likely to discuss all their patients, have their meetings less frequently, and are more likely to have meetings on an ad-hoc basis or have no formal meeting, but consider personal communication a form of MDC. We speculate that this difference between public and private practices may be due to proximity of colleagues, availability of technology and resources, and the fact that private practices would be responsible for establishing and managing MDC teams at their own initiative and expense.

Our results also show that there was a marked difference between the performance of metropolitan and rural MDC teams, with the performance of regional teams falling generally between these. Rural teams were

much less likely to have a communication framework in place, and most teams held meetings monthly or on a variable basis. Rural teams were also the most likely to have a protocol in place for selecting which cases would be discussed (rather than routinely discussing all cases). Options to help overcome the tyranny of distance and isolation for small-volume remote surgical practices have been explored.[2,7,9] Additional comments from some surgeons indicated that, in areas where MDC is not well established, collaborations with major centres, continuing professional development meetings and use of video and teleconferencing may supplement care where formalised discussion is lacking. However, assuming that the evidence-based MDC guidelines represent the paradigm of best practice for breast cancer care, this raises the question of whether patients treated in some private and rural practices are being offered a lower standard of care.

The most commonly noted disciplines represented in teams were surgery, medical oncology, radiation oncology, pathology, radiology and nursing (supportive care), which accords with the NBCC recommendations for the six core team disciplines. Our study aimed to gain insight into the roles salient to a surgeon. It is interesting to note that no surgeons reported including the patient or their relatives in the core or expanded treatment teams.

The NBCC guidelines for MDC recommend that the patient be involved in her treatment plan. One study found that patients' inclusion in the MDC meeting was generally supported by patients and health professionals.[3] While the results of our survey do not suggest that the patient is not involved in decision making, they may reflect surgeons' attitudes towards the role of patients, perhaps placing them outside the treatment team. There may be a similar attitude to patients' GPs, given that so few GPs were included in either core or expanded MDC teams. More targeted research could examine the extent to which GPs and patients are being included in MDC meetings, attitudes among health professionals to their inclusion, and barriers to their inclusion.

The additional quality-of-life disciplines such as psychosocial care, allied health and rehabilitation, nursing, and plastic and reconstructive surgery were much less frequently included in rural teams, highlighting a lack of resources beyond the core services available to people with breast cancer in a remote area.

Overall, MDC is being heartily accepted as part of breast cancer care by members of the RACS Section of Breast Surgery. However, the results of our survey highlight deficits in rural practices implementing regular MDC collaboration, and this may require special attention by policymakers. The inconsistency between public and private practice may indicate a need for more pressure on surgeons in private practice to conform to the standards that public service surgeons are reaching to ensure all patients are receiving access to MDC.

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## COMPETING INTERESTS

None identified.

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