Multidisciplinary teams in New South Wales: 2006 and 2008

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Executive summary

Introduction

A cancer patient may receive treatment at a number of different centres, making the provision of coordinated and multidisciplinary care for all cancer patients complex and challenging. Improving coordination of care has been incorporated as an objective of Program 3.1 ‘Better Coordination of Patient Care’ of the NSW Cancer Plan 2007–2010. A central aim of this program is to further develop and utilise multidisciplinary teams (MDTs), together with key funded clinical infrastructure positions, within clinical networks and within Area Health Services (AHSs), to provide a framework to deliver coordinated patient care across all geographical locations.

In addition to improving access to specialist advice, treatment planning and multidisciplinary care, MDTs also provide opportunities for patients to be identified as suitable for clinical trials and are forums for professional development activities for the team.

In order to understand the status of MDTs in NSW – and establish a baseline to measure and monitor the development of MDTs – a profiling survey was undertaken in 2006. This profiling survey was re-administered in October 2008 to determine the current status of MDTs. Data obtained from the survey also provide valuable information on the development of MDTs over two years of extensive funding and will assist in identifying gaps in MDTs in NSW, and the areas requiring further development.

Methodology

The 2006 survey was undertaken from September 2006 to March 2007 and involved a number of stages including:

- Letters to all cancer sites in NSW requesting basic details of each MDT at that site.
- Follow up was undertaken by phone and where no MDTs, the barriers to establishing an MDT were sought.
- A detailed questionnaire sent to all MDTs.
- Follow up by phone and email.
- Data cleaning.

The methodology employed for the 2008 survey was based on the 2006 baseline study in relation to all key aspects, to ensure comparability of the results. It was conducted from September to November 2008. The survey questionnaire (Appendix B) was based on that used in the 2006 study, with some additional questions in the 2008 version to cover particular areas of interest.

Survey data were analysed according to survey wave (2006 versus 2008), tumour stream and service type. Where figures relate to the survey sample (rather than the MDT population), significance testing was conducted to analyse differences between groups.

Overview of MDTs in NSW

In 2008, there were 160 MDTs in the NSW population (of which, 131 or 82 per cent participated in the survey). This represents an increase of 12 per cent (17 MDTs) from the 143 MDTs identified in 2006 (of which, 114 or 80 per cent participated).

All tumour streams either maintained or increased their number of MDTs over the period from 2006 to 2008. The largest increases were seen among general, urology and gastrointestinal MDTs (each adding two or three new MDTs). Breast, general (other), general (palliative care), lung, urology and haematology tumour streams had the highest number of MDTs across both waves.

The largest number of public sector MDTs are located in Sydney South West Area Health Service (AHS), (n=30 or 19 per cent) and South Eastern Sydney and Illawarra AHS (n=27 or 17 per cent). The main increases since 2006 occurred...
in areas with a large proportion of regional or rural sites, and with relatively low numbers in 2006 – namely, Greater Southern (five new MDTs), North Coast (five new MDTs) and Hunter New England AHSs (three new MDTs). Nine of the 17 new MDTs were located within AHSs involved in CanNET (the development of managed clinical networks across North Coast, Hunter New England, and Northern Sydney and Central Coast AHSs).

Comparison with cancer incidence: Comparison of the number of MDTs in NSW in 2008 for key tumour streams, with the corresponding (projected) incidence of new cancer diagnoses from the NSW Central Cancer Registry, reveals that there are relatively high numbers of head and neck, neurology and breast MDTs, in light of their respective projected patient populations. Conversely, there are relatively few melanoma and urology MDTs in relation to incidence. While the ratio of MDTs to patients has improved for urology MDTs since 2006, the figures indicate a reduction for melanoma. Care needs to be taken when analysing the results for melanoma MDTs, as the 2006 melanoma data is believed to be unreliable due to the low response rate (one team). Therefore, 2008 data should be considered the baseline for melanoma.

Comparison with cancer deaths: The equivalent comparison of the number of MDTs in 2008 with the corresponding (projected) number of cancer deaths, reveals that breast MDTs are also relatively numerous given the projected deaths, as are head and neck, gynaecological and neurological MDTs (to a lesser extent). Conversely, there are relatively few lung, melanoma, and upper GI MDTs compared to their respective projected cancer deaths. The ratios of upper GI MDTs and haematology MDTs to projected deaths have both improved since 2006, although the ratio fell for melanoma.

Proportion of all newly diagnosed patients discussed by MDTs: Estimates were made of the number of newly diagnosed patients discussed by all MDTs (extrapolated from the survey to the population level, to account for non-response) as a proportion of the total number of new cancer cases in NSW. Overall, the 2008 data suggest that 57 per cent of all new cancer cases were discussed by MDTs (i.e., almost three in every five new diagnoses), which was consistent with the corresponding figure for 2006 (59 per cent). Analysis by tumour stream suggested that breast, head and neck and gynaecology MDTs discussed the largest proportions of all patients diagnosed in those tumour streams in NSW, whereas melanoma and urology MDTs discussed relatively small proportions of all patients diagnosed. There are no known benchmarks for the proportion of patients for each tumour stream that should be discussed at an MDT. It is believed these benchmarks would vary significantly between tumour streams due to the significant difference in the nature, progress and treatment of each cancer type. Between 2006 and 2008, the proportion of all new diagnoses that were discussed in MDTs increased most for upper GI, breast, urology and colorectal MDTs, and decreased most for melanoma, lung, and gynaecology MDTs.

Best practice criteria

A set of criteria for MDTs (categorised as ‘essential’, ‘desirable’ and ‘high level’) was developed to provide guidance and as a measure of development. The MDTs surveyed in 2008 met, on average, 17.5 of the 24 criteria (73 per cent). Further analysis for each level revealed that MDTs met more essential criteria, on average (8.1 out of 10 criteria, or 81 per cent), whereas they only met 69 per cent of desirable criteria (5.5 out of 8, on average) and 65 per cent of high level criteria (3.9 out of 6). There were no significant differences in mean scores from 2006 to 2008.

Metropolitan MDTs, private sector MDTs, and MDTs at sites with access to radiotherapy facilities all met a higher number of criteria than their counterparts. Newly established MDTs also met fewer criteria, on average, reflecting their stage of development.

Multidisciplinary teams in New South Wales: 2006 and 2008
Composition of MDTs

In 2008, 37 per cent of all MDTs sampled involved all core medical disciplines, and 32 per cent involved all core allied health disciplines, where core disciplines were adapted from those listed in the Victorian Patient Management Frameworks. Together, these results mean that only 9 per cent of all MDTs sampled involved all disciplines deemed to be ‘core’ for their tumour stream. There were no significant differences in these team composition variables, at the overall level, between 2006 and 2008. It is recognised that the core disciplines outlined in the Patient Management Frameworks include the ideal membership for MDTs and that these results demonstrate the ongoing inability of teams to access all of these disciplines and the need to review these lists.

MDT meetings

Meeting regularity: In 2008, almost half (46 per cent) of all MDTs sampled were meeting at least once a week, and a further 38 per cent conducted meetings at least once a fortnight. Compared with 2006, this data suggests a decrease in the prevalence of weekly meetings and increase in fortnightly meetings. This increase in fortnightly meetings is likely to reflect the proportion of newly established MDTs in rural areas where lower volumes of patients make fortnightly meetings the most efficient model of MDT care. The average duration of MDT meetings was 70 minutes, with a median duration of 60 minutes. Almost two-thirds of MDTs reported that five to nine minutes was the typical time spent discussing each patient during MDT meetings, with a further 27 per cent discussing each patient for at least 10 minutes.

Patients discussed: Respondents were asked to specify the proportion of all patients discussed by their MDT that were discussed once, twice, or three or more times in the past 12 months. Based on the 2008 data, the average proportions were 62 per cent for patients discussed once, 18 per cent for patients discussed twice, and 20 per cent for patients discussed more often. In 2008, 83 per cent of MDTs reported that patients never attend MDT meetings and 8 per cent rarely attend. In contrast, 9 per cent reported that patients attend either always, usually or sometimes. Almost three-quarters of MDTs conducted their meetings face-to-face, although there was a significant increase in the proportion of MDTs using a combination of face-to-face and tele-/videoconferencing in 2008. Regional and rural MDTs were more likely than metropolitan MDTs to conduct meetings via teleconference of video link (18 per cent versus 4 per cent). Responsibility for organising the MDT meetings was typically held by the MDT coordinator and/or cancer nurse coordinator.

Computer software use: Types of computer software or programs most commonly used to assist with MDT meeting preparation, administration and documentation were word processing applications (60 per cent), followed by software to share or view images such as CT scans and test results on-screen (38 per cent), and spreadsheet applications (31 per cent). Other resources used in the context of MDT planning, development or education include online pathology or PACS (Picture Archival Communication System, 50 per cent), and telehealth or teleconferencing facilities (38 per cent). In addition, 65 per cent of MDTs reported having access to formal IT support services.

Availability of results: In 2008, 62 per cent of MDTs reported that all relevant results were usually available, with an additional 23 per cent reporting that they were always available. In 2008, there was a significant decrease in the proportion reporting that test results were never available (from 7 per cent to 2 per cent).

Data collection: In 2008, the data and statistics most commonly recorded by MDTs were the number of patients discussed at each meeting, the team present at each meeting and treatment plans being recorded in patient notes (all reported by approximately three-quarters of MDTs surveyed). This represents a significant increase in the proportion of MDTs recording team attendance and treatment plans in patient notes, compared with 2006. In 2008, more than half of all MDTs surveyed reported having some form of central data collection for audit purposes (with or without a process for the team to review data), and 19 per cent reported that data collection is not centralised, but that individual clinicians contribute to audits coordinated by their respective professional colleges.
Quality assurance activities: In 2008, the most commonly reported quality assurance activities were guideline development or compliance review of patient outcomes, and the review of unexpected morbidity or mortality (each reported by over a third of MDTs, but with the latter two decreasing since 2006).

Professional development activities: The most common professional development activities reported by MDTs in 2008 were reports and discussion of research (over half of all MDTs). The 2008 figures indicate a significant decrease in the proportion utilising reports and case studies, and a significant increase in the proportion reporting that no professional development activities are held for MDT members (from 20 per cent to 28 per cent). In 2008, 22 per cent of MDTs held professional development activities for members quarterly, 22 per cent less often, and 25 per cent reported never doing so. This reflects a shift away from monthly professional development activities, towards quarterly activities.

Treatment plans

In 2008, 80 per cent of MDTs surveyed reported that treatment plans or documented recommendations for each patient were generated at MDT meetings. This was not significantly different from the corresponding figure in 2006 (76 per cent). The roles most commonly reported as having responsibility for completing treatment plans were MDT coordinators (38 per cent) and/or cancer nurse coordinators or cancer care coordinators (37 per cent).

In 2008, the types of information most commonly included in treatment plans were details of the diagnosis (92 per cent), followed by a radiotherapy treatment plan, medical oncology treatment plan, further investigations required, surgical treatment plan and relevant medical history (all of which were reported by more than three-quarters of MDTs). Conversely, only 37 per cent of MDTs reported that a psychosocial treatment plan was incorporated into the overall patient treatment plan. From 2006 to 2008, significant increases were observed on this information criteria, the inclusion of a psychosocial treatment plan (increasing the most, from 37 per cent to 48 per cent), as well as on the inclusion of a surgical treatment plan, relevant medical history, and diagnosis information.

Almost half of all MDTs surveyed in 2008 reported that treatment plans were always recorded in patient notes, followed by 35 per cent reporting that this usually occurred. Only 4 per cent reported that treatment plans were never recorded in patient notes. The period from 2006 to 2008 saw a significant increase in the proportion of MDTs reporting that treatment plans were always recorded in patient notes (up from 39 per cent to 48 per cent).

The data shows that, in 2008, 39 per cent of MDTs reported that GPs are informed of the MDT’s clinical management decisions in all cases, with an additional 34 per cent of MDTs reporting that this occurs in some cases. Only 5 per cent reported that GPs were never informed.

Referral to MDTs

In 2008, 76 per cent of MDTs reported that there were established criteria or protocols for the referral of patients to their MDT meetings. This represents a significant increase from the corresponding 2006 figure of 63 per cent.

In 2008, MDTs were most likely to report that difficult cases were referred to their MDT (69 per cent). In addition, more than half reported that all patients diagnosed with the relevant cancer were meant to be referred for discussion at the MDT. From 2006 to 2008, there were significant increases in the proportions of MDTs citing the following three referral criteria: screen detected cancers (17 per cent to 24 per cent), suspected cases (26 per cent to 33 per cent), and all newly diagnosed advanced cancer (29 per cent to 37 per cent).

In 2008, MDTs were most likely to report that patients were discussed by MDTs at the stage of determination of treatment (69 per cent), followed by diagnosis and referral, after surgery but before other treatment, and when treatment is changed (which were each reported by close to three in five MDTs).
**MDT links across NSW**

Overall, 82 per cent of all MDTs sampled in 2008 reported having some form of links with other cancer specialists, services or MDTs. Yet only a third had links that were established through a formal agreement.

In 2008, regional/rural MDTs were just as likely to have links with other regional/rural MDTs, as with metropolitan MDTs (with such links reported by 43 per cent and 44 per cent of regional/rural MDTs, respectively). Regional/rural MDTs were less likely than metropolitan MDTs to have links with metropolitan sites.

Across all MDTs, ready access to specialists (e.g. for difficult cases or second opinions) was the most common type of link (40 per cent), followed by individuals from other sites acting as MDT members (31 per cent), and individuals from other sites conducting visits, presentations or other educational activities (30 per cent).

Among regional/rural MDTs, the most common types of links were receiving visits, presentations or education from people external to the MDT (46 per cent), and ready access to specialists (41 per cent). Compared with metropolitan MDTs, regional/rural MDTs were more likely to receive visits, presentations or education from external people, or fly-in services, and less likely to conduct joint MDT meetings.

**Conclusion**

Establishing a baseline and monitoring performance of MDTs has provided an effective way of demonstrating broad system changes, across multiple tumour groups and consistency of service models across MDTs by tumour type, both within the public and private sector. In addition, there has been an increase in the development of multidisciplinary teams within regional and rural areas of NSW, increasing the access to specialist advice and treatment planning for patients.

This process of review has also identified a high proportion of teams (76 per cent) having established referral criteria in place with a significant increase in screen-detected cancers, suspected cases and newly diagnosed advanced cancers being referred to MDTs. Complex cases remain the highest group referred to MDTs.

The results have also demonstrated that MDT treatment planning is becoming more comprehensive, effective and patient focused, with an increase in the identification of psychosocial needs and advising patients of the outcomes of the MDT, including any alternative opinions. This is also supported by the increase in the use of treatment plans, including the recording of treatment plans in patient’s notes and forwarding to the patient’s general practitioner.

Many of the MDTs were unable to meet the previously published MDT criteria and ideal core membership for MDTs. Re-evaluation of these criteria will consider whether core membership is reflective of the current practice in NSW and will enable the determination of whether the general criteria are relevant and achievable, and whether tumour-specific criteria are required.

Monitoring the progression of MDTs across NSW and the findings in this report will provide focus to further refine the criteria for MDT, identify strategies to further support teams and ensure programs within the next Cancer Plan remain aligned to improving coordination of multidisciplinary care and access to specialist advice and care for patients.
2 Introduction

2.1 Purpose

Cancer services in NSW include more than 167 health service sites, providing multifaceted treatment programs, spread over a large geographical area. A patient may receive treatment at a number of different centres, making the provision of coordinated and multidisciplinary care for all cancer patients challenging. Improving coordination of care has been incorporated as an objective of program 3.1 ‘Better Coordination of Patient Care’ of the NSW Cancer Plan 2007–2010. A central aim of this program is to further develop and utilise multidisciplinary teams (MDTs), together with key funded clinical infrastructure positions and piloting clinical networks, as a platform to deliver coordinated patient care across all geographical locations.

In order to understand the status of MDTs in NSW, and establish a baseline to measure the development of MDTs, a profiling survey was undertaken in 2006. This survey was crucial, as MDT membership and operation varies greatly across NSW.

The Cancer Institute NSW allocated $6.1 million towards the development of MDTs through a number of different grant, project and evaluation activities. These activities included:

1. The MDT Development Grants program, which provided a total of $2.5 million to support 118 new and developing MDTs across NSW from 2006 to 2008.

2. The MDT Development Projects program, which provided $3.4 million to 24 well-established MDTs, to develop: models around rural/metropolitan and private/public partnerships; treatment plans; MDT outcome measures; implementation of the Victorian Patient Management Frameworks; collection of minimum data set extension items; and self sustainability through the MDT MBS rebates. A full evaluation of the methodology and outcomes of the projects was also undertaken.

3. Over the 2008–09 financial year, a total of $1.14 million was provided to all AHS and private MDTs in the form of Sustainability Grants. These grants were provided to ensure the sustainability of the gains made through the previous projects.

The MDT profiling survey originally undertaken in 2006 was re-administered in October 2008 to determine the current status of MDTs. Data obtained from the survey also provide valuable information on the development of MDTs over the two years of extensive funding and will assist in identifying gaps in MDTs in NSW, and the areas requiring further development.

This report provides an overview of MDTs in NSW in 2008, and the development of MDTs from 2006 to 2008.

2.2 Cancer in NSW

Cancer currently represents the major burden of disease facing our community. It is the major cause of death, the major cause of premature deaths, and the major cause of deaths in the productive age groups of 45 to 65 years.1

There were 35,159 new cases of cancer in 2006 and 38,807 new cases are projected for 2008. Cancer incidence has increased by around 10 per cent in males and 7 per cent in females over the past decade. Prostate, bowel and breast cancer and melanoma were responsible for 62 per cent of all cancers in males and females.

Cancers of the prostate (31 per cent), bowel (13 per cent), melanoma (11 per cent) and lung cancers (11 per cent) accounted for 64 per cent of new cancers in males. Four cancer sites accounted for 58 per cent of new cancers in females, with the most common being cancers of the breast (27 per cent), bowel (14 per cent), melanoma (10 per cent) and lung (9 per cent).

In 2006, 13,103 people died from cancer (7,305 males and 5,798 females). The most common causes of cancer death were lung (19 per cent), bowel (13 per cent), unknown primary (8 per cent), breast (7 per cent) and prostate (7 per cent), with these cancer sites accounting for 54 per cent of all cancer deaths in persons.2

The Cancer Institute NSW projects that cancer incidence in NSW will increase by 30 per cent over the next decade, compared with the last decade. Further, by 2011, there will be 42,103 new diagnoses of cancer per annum in NSW, compared to 35,159 in 2006.
2.3 Multidisciplinary care

Multidisciplinary care involves the liaison and cooperation of all members of the treatment team, including medical practitioners, nurses and allied health personnel, to provide the best care for patients with cancer.

Generally, the core cancer multidisciplinary team (MDT) includes surgeons, radiation oncologists, medical oncologists, radiologists, pathologists, and supportive care professionals, such as cancer care coordinators, oncology nurses and social workers. The general practitioner is also part of the team. Other clinicians, such as physiotherapists, psychologists, dieticians, psychiatrists, occupational therapists, geneticists, and palliative care specialists may also be included in the team, depending on individual patient needs.

The documented benefits of MDT care include access to standardised evidence based practice, reduced times from diagnosis to treatment, increased efficiency of patient management (correlating with patient survival in some cancers), and altered patient management strategies (including updated and alternative treatment options). In addition, increased opportunities are provided for patients to contribute to their treatment, resulting in higher patient satisfaction.

A multidisciplinary team meeting is the primary model for the delivery of multidisciplinary care, although it is recognised that it is one of many models.
2.4 Multidisciplinary team meetings

A multidisciplinary team meeting is a deliberate, regular meeting involving a range of health professionals with expertise in the diagnosis and management of cancer. The purpose of the meeting is to facilitate best practice management of all patients with cancer.8

MDT meetings are considered a key component of coordinated care, and are essential in the management of cancer patients where treatment may be delivered in a variety of settings involving a range of services including screening, diagnosis, treatment (surgery, chemotherapy and radiotherapy), rehabilitation, supportive care and palliative care.9

2.5 Clinical networks

Clinical networks provide a mechanism through which access to quality, clinically-effective cancer services can be improved, particularly for those living in rural areas of NSW.

Cancer Australia is currently funding the Cancer Services Network National Demonstration Program (CanNET), which is based on the ‘Managed Clinical Networks’ model implemented by the National Health Service of Scotland. The NSW CanNET project is jointly funded by the Cancer Institute NSW, and is focusing on the development of a Managed Clinical Network across the Hunter New England Area Health Service, North Coast Area Health Service, and Northern Sydney Central Coast Area Health Service. CanNET is utilising MDTs as a strategy to assist in the development of a Managed Clinical Network and therefore the project is referred to in this report.

2.6 Tumour stream variation

Each tumour stream varies in its complexity, incidence, mortality and survival rates, and therefore the number and timing of patients’ presentation at an MDT meeting will differ. Though there has been a push to have all patients discussed at an MDT, for those high volume and low mortality cancers, this is not always appropriate. The Cancer Institute NSW is currently working on the development of referral guidelines for high volume tumour streams. Consequently, interpretation of the results presented in this report should be considered within a wider framework, reflecting the characteristics of each cancer type.
3 Methodology

3.1 MDT survey 2006

The 2006 survey involved multiple stages (from September 2006 to March 2007) in order to establish robust baseline measures:

Stage 1: Letters were sent to all health service sites in NSW identified as treating cancer patients, asking them to provide basic information on each MDT at that site (e.g., cancer stream, lead personnel and contact details).

Stage 2: Sites that had not responded were followed up by phone. Those sites confirming having no MDT in place were asked to identify any barriers to establishing an MDT.

Stage 3: A detailed questionnaire (see Appendix A) was developed. It was designed to capture information to assess the operation of MDTs in light of identified best practice in multidisciplinary care for cancer patients, with questions covering:

- features of MDT meetings (e.g. frequency, communication channel, attendance by discipline and number of patients discussed)
- nature of data recorded by (and available to) MDTs, and other quality assurance activities
- standards of care (e.g. use of guidelines or protocols, referral criteria and stage, treatment plans, supportive care needs, clinical trials, GP involvement, and links with other areas)
- patient involvement in MDTs (e.g. consent, and level of information provided).

An electronic version was available online, with a hard copy alternative also produced. MDT personnel (identified via Stage 1) were sent an email invitation to complete the survey online, with email reminders sent, as required. Respondents who expressed a preference were posted a hard copy.

Stage 4: Additional follow-up was conducted by phone and email, with non-respondents at Stage 3 contacted three to five times by phone and email.

Stage 5: Data cleaning was undertaken and, for those few respondents who completed one questionnaire covering two to three MDTs at their site, their responses were replicated to ensure that each set of responses referred to only one MDT.

The final 2006 survey sample included 114 MDTs from the known population of 143 MDTs (i.e. a response rate of 80 per cent).

3.2 MDT survey 2008

The methodology employed for the 2008 survey was based on the 2006 baseline study in relation to all key aspects, to ensure comparability of the results. Stages 1 and 2, however, were not required, as the cancer service development managers confirmed an updated contact list of MDTs in NSW. Fieldwork was conducted from 22 September to 15 November 2008. The research was conducted in accordance with the requirements of AS ISO 20252, the current quality standard for social research in Australia.

As per 2006, participants were encouraged to complete the online survey, with a hard copy option available by mail or fax. Responses were sought from one nominated representative for each MDT, again with multiple reminder emails and phone calls to encourage participation (including assistance from cancer service development managers).

The survey questionnaire (see Appendix B) was based on that used in the 2006 study, with some additional questions in the 2008 version to cover particular areas of interest, including:

- average duration of MDT meetings and of the discussion of each patient
- how often a given patient is typically discussed at MDT meetings
- extent of patient attendance at MDT meetings
- nature of administrative support, and responsibility for completing treatment plans

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i The Cancer Institute NSW commissioned the Ipsos-Eureka Social Research Institute (formerly Eureka Strategic Research) to conduct both the 2006 and 2008 MDT surveys.
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- details of software and resources used
- further details regarding any metropolitan, regional or rural links.

A significant program of data cleaning was undertaken in 2008, including phone verification (which also involved some revisions to the original 2006 dataset). This was critical to ensure there was only one response per MDT (e.g. removing duplicates where multiple representatives completed the survey with regard to the same MDT, or where there was confusion regarding linked MDTs versus individual MDTs). This also involved rigorous checking of service classification accuracy (i.e. tumour stream, geographic location, AHS, private versus public sector; access to radiotherapy services), any patient number anomalies and a comparison of the 2006 and 2008 populations.

The final 2008 survey sample included 131 MDTs from the known population of 160 MDTs (i.e. a response rate of 82 per cent, and an increase in the NSW population size of 17 MDTs).

3.3 Data analysis

The dataset was checked for outliers (in particular, for the patient numbers data) but, after appropriate follow-up, no recoding of outliers was required.

Both 2006 and 2008 survey data were analysed using SPSS version 15, including analysis of differences based on key variables:

- survey wave (2006 versus 2008)
- tumour stream
- service type (geographic location, public versus private sector; and whether or not the MDT has access to radiotherapy facilities).

Where figures are reported for the NSW MDT population as a whole (rather than a sample of the population), no significance testing is required when examining differences between groups. In these cases, comments are made on differences that are large or considered particularly meaningful.

Where figures are reported for the 2006 or 2008 survey sample, significance testing was conducted to analyse differences between groups, as appropriate.

- Standard inferential statistics were used to identify statistically significant differences by tumour stream, where there were a large number of comparison groups (resulting in only a small number of MDTs in any given tumour stream). This is a conservative measure.
- When testing for differences in proportions between two groups (i.e. 2006 versus 2008; or for the 2008 data: metropolitan versus regional/rural, public versus private sector; and access to radiotherapy facilities versus no access), finite population correction was applied. Finite population correction was the most appropriate analysis, given that the sample, while small in absolute terms, represents at least 80 per cent of the population, and therefore is closer to a census than a typical survey sample. This analysis corrected for the fact that the known population of MDTs in NSW is relatively small, and allows greater statistical power to identify genuine differences. Finite population correction is not able to be applied to differences between means, in which case, standard significance testing was applied.

- While repeated measures analysis of changes over time would have enabled greater statistical power; this form of analysis was not possible, as a number of MDTs only had one set of responses (either 2006 or 2008), thereby preventing repeated measures comparisons for the sample as a whole.

Detailed results for each tumour stream are presented in the Multidisciplinary teams in NSW: 2006 and 2008: tumour stream report. Note that the survey sample is relatively small for a number of tumour streams (e.g. neurology and melanoma, each with three MDTs in the 2008 survey sample; bone and soft tissue sarcoma, with four MDTs; and gynaecology, paediatric/adolescent and colorectal, each with six MDTs). Generally, however, this reflects that the corresponding number of MDTs in these tumour streams in the population is relatively small.

i. For each population of interest, the researchers constructed tables in 5% increments showing the change in proportion that was required for a given result to be significant (at α=0.05). Given that fact that a large number of tests were carried out, it was considered particularly important to use a conservative regime for identifying significant results. The finite population correction was applied conservatively in two respects: (1) It was conservative because use of the table was based on the arithmetic mean rather than the geometric mean, when determining the reference proportion for the difference between two proportions. (2) In addition, given that the table was constructed in 5% increments, where the reference proportion fell within a given 5% bracket, the more conservative figure was applied.
4 Characteristics of cancer service MDTs in NSW

Introduction

The figure below provides an overview of the changes in the MDT environment in NSW from 2006 to 2008. The total number of MDTs in the NSW population increased from 143 in 2006 (of which, 114 participated in the survey) to 160 in 2008 (of which, 131 participated in the survey). These 17 additional MDTs in NSW represent an increase of 12 per cent. The response rates for the two surveys were very high, at 80 per cent and 82 per cent, respectively.

Figure 2: Number of MDTs in NSW, 2006 and 2008

Between 2006 and 2008, some hospitals saw the commencement of multiple new MDTs, signalling increased activity at particular locations. At the time of the 2008 survey, two additional MDTs were identified as due to commence MDT meetings shortly. Given that these MDTs had not yet held any meetings, they were excluded from the population of already functioning MDTs within NSW.

One MDT reported ceasing operation in the second half of 2008. However, given that it was operating for the bulk of the year, it was decided that its responses should be retained within the survey sample and population. Another two MDTs reported having joined together. Again, given that this development was recent and that the survey collects recent historical data, both of these MDTs were retained as separate within the 2008 data.
4.1 Overview of MDTs in NSW

This section presents population-level data, describing the characteristics of all MDTs in NSW, including those that did not participate in the survey (i.e. for which only basic profile data was available). As such, significance testing was not required.

4.1.1 Number of MDTs in NSW by tumour stream

Figure 3 presents the total number of MDTs in NSW in 2006 and 2008, by the cancer type or tumour stream on which they focus. Some MDTs do not focus on one particular tumour stream, such as ‘general (palliative care)’ MDTs (which focus on palliative care across multiple cancer types) and ‘general (other)’ MDTs (which focus on a broad range of cancer types). In 2008, the population of general (other) MDTs included three MDTs focusing on patients’ supportive care needs, consisting primarily of allied health personnel. Paediatric and adolescent/young adult MDTs are not classified by tumour stream, as they typically cover a range of cancer types. Gastrointestinal MDTs are those which discuss both colorectal and upper gastrointestinal (GI) patients (that is, a combined MDT). For subsequent analysis, in relation to best practice criteria for MDTs (Chapters 4.3, 4.4, 4.5), these three types of MDTs are retained as separate categories. However, where analysis is conducted in relation to incidence or patient numbers (Chapters 4.1.2, 4.1.3 and 4.2), and for the tumour stream-specific chapters (Chapter 5), gastrointestinal MDTs are counted within the analysis for colorectal cancers as well as upper GI cancers, given that these combined MDTs discuss both types of cancers.

Figure 3: Number of MDTs in NSW by tumour stream

Base: 2006 – 143 MDTs, 2008 – 160 MDTs
Across both waves of the research, the breast tumour stream had the largest number of MDTs (n=23 in 2008). This was followed by the two general categories (palliative care and other), then by lung, urology and haematology MDTs. The smaller tumour stream groups included neurology, bone and soft tissue, and skin (melanoma) MDTs.

Between 2006 and 2008, all tumour streams either maintained or increased their number of MDTs. The number of general (other) and urology MDTs both increased by three, and the number of gastrointestinal MDTs increased by two. The population size for all other tumour streams increased by one, except for colorectal, gynaecology and skin cancer streams, for which there was no change in MDT numbers across this period.

The biggest increase in MDT numbers, as a proportion of the original 2006 population size, occurred in the gastrointestinal tumour stream, with the additional two MDTs representing an increase of 40 per cent over the 2006 population size of five MDTs. The number of bone and soft tissue MDTs and neurology MDTs both increased by 33 per cent (from three to four MDTs), and the number of urology MDTs increased by 25 per cent (from 12 to 15 MDTs).

4.1.2 Number of MDTs in NSW versus incidence of new cancer cases

Figure 4 and Figure 5, below, compare the number of MDTs in NSW in each tumour stream with the incidence of new cancer diagnoses within the same tumour stream. Figure 4 presents the actual number of new cancer cases for 2006, whereas Figure 5 presents the projected number of new cancer cases for 2008 (as actual data was not available at this time). Data was not available for the number of new cases of relevance to some MDT categories (bone and soft tissue, general – palliative care, general – other, and paediatric/adolescent), so these MDTs are not represented in the following series of charts.

Figure 4: Number of MDTs in NSW versus actual incidence of new cancer cases – 2006

Base: n=143 MDTs. *including five combined gastrointestinal MDTs. Note that the lower blue axis (0-30) relates to the number of MDTs in NSW (thin blue bar), and the upper orange axis (0-9000) relates to the number of new cancer cases in NSW (thick orange bar). NSW had a total of 143 MDTs in 2006, but the MDTs represented by the blue bars above exclude those tumour streams for which incidence data was not available (an additional 41 in 2006), and count the five gastrointestinal MDTs twice (i.e. within both colorectal and upper GI tumour streams).

i. The total numbers of new cancer cases (both actual 2006 data and projected 2008 data) were taken from the NSW Central Cancer Registry.
ii. This analysis involved reworking the original 2006 survey report, which was based on earlier incidence figures (as the actual 2006 figures were not available at the time).
Based on the 2008 data, there are comparatively high numbers of head and neck, neurology and breast MDTs, in light of their respective projected patient populations. This is particularly true for head and neck MDTs, with 10 MDTs in NSW for the 961 new cancer cases projected for 2008 (that is, one head and neck MDT per 96 new cases, compared with one neurology MDT per 126 new cases, and one breast MDT per 183 new cases). However, it is worth noting that head and neck MDTs also see patients from other tumour streams (e.g. patients with melanomas on the head area).

Conversely, there are relatively few melanoma MDTs (three in 2008) given the size of the melanoma cancer population – 3,991 projected new cases for 2008 (that is, one MDT for every 1,330 new melanoma cases). The 15 urology MDTs are also low relative to the projected number of new urological cancer cases for 2008, which was the largest of any cancer stream (8,041; i.e. one urology MDT for every 558 projected new cases).

The situation with regard to urology MDTs has improved slightly since 2006. While the projected number of new cases in 2008 is 322 more than the actual number of new cases in 2006, there are an additional three urology MDTs to deal with these new cases (improving the ratio from one MDT for every 760 new cases to one MDT for every 558 new cases). However, the ratio of melanoma MDTs to new cases has worsened between 2006 and 2008. The number of melanoma MDTs in NSW did not increase between 2006 and 2008, despite the projected number of new melanoma cases being 443 cases greater than in 2006, which represents an increase of 12 per cent over the 2006 new cases. This takes the ratio from one MDT for every 1,183 new cases...
to one MDT for every 1,330 new cases. A 12 per cent increase in neurological cancer cases was also predicted in 2008 versus 2006, although the corresponding 33 per cent increase in the number of MDTs (from three to four) would help to address this. The projected new haematological cancer cases were expected to be 13 per cent greater in 2008 than 2006, although the one additional MDT only represents an 8 per cent increase in MDTs to address this.

4.1.3 Number of MDTs in NSW versus cancer deaths

Figure 6 and Figure 7, present the number of MDTs in NSW in each tumour stream relative to the number of cancer deaths within the same tumour stream. Again, the figures reported for 2006 are actual figures, whereas those presented for 2008 are projected figures only. As above, mortality data was not available for some tumour streams.

Figure 6: Number of MDTs in NSW versus actual cancer deaths – 2006

Base: n=143 MDTs. *including five combined gastrointestinal MDTs. Note that the lower blue axis (0–30) relates to the number of MDTs in NSW (thin blue bar), and the upper orange axis (0–2500) relates to the number of cancer deaths in NSW (thick orange bar) – using a shorter scale than the previous incidence chart. NSW had a total of 143 MDTs in 2006, but the MDTs represented by the blue bars above exclude those tumour streams for which mortality data was not available (an additional 41 in 2006), and count the five gastrointestinal MDTs twice (i.e. within both colorectal and upper GI tumour streams).

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1. As for the incidence data above, the total numbers of cancer deaths (both actual 2006 data and projected 2008 data) were taken from the NSW Central Cancer Registry.
2. This analysis also involved reworking the original 2006 survey report, which was based on earlier mortality figures (as the actual 2006 figures were not available at the time).
In addition to being relatively numerous, given the size of the breast cancer patient population (Chapter 4.1.2), breast MDTs are also relatively numerous given the number of projected deaths for this tumour stream in 2008. While the breast tumour stream has the largest number of MDTs in NSW of any tumour stream (n=23), it ranks only sixth out of ten in terms of the number of projected deaths. Head and neck and, to a lesser extent, gynaecological and neurological tumour streams also have a relatively high number of MDTs compared to the number of deaths.

While lung MDTs are moderate in number compared to the projected number of new cases (as shown in Figure 5), there are relatively few lung MDTs (n=15) compared with the number of deaths projected to result from lung cancer (2,499), compared with all other tumour streams (Figure 7). The most recent data also suggest that melanoma and upper GI MDTs, and to a lesser extent, urology and colorectal MDTs, are underrepresented in the MDT population given the projected number of deaths within each tumour stream.

Comparison of the data for 2006 versus 2008 show that haematology is the only tumour stream where the projected deaths for 2008 are substantially lower than in 2006 (a 10 per cent reduction, from 1,413 to 1,274). This means that the situation has improved for haematology, shifting from one MDT for every 118 haematology cancer deaths, to one MDT for every 98 deaths.
4.1.4 Number of MDTs in NSW by Area Health Service

There are eight Area Health Services (AHS) in NSW based on location: Greater Southern (GSAHS), Greater Western (GWAHS), Hunter New England (HNEAHS), North Coast (NCAHS), Northern Sydney and Central Coast (NSCCAHS), South Eastern Sydney and Illawarra (SESIAHS), Sydney South West (SSWAHS), and Sydney West (SWAHS). Children’s Hospital Westmead (CHW) constitutes a separate AHS, bringing the total number to nine. Figures for each AHS only include public facilities within each area, with the equivalent data for private facilities treated separately (and presented alongside for comparison purposes).

CanNET refers to the Cancer Service Networks National Demonstration Program, developed by Cancer Australia to improve links and coordination between regional and metropolitan cancer services, to improve outcomes. While CanNET does not constitute an AHS, it involves three AHSs (North Coast, Hunter New England, and Northern Sydney and Central Coast), and is therefore presented alongside the AHS data for comparison purposes.

The figure below shows the total number of MDTs operating in each AHS in the NSW population in 2008, and 2006.

![Figure 8: Number of MDTs in NSW by Area Health Service](image-url)

Base: 2006 – 143 MDTs, 2008 – 160 MDTs
Of all the individual AHSs, Sydney South West had the largest number of MDTs (with 30 MDTs, representing 19 per cent), followed by South Eastern Sydney and Illawarra (with 27 MDTs, representing 17 per cent). Those AHSs with fewer MDTs tended to be those incorporating regional or rural areas, and Children’s Hospital Westmead, which only covered one facility. Of the 160 MDTs in NSW in 2008, 47 (29 per cent) were operating within CanNET AHSs.

Between 2006 and 2008, five new MDTs were formed within Greater Southern, as well as five within North Coast, and three within Hunter New England. Each of these three AHSs incorporates regional or rural areas and has relatively low numbers of MDTs compared to other AHSs (in 2006, as in 2008). This suggests that significant development has occurred in locations where there is a relative shortage of MDTs. Overall, nine new MDTs were formed within CanNET AHSs over this period. There was no change in the number of MDTs within Sydney West, Children’s Hospital Westmead or within the private sector.

4.1.5 Number of MDTs in NSW by service type

Service type refers to three key variables, as follows:

- Metropolitan locations versus regional or rural locations, based on the ARIA+ classification (where ‘Major City’ locations are treated as Metropolitan, and ‘Inner Regional’, ‘Outer Regional’, ‘Remote’, and ‘Very Remote’ are treated as Regional/Rural)
- Public versus private sector.
- Sites with access to radiotherapy facilities versus those without access (see Appendix D).

The figure below shows the number of MDTs in metropolitan NSW versus those in regional or rural NSW, as well as the breakdown based on the full ARIA+ classification, in 2006 and in 2008.

Figure 9: Number of MDTs in NSW by geographic location (ARIA+)

![Bar chart showing number of MDTs in NSW by geographic location (ARIA+) in 2006 and 2008.](image)

Base: 2006 – 143 MDTs, 2008 – 160 MDTs

i. ARIA+ (Accessibility-Remoteness Index of Australia Plus) is the standard Australian Bureau of Statistics endorsed geographic measure of remoteness, derived from measures of road distance (i.e., accessibility) between populated localities and service centres. These distance measures are used to generate a remoteness score (0-15) for any given location/postcode, from which five ARIA+ categories are created: Major City (0 to 0.2), Inner Regional (>0.2 to 2.4), Outer Regional (>2.4 to 5.92), Remote (>5.92 to 10.53), and Very Remote (>10.53). Note that this classification means that Tweed Heads is classified as ‘Major City’ (i.e., Metropolitan) and Central Coast locations are classified as ‘Inner Regional’ (i.e., Regional or Rural).
Consistent with numbers of cancer patients, the large majority of MDTs operate in metropolitan areas (119 MDTs in 2008, representing 74 per cent of the total). Further analysis of the 41 regional or rural MDTs showed that 29 MDTs were located in ‘inner regional’ areas, 10 in ‘outer regional’ areas, and two in ‘remote’ areas.

Between 2006 and 2008, the proportion of all NSW MDTs operating in regional or rural areas increased from 22 per cent to 26 per cent, with the addition of 10 new MDTs. This represented a 32 per cent increase in the number of MDTs servicing regional and rural NSW. Seven of these new MDTs were located in ‘inner regional’ areas, with the remaining three classified as ‘outer regional’. The number of MDTs operating within metropolitan areas increased by seven, although this represents only a 6 per cent increase compared with the 2006 environment.

The number of MDTs in NSW in the public sector versus the private sector, in both 2006 and 2008 is outlined in the figure below.

Figure 10: Number of MDTs in NSW by public/private sector

The large majority of MDTs operate within the public sector (146 MDTs, representing 91 per cent of all MDTs in 2008). All 17 new MDTs that emerged between 2006 and 2008 were in the public sector. Given that the majority of MDTs in 2006 were in the public sector, the proportion of all MDTs that were public only increased slightly, from 90 per cent to 91 per cent over this period. The number of private sector MDTs remained constant at 14 across both 2006 and 2008.
Figure 11 shows the number of MDTs in NSW with access to radiotherapy facilities versus those without access, in both 2006 and 2008.

In 2008, 110 MDTs (69 per cent of all MDTs) were based at sites with access to radiotherapy facilities, while 50 MDTs (the remaining 31 per cent) were at sites without access to radiotherapy facilities. In 2008, there were 11 new MDTs with radiotherapy access (an 11 per cent increase) and six new MDTs without radiotherapy access (14 per cent increase). It is worth noting that two sites (Port Macquarie and Coffs Harbour) gained access to radiotherapy facilities over this period. However, the relative proportion remained constant at 69 per cent.

### 4.2 Newly diagnosed cancer cases discussed by MDTs

#### 4.2.1 Proportion of newly diagnosed patients discussed by MDTs

This section reports on the proportion of all new cancer cases that are discussed by MDTs.

- The total number of new cancer cases in NSW by tumour stream is extracted from the NSW Central Cancer Registry. As above, this is based on actual figures for 2006 and projected figures for 2008, and does not include all tumour streams.

- The total number of newly diagnosed patients discussed by MDTs in the last 12 months is drawn from the survey data (Question 5b). Given that the survey only includes data for 114 out of 143 MDTs in NSW in 2006, and 131 out of 160 MDTs in NSW in 2008, the actual number of all patients discussed was unknown. To enable comparison with the population level incidence data above, population estimates were calculated for the number of newly diagnosed patients discussed by all MDTs in NSW, based on the survey data for each tumour stream. (A weighting variable was calculated for each tumour stream, to take into account the level of non-response to the survey. The total numbers of all patients discussed and newly diagnosed patients discussed, based on the survey data, were then multiplied by the weighting variable, resulting in an estimate of patient discussions at the population level. Refer to Appendix E for a table containing all relevant figures, including an example of the method for calculating these population estimates and figures represented in the charts below.)

As this analysis incorporates population-level data, significance testing was not appropriate. Noteworthy findings are discussed below.
Figure 12 shows the estimated number of newly diagnosed patients discussed by all MDTs (extrapolated from the survey findings to the population level) as a proportion of the total number of new cases in NSW, broken down by tumour stream. That is, it provides an estimate of the proportion of new cancer patients that were discussed by MDTs.

Note: The numerator is based on survey data extrapolated as an estimate of population level data for the number of newly diagnosed patients discussed by MDTs. Bases for 2006/2008 are the actual/projected incidence figures: breast, 4,173/4,215; colorectal*, 4,707/4,790; gynaecological, 1,354/1,389; haematological, 3,214/3,645; head and neck, 945/961; lung, 3,137/3,218; melanoma, 3,548/3,991; neurological, 451/506; upper GI*, 2,523/2721; urological, 8,041/8,363; Total, 34,896/38,845.

Averaged across all tumour streams, the data suggest that 57 per cent of all new cancer cases diagnosed in NSW in 2008 were discussed by MDTs (that is, almost three in every five new cancer diagnoses). This figure was not different from the corresponding 2006 figure, 59 per cent.1

It should be noted that, where particular tumour streams reportedly discussed more newly diagnosed patients than there were actual or projected cases in the state (i.e., more than 100 per cent of new cancer cases), this is potentially due to inaccuracies in respondents’ estimations of patient numbers, as well as the fact that some MDTs discuss patients from different tumour streams (e.g., head and neck MDTs including discussion of patients with melanomas on the head area). This comment applies to breast and head and neck tumour streams in 2008, as well as the gynaecology tumour stream in 2006.

Analysis of the 2008 data indicates that breast MDTs and head and neck MDTs discussed the largest proportions of all new cases within their tumour streams (with the data provided suggesting that all new cases were discussed by an MDT, based on ratios of 1.0 or greater). This was followed by gynaecological cancer patients, with a ratio of 0.89 (i.e., 89 per cent of all new cases reportedly being seen by MDTs). Melanoma and urological cancer patients had the smallest proportions of all new cases being discussed by MDTs (9 per cent and 31 per cent, respectively).

Between 2006 and 2008, the proportion of all new cases discussed by MDTs increased most for upper GI and breast, followed by urological and colorectal tumour streams. Conversely, this proportion reportedly decreased most for melanoma, followed by lung, gynaecological, and head and neck tumour streams (although the latter decreased from a reported baseline of 137 per cent).

1. As noted in Chapter 3.3, the original 2006 dataset was subject to some reworking, as part of data cleaning processes in 2008. As such, all 2006 figures in the current report should replace those previously reported – including the proportion of new cancer diagnoses that were discussed by MDTs.
4.2.2 Characteristics of patients reviewed by MDT

This chapter reports on the composition of all patients discussed by MDTs: that is, whether they are newly diagnosed or not newly diagnosed. Newly diagnosed patients are defined as those patients discussed at an MDT who have been diagnosed with that particular type of cancer within the past 12 months. Survey respondents were asked to specify the total number of patients discussed in the past 12 months, as well as the number within this that were newly diagnosed (Questions 5a and 5b).

The following chart illustrates the proportion of all patients discussed by MDTs that are newly diagnosed, for each tumour stream, based on survey responses extrapolated to create population estimates (as noted in Chapter 4.2.1 above, and in Appendix E).

In 2008, for the majority of tumour streams, at least three in every five patients discussed are newly diagnosed patients. This proportion is highest for breast and urology tumour streams, each having 90 per cent diagnosed in the last 12 months. Conversely, only 12 per cent of all patients discussed by palliative care MDTs, and 30 per cent of all patients discussed by melanoma MDTs, were newly diagnosed. This indicates that the majority of patients discussed by MDTs in these two tumour streams were diagnosed more than a year ago. While it is reasonable to expect that many palliative care patients are not newly diagnosed, the reasons are less obvious in the case of melanoma (particularly given the apparent change over time within this tumour stream).
Analysis of differences over time suggests considerable variation from 2006 to 2008, for particular tumour streams. The largest change was observed for Melanoma MDTs, with newly diagnosed patients comprising only 30 per cent of all patients discussed, which is considerably lower than the 97 per cent reported in 2006. This suggests a shift towards discussing more patients who were diagnosed over a year ago. However, this may be an artefact of there being only a small population of melanoma MDTs (three MDTs in 2006 and 2008), as well as the potential for error in the patient numbers provided by respondents. Given that all three MDTs participated in the survey in 2008 (versus only two in 2006), the more recent data is potentially more robust, as it represents a census. Newly diagnosed patients also made up a smaller proportion of the total patients discussed by general (palliative care), head and neck, lung, colorectal and upper GI MDTs in 2008, compared with 2006.

Across all other tumour streams, MDTs reported that newly diagnosed patients comprised a higher proportion of all patients discussed in 2008 versus 2006. This increase was particularly evident for paediatric/adolescent and general (other) tumour streams, as illustrated above.

4.3 Criteria for MDTs

Background

In 2006, a set of criteria for MDTs was developed based on the work undertaken by the NBOCC, the Victorian Department of Human Resources and the English National Health System (NHS). The criteria related to communication, team membership, patient involvement, number of patients discussed, data collection and treatment planning. The purpose of the criteria was to provide guidance to MDTs and a measure of the stage of development of MDTs in NSW. The criteria were divided into ‘essential’, ‘desirable’ and ‘high level’ (as shown in Table I, below), based on the ease of achievement and perceived level of development of the MDTs at that time. The research findings in relation to these criteria will assist with monitoring the progress of MDT development over time. In addition, the intention is to reclassify the criteria to better reflect the actual work of an MDT, where appropriate.

<table>
<thead>
<tr>
<th>No.</th>
<th>Principle</th>
<th>Criterion</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1</td>
<td>Regular meetings</td>
<td>MDT meetings take place at least once a month</td>
</tr>
<tr>
<td>E2</td>
<td>All patients have access to relevant services</td>
<td>Referral links with ANY non-core services</td>
</tr>
<tr>
<td>E3</td>
<td>Patient allied health needs identified through MDT</td>
<td>Process at MDT meetings for identifying patients who need psycho-oncology AND other allied health referral</td>
</tr>
<tr>
<td>E4</td>
<td>Protocols and clinical pathways are available</td>
<td>MDT utilises Clinical Practice Guidelines or Standard Treatment Protocols OR treatment decisions made by consensus</td>
</tr>
<tr>
<td>E5</td>
<td>Patient preferences discussed</td>
<td>Patient preferences ALWAYS OR USUALLY discussed in MDT meetings</td>
</tr>
<tr>
<td>E6</td>
<td>Relevant test results, reports and films available</td>
<td>Relevant test results, reports and films ALWAYS OR USUALLY available at MDT meetings</td>
</tr>
<tr>
<td>E7</td>
<td>Patients offered information about all aspects of their treatment choices</td>
<td>Patients informed IN SOME WAY about clinical management recommendations decided at MDT meetings</td>
</tr>
<tr>
<td>E8</td>
<td>Patients given information about supportive care services</td>
<td>Patients’ supportive care needs ALWAYS, USUALLY OR SOMETIMES discussed in MDT meetings</td>
</tr>
<tr>
<td>E9</td>
<td>Patients informed that their care will be discussed in MDT setting</td>
<td>Patients ALWAYS informed that they are to be discussed in a multidisciplinary forum</td>
</tr>
<tr>
<td>E10</td>
<td>Patient consent obtained according to local protocol</td>
<td>Patients’ VERBAL CONSENT OR WRITTEN CONSENT obtained to discuss their case in a multidisciplinary forum</td>
</tr>
</tbody>
</table>
Table 1: Best practice criteria for MDTs (cont.)

<table>
<thead>
<tr>
<th>No.</th>
<th>Principle</th>
<th>Criterion</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1</td>
<td>Protocol for which patients should be discussed</td>
<td>Established criteria for the referral of patients to MDT meetings</td>
</tr>
<tr>
<td>D2</td>
<td>If number of cases are small then links with larger units</td>
<td>IF MDT has discussed less than 20 patients in the last 12 months, THEN it needs to have established links with other cancer specialists or MDTs in rural/regional areas. IF MDT has 20 patients or more, THEN it automatically meets this criteria</td>
</tr>
<tr>
<td>D3</td>
<td>Patients advised of all opinions arising from the MDT</td>
<td>Patients ALWAYS OR USUALLY informed of dissenting or alternative views among MDT members</td>
</tr>
<tr>
<td>D4</td>
<td>Patients given access to services to meet supportive care needs</td>
<td>Patients' supportive care needs ALWAYS, USUALLY OR SOMETIMES influence recommendations for treatment</td>
</tr>
<tr>
<td>D5</td>
<td>Patients informed who is part of the MDT</td>
<td>Patients ALWAYS informed of who is part of the MDT AND ALWAYS, USUALLY OR SOMETIMES informed of who the MDT leader is</td>
</tr>
<tr>
<td>D6</td>
<td>Clinical trials</td>
<td>Patient eligibility for clinical trials discussed at MDT meetings AND open clinical trials known to all key members of the MDT</td>
</tr>
<tr>
<td>D7</td>
<td>Data collected by the MDT</td>
<td>ANY data/statistics recorded by the MDT</td>
</tr>
<tr>
<td>D8</td>
<td>Treatment plans are written for each patient</td>
<td>Treatment plans for each patient are generated at MDT meetings</td>
</tr>
<tr>
<td></td>
<td>High level</td>
<td></td>
</tr>
<tr>
<td>H1</td>
<td>All new patients are considered for discussion at the MDT meeting</td>
<td>All patients diagnosed with the relevant cancer are referred to the MDT OR MDT has a palliative care focus</td>
</tr>
<tr>
<td>H2</td>
<td>Professional development for the MDT</td>
<td>Professional development activities made available for MDT members WEEKLY, MONTHLY OR QUARTERLY</td>
</tr>
<tr>
<td>H3</td>
<td>Quality activities undertaken</td>
<td>ANY quality assurance activity in MDT meetings</td>
</tr>
<tr>
<td>H4</td>
<td>Data analysis</td>
<td>MDT has a system for central data collection (with or without a process for the team to review data)</td>
</tr>
<tr>
<td>H5</td>
<td>Documentation of treatment plans</td>
<td>Treatment plans are ALWAYS OR USUALLY recorded in patient notes</td>
</tr>
<tr>
<td>H6</td>
<td>Treatment plan changes</td>
<td>There is a process for changing/considering changes to treatment plans after discussion with patients (i.e., patient preferences are taken into account and acted upon; patient not just encouraged to accept proposed plan)</td>
</tr>
</tbody>
</table>

1. Where a respondent failed to answer a particular question, resulting in missing data for the relevant criterion, the total number of criteria met by their MDT was calculated based on the sum of all other criteria (for which data was available).
Number of criteria met

Figure 14 presents the average number of criteria met by those MDTs participating in the survey in 2006 and 2008. It shows the average number of criteria met overall (out of a total of 24), as well as the average number of essential, desirable and high level criteria met (out of totals of 10, eight and six, respectively).

Figure 14: Mean number of criteria implemented by MDTs for each criterion level

The MDTs in the 2008 survey sample met, on average, 17.5 of the 24 criteria (or 73 per cent). Further analysis for each level revealed that MDTs met more essential criteria, on average (8.1 out of 10 criteria, or 81 per cent), whereas they only met 69 per cent of desirable criteria (5.5 out of 8.0, on average) and 65 per cent of high level criteria (3.9 out of 6.0). There were no significant differences in mean scores from 2006 to 2008, based on standard significance testing.

Further analysis of the number of criteria met within each category, by service type, revealed the following significant differences, based on the 2008 data:

Essential (/10):
- Private sector MDTs met significantly more essential criteria (9.1) than public sector MDTs (8.0), on average.

Desirable (/8):
- Metropolitan MDTs met significantly more desirable criteria (5.8) than regional or rural MDTs (4.8), on average.
- MDTs with access to radiotherapy facilities met significantly more desirable criteria (5.8) than those MDTs without access to radiotherapy facilities, (4.7), on average.

High level (/6):
- Metropolitan MDTs met significantly more high level criteria (4.1) than regional or rural MDTs (3.3), on average.

All criteria (/24):
- Private sector MDTs met significantly more criteria (19.8) than public sector MDTs, (17.3), on average.
- Metropolitan MDTs met significantly more criteria (18.1) than regional or rural MDTs, (15.9), on average.
- MDTs with access to radiotherapy facilities met significantly more criteria (18.1) than those MDTs without access to radiotherapy facilities, (16.2), on average.
- On average, the 17 new MDTs met a significantly lower number of best practice criteria (16.0) compared with existing MDTs (17.7).

The following sections explore each individual criterion in turn.
**Individual essential criteria**

The figure below shows the proportion of MDTs that implemented each essential criterion in 2008, compared with 2006.

*Figure 15: Proportion of MDTs implementing each essential criterion*

In 2008, almost all essential criteria were being met by the majority of MDTs, with the main exceptions being E9 (with ‘patients informed that their care will be discussed’ only met by 43 per cent of MDTs sampled) and E3 (psychosocial and allied health needs identified through MDT” only met by 66 per cent of MDTs sampled). These relatively low figures are particularly noteworthy, given that these are classified as ‘essential’ criteria.

Between 2006 and 2008, there were statistically significant increases (based on the finite population correction) in the proportion of MDTs implementing four essential criteria. These also happened to be the four criteria least commonly implemented in 2006 (that is, for which there was greater chance to improve, and improvements were most required): that is, E9 (patients informed their care will be discussed, which increased from 29 per cent to 43 per cent), E10 (patient consent obtained, which increased from 62 per cent to 81 per cent), E3 (psychosocial and allied health needs identified through MDT, which increased from 53 per cent to 66 per cent) and E5 (patient preferences discussed, which increased from 74 per cent to 80 per cent). The increases observed across these four criteria suggest increased focus on patient participation, and non-medical needs over the period.
Significance testing (based on the finite population correction) revealed the following differences by geographic location, private/public sector and radiotherapy access, for individual essential criteria in 2008:

**Criterion E1**: Regular meetings. Metropolitan MDTs were significantly more likely to meet this criterion (99 per cent) compared with regional or rural MDTs (92 per cent).

**Criterion E2**: Referral links with non-core services. Metropolitan MDTs were significantly more likely to meet this criterion (87 per cent) compared with regional or rural MDTs (76 per cent); as were public sector MDTs (85 per cent), compared with private MDTs (73 per cent).

**Criterion E3**: Process at MDT meetings for identifying patients who need psycho-oncology and other allied health referral. Metropolitan MDTs were significantly more likely to meet this criterion (74 per cent) compared with regional or rural MDTs (46 per cent); as were private sector MDTs (91 per cent), compared with public sector MDTs (64 per cent); and as were MDTs with radiotherapy access (70 per cent), compared to those without radiotherapy access (57 per cent). In addition, new MDTs (i.e., not existing at the time of the 2006 survey) were significantly less likely to meet this criterion (35 per cent), compared with existing MDTs (71 per cent).

**Criterion E5**: Patient preferences discussed. Private sector MDTs were significantly more likely to meet this criterion (91 per cent), versus public sector MDTs (79 per cent).

**Criterion E6**: Relevant test results, reports and films available. Metropolitan MDTs were significantly more likely to meet this criterion (91 per cent) than regional or rural MDTs (69 per cent); as were private sector MDTs (100 per cent) compared with public sector MDTs (84 per cent); and as were MDTs with access to radiotherapy facilities (91 per cent), compared to those without access (70 per cent).

**Criterion E8**: Supportive care needs discussed. Private sector MDTs were significantly more likely to meet this criterion (100 per cent) than public sector MDTs (81 per cent); as were MDTs without access to radiotherapy facilities (87 per cent) compared to those with access to such facilities (81 per cent).

**Criterion E9**: Patients informed their care will be discussed. Regional or rural MDTs were significantly more likely to meet this criterion (54 per cent) than metropolitan MDTs (38 per cent); as were private sector MDTs (55 per cent) compared with public sector MDTs (42 per cent); and as were MDTs with access to radiotherapy facilities (45 per cent), compared to those without access (37 per cent).

**Criterion E10**: Patient consent obtained. Regional or rural MDTs were significantly more likely to meet this criterion (91 per cent) compared with metropolitan MDTs (77 per cent); as were private sector MDTs (100 per cent), compared with public MDTs (79 per cent).

Therefore, while there were no significant differences in the overall number of essential criteria being met by MDTs in metropolitan versus regional or rural areas, or between other service types, there was evidence to suggest that particular criteria were more or less well established within regional or rural areas, and other service categories.
Individual desirable criteria

The figure below shows the proportion of MDTs that implemented each desirable criterion in 2008, compared with 2006.

Figure 16: Proportion of MDTs implementing each desirable criterion

Between 2006 and 2008, a statistically significant increase (based on the finite population correction) was observed in relation to three of the desirable criteria. The largest change occurred in the proportion of MDTs meeting D3 (patients advised of alternative opinions arising from MDT), which rose from 35 per cent to 49 per cent. The proportion of MDTs meeting D1 (protocol for which patients should be discussed) increased from 63 per cent to 76 per cent, while the proportion implementing D2 (if few cases discussed, links with other units) rose from 94 per cent to 100 per cent.

Significance testing (based on the finite population correction) revealed the following differences by geographic location, private/public sector and radiotherapy access, for individual desirable criteria in 2008:

- **Criterion D1**: Protocol for which patients should be discussed. Metropolitan MDTs were significantly more likely to meet this criterion (82 per cent) compared with regional or rural MDTs (59 per cent); as were private sector MDTs (91 per cent) compared with public sector MDTs (74 per cent).

- **Criterion D3**: Patients advised of alternative opinions arising from MDT. Metropolitan MDTs were significantly more likely to meet this criterion (52 per cent) than regional or rural MDTs (42 per cent); as were private sector MDTs (64 per cent) compared with public sector MDTs (48 per cent); and as were MDTs with access to radiotherapy facilities (59 per cent) compared to those without access (24 per cent).

- **Criterion D4**: Supportive care needs influence recommendations. Metropolitan MDTs were significantly more likely to meet this criterion (91 per cent) than regional or rural MDTs (81 per cent).
• **Criterion D5**: Patients informed who is part of the MDT / who the leader is. MDTs with access to radiotherapy facilities were significantly more likely to meet this criterion (16 per cent) than those without such access (8 per cent), although both proportions were fairly low.

• **Criterion D6**: Aware of clinical trials / clinical trials discussed in MDT. Metropolitan MDTs were significantly more likely to meet this criterion (63 per cent) compared with regional or rural MDTs (27 per cent); as were private sector MDTs (73 per cent) compared to public sector MDTs (50 per cent); and as were MDTs with access to radiotherapy facilities (60 per cent) compared to those without access (30 per cent).

• **Criterion D7**: Data/statistics collected by MDT. Private sector MDTs were significantly more likely to meet this criterion (100 per cent) than public sector MDTs (92 per cent), although both proportions were fairly high.

• **Criterion D8**: Treatment plans generated for each patient. Metropolitan MDTs were significantly more likely to meet this criterion (83 per cent) compared with regional or rural MDTs (73 per cent); as were private sector MDTs (91 per cent) compared to public sector MDTs (79 per cent); and as were MDTs with access to radiotherapy facilities (85 per cent) compared to those without access (68 per cent).

**Individual high level criteria**

The figure below presents the six high level criteria, based on the proportion of MDTs identified as meeting each of them in 2008 versus 2006.

**Figure 17: Proportion of MDTs implementing each high level criterion**

Base: 2006 – n=114, 2008 – n=131 (except H2, H3, H4, H5 & H6, for which n=129)
There were two statistically significant changes from 2006 to 2008, including an increase in the proportion of MDTs meeting Criterion H5 (treatment plans recorded in patient notes), from 53 per cent to 66 per cent. On the other hand, the proportion of MDTs meeting Criterion H4 (central data collection system) dropped from 59 per cent to 53 per cent over this period, which was the only criterion for which a decrease was observed.

Significance testing (based on the finite population correction) revealed the following differences by geographic location, private/public sector and radiotherapy access, for individual high level criteria in 2008:

- **Criterion H1**: All new patients are considered for discussion, except for palliative care MDTs. Metropolitan MDTs were significantly more likely to meet this criterion (70 per cent) compared with regional or rural MDTs (46 per cent).

- **Criterion H2**: Professional development activities for the MDT. Metropolitan MDTs were significantly more likely to meet this criterion (63 per cent) compared with regional or rural MDTs (27 per cent); as were public sector MDTs (54 per cent) compared with private sector MDTs (36 per cent).

- **Criterion H3**: Quality activities undertaken in MDT meetings. Private sector MDTs were significantly more likely to meet this criterion (82 per cent) than those within the public sector (62 per cent).

- **Criterion H4**: Central data collection system. Metropolitan MDTs were more likely to meet this criterion (57 per cent) than those in regional or rural areas (42 per cent); as were private sector MDTs (73 per cent) compared with public sector MDTs (51 per cent); and as were MDTs with access to radiotherapy facilities (61 per cent) compared to those without access (32 per cent).

- **Criterion H5**: Treatment plans always or usually recorded in patient notes. Private sector MDTs were more likely to meet this criterion (91 per cent) compared with public sector MDTs (64 per cent); as were MDTs with access to radiotherapy facilities (68 per cent) compared to those without access to radiotherapy facilities (59 per cent).

### 4.4 Composition of MDTs

Team membership data was collected by asking respondents to indicate which disciplines, from a list of medical and allied health disciplines, were involved in their MDT, either via:

- regular attendance at MDT meetings
- occasional attendance at MDT meetings
- attendance at MDT meetings on a patient-specific basis
- having referral links to the MDT.

Responses to this question were then compared with a list of core disciplines for each tumour stream; adapted from those listed in the Victorian Patient Management Frameworks (see Appendix F).

For each cancer stream, different disciplines (and different numbers of disciplines) constitute the ‘core’ team. As a consequence, it is more difficult for some tumour streams to involve all relevant core disciplines in their MDTs.

In 2008, 37 per cent of all MDTs sampled involved all core medical disciplines, and 32 per cent involved all core allied health disciplines. Overall, only 9 per cent of all MDTs sampled involved all disciplines deemed to be ‘core’ for their tumour stream.

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i. Although referral links alone were insufficient for a given discipline to be counted as involving all relevant disciplines.
The figure below shows the proportion of MDTs within each tumour stream that involved all core medical disciplines in their MDT in 2006 and 2008.

Figure 18: Proportion of MDTs consisting of core medical disciplines, by tumour stream

Significant differences (based on finite population correction) were found by service type (in relation to the 2008 survey sample), are outlined below:

- **Medical disciplines** – private sector MDTs were significantly more likely to involve all medical core disciplines (55 per cent) than public sector MDTs (36 per cent).

- **Allied health disciplines** – regional or rural MDTs were significantly more likely to involve all allied health core disciplines (43 per cent) than metropolitan MDTs (28 per cent). In addition, private sector MDTs were significantly more likely to involve all allied health core disciplines (55 per cent) than public sector MDTs (30 per cent).

- **All core disciplines** - private sector MDTs were significantly more likely to involve all core disciplines, both medical and allied health, than public sector MDTs (36 per cent versus 7 per cent). However, this figure is still relatively low.

There were no significant differences in these team composition variables, at the overall level, over time (i.e. between 2006 and 2008).

Among those MDTs sampled in 2008, 85 per cent of General (Palliative Care) MDTs and 75 per cent of Bone and Soft Tissue MDTs involve all core medical disciplines of relevance to their MDTs. Conversely, 0 per cent of all Neurology MDTs sampled involve all core medical disciplines.
The figure below shows the proportion of MDTs within each tumour stream that involved all core allied health disciplines in their MDT, in 2006 and 2008.

Figure 19: Proportion of MDTs consisting of core allied health disciplines, by tumour stream

Among those MDTs sampled in 2008, 80 per cent of general (other) MDTs involve all core allied health disciplines of relevance to their MDTs. At the other end of the spectrum, 0 per cent of those melanoma MDTs sampled involve all core allied health disciplines. However, there are no statistically significant differences by tumour stream.
The final graph in this series indicates the proportion of MDTs within each tumour stream that involved all the core disciplines applicable to that tumour stream (that is, both medical and allied health).

Figure 20: Proportion of MDTs consisting of all core disciplines, by tumour stream

Given that meeting this criterion requires that both of the two previous criteria are met (that is, that all relevant medical disciplines and all relevant allied health disciplines are involved in the MDT), the proportions shown above are understandably lower. While the proportions for each tumour stream show that zero to half of all MDTs sampled involve all relevant core disciplines, there are no statistically significant differences by tumour stream.
5 Other survey findings

This chapter reports on other findings from the MDT survey, relating to topics not covered in the preceding chapters.

5.1 MDT meetings

Frequency, duration and patient attendance

The figure below illustrates how frequently MDTs were conducting meetings, on average, across both 2006 and 2008.

Figure 21: Frequency of MDT meetings (% of MDTs)

In 2008, just under half (46 per cent) of all MDTs sampled conducted meetings at least once a week, and a further 38 per cent conducted them at least once a fortnight. This data indicates a significant decline in the prevalence of weekly meetings, and an increase in fortnightly meetings, over this period from 2006 to 2008.

In 2008, metropolitan MDTs, those within a public facility, and those with access to radiotherapy services, were all significantly more likely than their respective alternative service types to be meeting weekly (59 per cent versus 14 per cent, 48 per cent versus 18 per cent, and 51 per cent versus 34 per cent, respectively). There were no significant differences in the frequency of MDT meetings by tumour stream.

The average duration of MDT meetings was also explored in the survey. In 2008, the average duration of MDT meetings was 70 minutes (including some with an average of up to three hours). The median duration was also calculated (as this measure is less influenced by 'extreme' responses), with the relevant figure in 2008 being 60 minutes (i.e. one hour meetings).

The average duration of MDT meetings in 2008 differed significantly by tumour stream. Palliative Care MDTs reported significantly longer mean average durations than all other tumour streams (an average of 98 minutes compared with 67 minutes), while the mean average duration for General (Other) MDTs was significantly shorter than all other tumour streams (47 minutes compared with 72 minutes).

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1. This was a new question in the 2008 survey, and therefore corresponding data is not available for 2006.
The figure below illustrates the average time spent discussing each patient in MDT meetings, across all MDTs sampled in 2008.

Figure 22: Average time spent discussing each patient in MDT meetings (% of MDTs, 2008)

MDT members were most likely to spend five to nine minutes discussing each patient in the MDT meeting (reported by almost two-thirds of MDTs). A further 27 per cent of MDTs discussed each patient for at least 10 minutes (which is the required duration to be eligible to claim Medicare Benefit Scheme Items 871 or 872 in relation to a given patient discussion).

Respondents were asked to specify the proportion of all patients discussed by their MDT that were discussed once, twice, or three or more times in the past 12 months. Based on the 2008 sample, the average proportion was 62 per cent for patients being discussed only once in 12 months, 18 per cent for patients discussed twice, and the remaining 20 per cent for patients discussed three or more times.

Both the average proportion of patients discussed once and the average proportion of patients discussed three or more times differed significantly by tumour stream. Most notably:

- Palliative Care MDTs and Paediatric MDTs were each less likely than all other tumour streams to discuss a given patient only once (22 per cent versus 66 per cent and 27 per cent versus 64 per cent, respectively), but more likely to discuss them three or more times (66 per cent versus 15 per cent and 51 per cent versus 18 per cent, respectively).
- Urology MDTs and Breast MDTs were each more likely than all other tumour streams to discuss a given patient only once (83 per cent versus 60 per cent and 76 per cent versus 59 per cent, respectively), but less likely to discuss them three or more times (6 per cent versus 21 per cent and 7 per cent versus 22 per cent, respectively).

There were also a number of significant differences by service type. For example, private sector MDTs were more likely to discuss a given patient only once than public sector MDTs (83 per cent versus 60 per cent). There were no significant differences by location.

The 2008 survey also included a new question about patient attendance at MDT meetings. Overall, 83 per cent of MDTs reported that patients never attend MDT meetings, and 8 per cent rarely attend. Conversely, 9 per cent report that patients attend either always, usually or sometimes.

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i. This was a new question in the 2008 survey, and therefore corresponding data is not available for 2006.
There were also a number of significant differences by tumour stream, including (most notably):

- Melanoma MDTs were more likely than MDTs overall to report that patients always attend MDT meetings (38 per cent compared with 4 per cent of MDTs overall).
- Bone and soft tissue MDTs were significantly more likely than MDTs overall to report that patients usually attend MDT meetings (50 per cent compared with 3 per cent of MDTs overall).
- Both breast MDTs and palliative care MDTs were more likely than MDTs overall to report that patients rarely attend (19 per cent and 23 per cent, respectively, compared to 8 per cent of MDTs overall).

Meeting format, administration and resources

In 2008, the majority of MDTs reported that meetings were conducted face-to-face (73 per cent), with only 5 per cent conducting meetings entirely via teleconference or video-link, and the remaining 22 per cent conducting them using a combination of these methods. Among those who reported conducting meetings other than face-to-face only, most (78 per cent) reported that they were the main host site or ‘hub’, rather than a satellite site or ‘spoke’.

The period from 2006 to 2008 saw a significant decrease in the proportion of MDTs using only face-to-face meetings, and an increase in the proportion of MDTs using a combination of these two methods.

Metropolitan MDTs, public sector MDTs and those with access to radiotherapy services were all significantly more likely than MDTs in their respective alternative service types to report that meetings were conducted face-to-face (81 per cent versus 51 per cent, 73 per cent versus 64 per cent and 75 per cent versus 66 per cent, respectively). Regional and rural MDTs were more likely than metropolitan MDTs to report that meetings were conducted via teleconference or video link (18 per cent versus 4 per cent).

The following figure presents the 2008 data on the range of disciplines responsible for organising the MDT meetings (e.g. preparing meeting agendas and providing other administrative support prior to meetings).

Figure 23: Disciplines responsible for organising MDT meetings (% of MDTs, 2008)

Base: 2008 – n=131

i. This question and the relevant follow-up question were new in the 2008 survey, and therefore comparable data is not available for 2006 (where an open-ended question was used instead).
Typically, the responsibility for organising MDT meetings lies with the MDT coordinator (47 per cent) and/or a cancer nurse coordinator or cancer care coordinator (40 per cent).

The disciplines reported as responsible for organising MDT meetings differed significantly by service type, specifically:

- Private sector MDTs and those with access to radiotherapy services were significantly more likely than public sector MDTs and those without access to radiotherapy services, respectively, to report that responsibility for organising meetings lies with an MDT Coordinator (91 per cent versus 43 per cent and 51 per cent versus 39 per cent).
- Regional and rural MDTs were significantly more likely to report that responsibility lies with a cancer nurse coordinator than were metropolitan MDTs (57 per cent versus 39 per cent), while public sector MDTs and those without access to radiotherapy services were each significantly more likely to report that other nurses had this responsibility than their respective alternative service types (10 per cent versus 0 per cent and 21 per cent versus 4 per cent).
- Metropolitan MDTs, public sector MDTs, and those with access to radiotherapy services, were all significantly more likely to nominate other general administrative staff than their respective alternative service types (19 per cent versus 3 per cent, 16 per cent versus 0 per cent, 17 per cent versus 8 per cent).

The figure below indicates the proportion of MDTs surveyed in 2008 that reported using various types of computer software or programs to assist with preparation, administration and documentation relating to MDT meetings (e.g. agendas, treatment plans, sharing and viewing visual records).i

Figure 24: Use of computer software or programs to assist with MDT meeting preparation, administration and documentation (% of MDTs, 2008)

<table>
<thead>
<tr>
<th>Software Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word processing applications</td>
<td>60</td>
</tr>
<tr>
<td>Software to share/view images on-screen</td>
<td>38</td>
</tr>
<tr>
<td>Spreadsheet applications</td>
<td>31</td>
</tr>
<tr>
<td>Other</td>
<td>27</td>
</tr>
<tr>
<td>Generic database applications</td>
<td>23</td>
</tr>
<tr>
<td>In-house software program</td>
<td>5</td>
</tr>
<tr>
<td>MDT Clinical Information System</td>
<td>3</td>
</tr>
<tr>
<td>CHARM</td>
<td>3</td>
</tr>
</tbody>
</table>

Base: 2008 – n=131

i. This was a new question in the 2008 survey, and therefore corresponding data is not available for 2006.
The type of tool most commonly reported as being used, from those options presented to respondents, was word processing applications (e.g. Microsoft Word), noted by 60 per cent of MDTs. This was followed by 38 per cent reporting use of software to share and view images such as CT scans and test results on-screen, and 31 per cent reporting use of spreadsheet applications (e.g. Microsoft Excel). It is worth noting that a number of the programs on this list could be used as the basis for a database, such that the combined proportion of MDTs using software or programs for database purposes may be higher than these figures suggest when considered separately.

There were a number of statistically significant differences by service type. Most notably, metropolitan MDTs and those with access to radiotherapy services were significantly more likely to report using software to share and view images than rural and regional MDTs and those without access to radiotherapy (both 44 per cent versus 24 per cent).

The figure below indicates the proportion of MDTs surveyed in 2008 that reported using various resources or statistics within the context of MDT planning, development or education for MDT meetings.1

Figure 25: Use of other resources and statistics within the context of MDT planning, development or education (% of MDTs, 2008)

Base: 2008 – Online pathology, n=131; Telehealth/teleconferencing, n=130; CI-SCaT, n=129; Online journals, n=129; Cancer statistics online, n=129; Business Objects, n=129; Online central cancer registry, n=129. Note that the proportion of MDTs who responded ‘unsure’ to each of these options ranged from 3 per cent to 15 per cent.

1 This was a new question in the 2008 survey, and therefore corresponding data is not available for 2006.
Online pathology or PACS (Picture Archival Communication System) was most commonly reported, with this being used by half of all MDTs surveyed in 2008. This was followed by telehealth or teleconferencing facilities, then CI-SCAT (Cancer Institute standard cancer treatment protocols), online journals and any cancer statistics available online (whether via the Cancer Institute NSW, Australian Institute for Health and Welfare (AIHW), interstate sources or other sources).

There were a number of statistically significant differences by service type:

- Metropolitan MDTs and those with access to radiotherapy services were significantly more likely to report using online pathology or PACs compared with regional and rural MDTs and those without access to radiotherapy services (55 per cent versus 38 per cent and 56 per cent versus 37 per cent).
- Regional and rural MDTs and those without access to radiotherapy were significantly more likely to report using telehealth than metropolitan MDTs and those with access to radiotherapy (57 per cent versus 31 per cent and 50 per cent versus 34 per cent).

In a new question in 2008, respondents were also asked to report whether the MDT had access to formal IT support services (e.g. a helpdesk or for repairs). Sixty-five per cent of MDTs reported having access to formal IT support.

Metropolitan MDTs, public sector MDTs, and those with access to radiotherapy services, were all significantly more likely to report having access to formal IT support than their respective alternative service types (70 per cent versus 51 per cent, 66 per cent versus 55 per cent and 68 per cent versus 58 per cent). There were no statistically significant differences by tumour stream.

**Availability of test results**

Figure 26 shows how often all relevant test results, reports and films were available at MDT meetings, in 2006 and 2008.

In 2008, the most common response was that all relevant results were usually available (62 per cent of MDTs), with only 23 per cent reporting that they were always available.

From 2006 to 2008, there was a significant decrease in the proportion of MDTs reporting that such test results were never available (from 7 per cent to 2 per cent), which is a promising result.
**Data collection**

The chart below indicates the proportion of MDTs that reported recording various types of data and statistics.

**Figure 27: Data and statistics recorded by MDTs (% of MDTs)**

In 2008, the data and statistics most commonly recorded by MDTs were the number of patients discussed at each meeting, the team present at each meeting, and treatment plans being recorded in patient notes (which were all reported by approximately three quarters of MDTs surveyed).

The 2008 figures represent a significant increase in the proportion of MDTs recording team attendance and treatment plans in patient notes, compared with 2006.

In 2008, over half of all MDTs surveyed reported having some form of central data collection, including 30 per cent with a process for the team to review data and the remaining 52 per cent without such a process. Nineteen percent reported that data collection is not centralised, but that instead individual clinicians contribute to audits coordinated by their respective professional colleges.

Compared with 2006, the 2008 figures represent an increase in the proportion reporting that there is no data collection at the hospital, either centrally or by individual clinicians (from 11 per cent to 16 per cent), as well as a decrease in the proportion of MDTs with a central data collection system but no review process (from 31 per cent to 22 per cent).
Quality activities and professional development

The following chart illustrates the range of quality assurance activities reported to occur in MDT meetings.

Figure 28: Quality assurance activities occurring in MDT meetings (% of MDTs)

In 2008, the most common quality assurance activities reported to be occurring related to the review of patient outcomes, guideline development or compliance, and the review of unexpected morbidity or mortality (with each being reported by over a third of MDTs surveyed).

The figure below presents data relating to the range of professional development activities held for MDT members.

Figure 29: Professional development activities held for MDT members (% of MDTs)

In 2008, ‘registrar presentations’ was a new response option added to the survey, so corresponding data is not available for 2006.

Based on the 2008 data, the most common professional development activities reported by MDTs included reports and discussion of research (51 per cent each). This was followed by guest speakers and registrar presentations, with all other specified activities reported by at least a quarter of MDTs surveyed.

The change in survey results from 2006 to 2008 indicates a decrease in the proportion of MDTs utilising reports and case studies as professional development (61 per cent to 51 per cent, and 32 per cent to 25 per cent, respectively). In addition, this period saw an increase in the proportion of MDTs reporting that no professional development activities are held for MDT members (20 per cent to 28 per cent).

In 2008, a quarter of MDTs never held professional development activities for members. Overall, 22 per cent held professional development activities quarterly, and another 22 per cent held them less often. In comparison, only 13 per cent held such activities on a weekly basis.

The pattern of results across 2006 and 2008 reflects a significant reduction in the likelihood of engaging in monthly professional development activities (25 per cent to 18 per cent), and an increase in quarterly activities (14 per cent to 22 per cent).

5.2 Treatment plans

In 2008, 80 per cent of MDTs surveyed reported that treatment plans or documented recommendations for each patient were generated at MDT meetings. This was not significantly different from the corresponding figure in 2006 (76 per cent).

In 2008, both neurology MDTs and general (other) MDTs were significantly less likely than MDTs overall to report that treatment plans or documented recommendations for each patient were generated at MDT meetings; only 33 per cent of neurology MDTs and 50 per cent of general (other) MDTs did so, compared with the before mentioned 80 per cent of all MDTs. In contrast, metropolitan MDTs, MDTs operating within private facilities, and those without access to radiotherapy services, were all significantly more likely than their respective alternative service types to report that treatment plans were generated (83 per cent versus 73 per cent, 91 per cent versus 79 per cent and 85 per cent versus 68 per cent, respectively).

Respondents who reported that treatment plans were generated were then asked which disciplines were responsible for completing patient treatment or management plans, or documenting the treatment recommendations in the notes. The results for 2008 are presented in Figure 30.

Figure 30: Disciplines with responsibility for completing treatment plans (% of MDTs, 2008)

<table>
<thead>
<tr>
<th>Discipline</th>
<th>% of MDTs</th>
</tr>
</thead>
<tbody>
<tr>
<td>MDT coordinator</td>
<td>38</td>
</tr>
<tr>
<td>CNC / Cancer Care Coordinator</td>
<td>37</td>
</tr>
<tr>
<td>Radiation oncologist</td>
<td>22</td>
</tr>
<tr>
<td>Registrar</td>
<td>22</td>
</tr>
<tr>
<td>Referring clinician / Patient’s primary clinician</td>
<td>21</td>
</tr>
<tr>
<td>Medical oncologist</td>
<td>20</td>
</tr>
<tr>
<td>Surgeon</td>
<td>17</td>
</tr>
<tr>
<td>Other</td>
<td>16</td>
</tr>
<tr>
<td>Other MDT-specific administration staff</td>
<td>14</td>
</tr>
<tr>
<td>Other nurse</td>
<td>10</td>
</tr>
<tr>
<td>Social worker</td>
<td>7</td>
</tr>
<tr>
<td>Other project staff</td>
<td>3</td>
</tr>
<tr>
<td>Other general administration staff</td>
<td>1</td>
</tr>
</tbody>
</table>

Base: MDTs that generate treatment plans: 2008 – n=105

i. This was a new question in the 2008 survey, and therefore corresponding data is not available for 2006.
The roles most commonly reported as having responsibility for completing treatment plans were MDT coordinators (38 per cent) and/or cancer nurse coordinators or cancer care coordinators (37 per cent).

There were a number of statistically significant differences in the disciplines reported to be responsible for completing patient treatment plans, by service type. The most notable differences include:

- Regional MDTs, private sector MDTs, and those without access to radiotherapy services were all more likely than their respective alternative services types to nominate their MDT Coordinator (52 per cent versus 33 per cent, 60 per cent versus 36 per cent and 46 per cent versus 35 per cent).
- Regional/rural MDTs and public sector MDTs were each significantly more likely than their respective alternative service types to nominate their cancer nurse coordinator (56 per cent versus 31 per cent and 39 per cent versus 20 per cent).
- Private sector MDTs were significantly more likely to nominate referring clinician (30 per cent) than public sector MDTs (20 per cent).

Figure 31 below illustrates the range of information that is included in treatment plans or documented recommendations arising from MDT meetings.

**Figure 31: Information included in treatment plans (% of MDTs)**

- Diagnosis
- Radiotherapy treatment plan
- Medical oncology treatment plan
- Further investigations required
- Surgical treatment plan
- Relevant medical history
- Disciplines/services to refer to
- Eligibility for clinical trials
- Psychosocial treatment plan
- Other

Base: MDTs that generate treatment plans: 2006 – n=87, 2008 – n=104
In 2008, the types of information most commonly included were details of the diagnosis (92 per cent), followed by a radiotherapy treatment plan, medical oncology treatment plan, further investigations required, surgical treatment plan and relevant medical history (all of which were reported by more than three-quarters of MDTs). Conversely, only 48 per cent of MDTs reported that a psychosocial treatment plan was incorporated into the overall patient treatment plan.

From 2006 to 2008, significant increases were observed on this information criteria, the inclusion of a psychosocial treatment plan (increasing the most, from 37 per cent to 48 per cent), as well as on the inclusion of a surgical treatment plan, relevant medical history, and diagnosis information.

In 2008, most treatment plans were recorded both in hard copy and electronically (44 per cent), or only in hard copy format (42 per cent). Only 13 per cent of MDTs recorded treatment plans electronically only.

The pattern of results over 2006 and 2008 represents a significant decrease in the use of hard copy format only (which used to be the most prevalent method) and an increase in the use of both formats concurrently (up to 44 per cent).

Figure 32 illustrates how often treatment plans or documented recommendations are recorded in patient notes.

Almost half of all MDTs surveyed in 2008 reported that treatment plans were always recorded in patient notes, followed by 35 per cent reporting that this usually occurred. Only 4 per cent reported that treatment plans were never recorded in patient notes.

The period from 2006 to 2008 saw a significant increase in the proportion of MDTs reporting that treatment plans were always recorded in patient notes (up from 39 per cent to 48 per cent).

According to the 2008 data, private sector MDTs were significantly more likely than public sector MDTs to report that they always recorded treatment plans in patient notes (70 per cent versus 45 per cent), and the frequency with which treatment plans were recorded in patient notes did not differ significantly by tumour stream.

MDTs were asked how often GPs are informed of clinical management decisions arising from the MDT meeting (including those MDTs that do not develop a written
treatment plan). In 2008, 39 per cent of MDTs reported that GPs are informed of the MDT’s clinical management decisions in all cases, with an additional 34 per cent of MDTs reporting that this occurs in some cases. Only 5 per cent reported that GPs were never informed.

The period from 2006 to 2008 saw a significant increase in the proportion of MDTs reporting that GPs are informed all of the time (from 31 per cent to 39 per cent), and a decrease in the proportion reporting that this never occurred (from 12 per cent to 5 per cent) – both of which are positive outcomes.

In 2008, both MDTs operating in private facilities and MDTs with access to radiotherapy services were significantly more likely to report informing GPs all of the time, than their respective alternative service types. There were no significant differences by tumour stream.

Those MDTs reporting that GPs were informed of the MDT’s clinical management decisions at least some of the time were asked a follow-up question about the means through which GPs were informed. The results are presented in Figure 33.

Figure 33: Method for informing GPs of MDT’s clinical management decisions (% of MDTs)

The most common means by which GPs were informed of the MDT meeting outcomes was via an individualised letter (62 per cent in 2008). The least likely methods to be used were email or via GP attendance at the MDT meeting (2 per cent and 5 per cent, respectively).

From 2006 to 2008, there was a significant decrease in the proportion of MDTs providing GPs with a copy of the written treatment plan (from 17 per cent to 11 per cent), and an increase in the proportion of MDTs reporting that some method other than those listed above was used (from 8 per cent to 15 per cent).

In 2008, both MDTs operating in private facilities and MDTs with access to radiotherapy services were significantly more likely to report informing GPs all of the time, than their respective alternative service types. There were no significant differences by tumour stream.

Those MDTs reporting that GPs were informed of the MDT’s clinical management decisions at least some of the time were asked a follow-up question about the means through which GPs were informed. The results are presented in Figure 33.

Figure 33: Method for informing GPs of MDT’s clinical management decisions (% of MDTs)

The most common means by which GPs were informed of the MDT meeting outcomes was via an individualised letter (62 per cent in 2008). The least likely methods to be used were email or via GP attendance at the MDT meeting (2 per cent and 5 per cent, respectively).

From 2006 to 2008, there was a significant decrease in the proportion of MDTs providing GPs with a copy of the written treatment plan (from 17 per cent to 11 per cent), and an increase in the proportion of MDTs reporting that some method other than those listed above was used (from 8 per cent to 15 per cent).
5.3 Referral to MDTs

In 2008, 76 per cent of MDTs reported that there were established criteria or protocols for the referral of patients to their MDT meetings. This represents a significant increase from the corresponding 2006 figure of 63 per cent. All respondents were asked to specify which particular patients groups were referred to their MDT, from a list provided.

The relevant results for 2006 and 2008 are presented below.

Figure 34: Patient groups referred to the MDT (% of MDTs)

In 2008, MDTs were most likely to report that difficult cases were referred to their MDT (69 per cent). In addition, more than half reported that all patients diagnosed with the relevant cancer were meant to be referred for discussion at the MDT.

From 2006 to 2008, there were significant increases in the proportions of MDTs citing the following three referral criteria: screen detected cancers (17 per cent to 24 per cent), suspected cases (26 per cent to 33 per cent), and all newly diagnosed advanced cancer (29 per cent to 37 per cent).

Another issue covered in the survey relates to the points along the patient pathway at which patient management is discussed by MDTs. The relevant results for 2006 and 2008 are presented in the following figure.
In 2008, MDTs were most likely to report that patients were discussed by MDTs at the stage of determination of treatment (69 per cent), followed by diagnosis and referral, after surgery but before other treatment, and when treatment is changed (which were each reported by close to three in five MDTs). MDTs were less likely to report discussing patients at each hospital admission, for follow-up care, or as part of end-of-life care.

From 2006 to 2008, there were significant decreases in the proportions of MDTs reporting that patients were discussed at the stage of determination of treatment (76 per cent to 69 per cent), follow-up care (32 per cent to 26 per cent) or at some other stage (13 per cent to 8 per cent).

In 2008, there were a number of statistically significant differences in points along the treatment pathway that patient management was discussed, by tumour stream.

These include:

- Breast (95 per cent), colorectal (100 per cent) and gynaecology (100 per cent) MDTs were significantly more likely than MDTs overall (60 per cent) to report discussing patients after surgery but before other treatment. Haematology (9 per cent), palliative care (23 per cent) and paediatric (17 per cent) MDTs were significantly less likely to report this.

- Palliative care MDTs were significantly more likely to report discussing patients at each hospital admission (77 per cent versus 20 per cent for all MDTs).

- Breast MDTs (5 per cent) were less likely, and palliative care MDTs (77 per cent) more likely, than MDTs overall (26 per cent) to report discussing patients during follow up care.
5.4 MDT links across NSW

In the 2008 survey, MDTs were asked to report whether they had any links with other cancer specialists, services or other MDTs in regional or rural areas, or in metropolitan areas. All MDTs were then asked whether or not various specific types of links were in place, from a list provided.

Overall, 82 per cent (n=108) of all MDTs sampled in 2008 reported having some form of links with other cancer specialists, services or MDTs. However, only a third of these MDTs had links that were established through a formal agreement, with half established via an informal agreement.

Analysis of regional and rural MDTs shows that they are just as likely to have links with other regional and rural MDTs, as they are to have links with metropolitan MDTs (each reported by more than two in five MDTs). Regional and rural MDTs are less likely than metropolitan MDTs to have links with metropolitan sites, as illustrated below.

Figure 36: Proportion of MDTs with links by location - 2008 (% of MDTs)

Base: 2008 - Regional/Rural MDTs n=37, Metropolitan MDTs n=93 (n=94 for “any links”).

---

1. This figure includes 20 MDTs that did not report having established links with metropolitan or regional/rural areas, but did specify particular examples of the types of links in place. Such MDTs were counted as having “any links”. The 2006 survey data relating to MDT links is not directly comparable, as it was based on different question wording. The 2006 data suggested that 51% of MDTs sampled (n=58) had established links with other cancer specialists or MDTs in regional or rural areas.
With regard to differences by sector, public sector MDTs are significantly more likely to have any type of links (83 per cent) compared with private sector MDTs (73 per cent). However, private sector MDTs are more likely to have links with metropolitan MDTs (73 per cent), than public sector MDTs (55 per cent). Analysis of significant differences by radiotherapy access revealed that MDTs without access to radiotherapy facilities are more likely to have links with metropolitan MDTs (68 per cent) than those MDTs with access (53 per cent). There were no significant differences by tumour stream, in terms of the likelihood of having links with other sites.

Detailed analysis was conducted with regard to the nature of links that were in place. Figure 37 shows the proportion of MDTs sampled that reported having each of the following types of links in 2008. Across the sample as a whole, ready access to specialists was the most common, followed by individuals from other sites acting as MDT members, and individuals from other sites conducting visits, presentations or other educational activities.

Figure 37: Nature of MDT links with other cancer specialists, services or MDTs - 2008 (% of MDTs)

Analysis of regional and rural MDTs, presented in the figure below, shows that the most common types of links were receiving visits, presentations or education from people external to the MDT (46 per cent), and having ready access to specialists (41 per cent). Looking at significant differences by location, regional or rural MDTs were more likely to receive visits, presentations or education from external people, and more likely to receive fly-in services, compared with metropolitan MDTs. They were also less likely than metropolitan MDTs to conduct joint MDT meetings.

Base: n=130 MDTs

Analysis of regional and rural MDTs, presented in the figure below, shows that the most common types of links were receiving visits, presentations or education from people external to the MDT (46 per cent), and having ready access to specialists (41 per cent). Looking at significant differences by location, regional or rural MDTs were more likely to receive visits, presentations or education from external people, and more likely to receive fly-in services, compared with metropolitan MDTs. They were also less likely than metropolitan MDTs to conduct joint MDT meetings.

i. This overall figure includes those MDTs that did not specify having links with a particular geographic location, but nominated various examples of links that were in place – all of which happened to be public sector MDTs.
With regard to differences in the nature of MDT links by sector, public sector MDTs were more likely than private sector MDTs to report links such as ready access to external specialists (41 per cent versus 27 per cent), provide education activities to others (18 per cent versus 0 per cent), or have external people participate as non-members (8 per cent versus 0 per cent). On the other hand, private sector MDTs were more likely than public sector MDTs to have external people as MDT members (45 per cent versus 29 per cent).
6 Conclusion

This report demonstrates that MDTs in NSW have increased in both number and stage of development over the two-year period from 2006 to 2008. MDTs in NSW in 2008 can be summarised by the following:

- In 2008 there are 160 MDTs in NSW.
- Seventy-four per cent of MDTs are based in metropolitan areas.
- Ninety-one per cent of MDTs are in the public sector.
- Sixty-nine per cent of MDTs are located at sites with radiotherapy facilities.
- Breast, general MDTs, palliative care, lung, urology and haematology tumour streams have the greatest number of MDTs.
- Neurology, bone and soft tissue, and melanoma have the least number of MDTs.
- The urology, gastrointestinal and general MDT tumour streams have the largest increase in MDTs.

Establishing a baseline and monitoring performance of MDTs has provided an effective way of demonstrating broad system changes, across multiple tumour groups and consistency of service models across MDTs by tumour type, both within the public and private sector. In addition, there has been an increase in the development of multidisciplinary teams within regional and rural areas of NSW, increasing the access to specialist advice and treatment planning for patients.

This process of review has also identified a high proportion of teams (76 per cent) having established referral criteria in place with a significant increase in screen detected cancers, suspected cases and newly diagnosed advanced cancers being referred to MDTs. Complex cases remain the highest group referred to MDTs.

The results have also demonstrated that MDT treatment planning is becoming more comprehensive, effective and patient focused with an increase in the identification of psychosocial needs and advising patients of the outcomes of the MDT, including any alternative opinions. This is also supported by the increase in the use of treatment plans, including the recording of treatment plans in patient’s notes and forwarding to the patient’s general practitioner.

Many of the MDTs were unable to meet the previously published MDT criteria related to the ideal core membership for MDTs. Re-evaluation of these criteria will consider whether core membership is reflective of the current practice in NSW and will enable the determination of whether the general criteria are relevant and achievable, and whether tumour specific criteria are required.

It is also intended to develop MDT criteria for those MDTs in high volume tumour streams, such as melanoma, urology and colorectal. For these tumour streams it is impossible for the MDT to discuss all cases and it is therefore essential to develop a structure to ensure that presentation is based on clinical need.

Monitoring the progression of MDTs across NSW and the findings in this report will provide focus to further refine the criteria for MDT, identify strategies to further support teams and ensure programs within the next Cancer Plan remain aligned to improving co-ordination of multidisciplinary care and access to specialist advice and care.
Appendix A: 2006 questionnaire

Please complete the following table. This information will be published in the NSW Directory of Cancer Services. Individual responses to the questions on subsequent pages will not be published in identifiable form.

<table>
<thead>
<tr>
<th>Cancer Type</th>
<th>Bone &amp; Soft Tissue</th>
<th>Breast</th>
<th>Colorectal</th>
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</tbody>
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Your name

Your role

Department

Institution

Address

City/Suburb

State

Postcode

Telephone

Fax

Email

This survey will provide a snapshot of multidisciplinary care activity before [INSERT DATE].
Features of the MDT

1. How often does the MDT meet?
   □ At least once a week
   □ At least once a fortnight
   □ At least once a month
   □ Less frequently – please specify: ________________________________
   □ Irregularly - as needed

2. a) How are MDT meetings conducted?
   □ Face to Face (Go to Question 3)
   □ Via teleconference or video link (Go to Question 2 b)
   □ Combination (Go to Question 2 b)

   2. b) Is your centre a
     □ Main host site (hub)
     □ Satellite site (spoke)
3. For each of the disciplines listed below please indicate how they interact with the MDT (please tick all that apply)

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Attend MDT meetings regularly</th>
<th>Attend MDT meetings occasionally</th>
<th>Patient Specific Attendance</th>
<th>Have referral links to the team</th>
<th>No interaction with MDT</th>
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<td>Surgeon</td>
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<td>ENT Surgeon</td>
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<td>Head &amp; Neck Surgeon</td>
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<td>Reconstructive surgeon</td>
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<td>Breast Surgeon</td>
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<td>Plastic Surgeon</td>
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<td>Neuro Surgeon</td>
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<td>Radiation Oncologist</td>
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<td>Respiratory Physician</td>
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<td>Fertility Physician</td>
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4. Which discipline(s) is (are) responsible for convening MDT meetings?
________________________________________________________________________________________
________________________________________________________________________________________

5. a) In total, over the last twelve months, approximately how many different patients have been discussed by the MDT? If unsure, please make your best estimate

___________

b) Of those patients, how many had been diagnosed with cancer within the last 12 months? If unsure, please make your best estimate

___________
Quality Assurance

6. a) Which of the following data and statistics are recorded by the MDT?

Please tick all that apply

☐ No data recorded  (Go to Question 7)
☐ MDT agreed treatment plans recorded in the patient notes
☐ Team present at each meeting
☐ Number of patients discussed at each meeting
☐ Number of patients discussed at each meeting by week, month or year
☐ Number of patients discussed as proportion of total patients treated for tumour type in AHS
☐ Proportion of patients managed according to agreed protocols
☐ Patient mortality
☐ Patient morbidity (please specify what is discussed):

______________________________________________________________

☐ Patient survival

b) How is this data collected and recorded?

☐ Electronically
☐ Hard copy
☐ Some electronically, some hard copy (please specify what data/statistics are recorded in hard copy):

______________________________________________________________
7. Does the MDT have a system for the collection and review of data for audit purposes?

☐ There is central data collection and a process for the team to review data
☐ There is central data collection but no process for the team to review data
☐ There is no central data collection (individual clinicians contribute to audit coordinated by professional college)
☐ There is no data collection at the hospital, either centrally or by individual clinicians
☐ Don't know

8. What quality assurance activity occurs in MDT meetings?

☐ Relevance to guideline development and compliance
☐ Review of patient outcomes
☐ Review of unexpected morbidity or mortality
☐ Other – please specify: ________________________________
☐ None – does not occur at all
☐ None – occurs elsewhere

9. How often are all relevant test results, reports and films available at MDT meetings?

☐ Always
☐ Usually
☐ Sometimes
☐ Rarely
☐ Never
Standards of Care

10. a) Does the MDT utilise Clinical Practice Guidelines or Standard Treatment Protocols relevant to the diagnosis, treatment and psychosocial care of cancer patients?

☐ Yes (Go to Question 11)
☐ No

b) If no, on what basis are treatment decisions made?

☐ Consensus
☐ Other – please specify: ____________________________________________________________

11. a) Are there established criteria for the referral of patients to MDT meetings?

☐ Yes
☐ No
☐ Not sure

b) Which of the following patient groups are referred to the MDT?

Please tick any that apply.

☐ All patients diagnosed with the relevant type of cancer
☐ Suspected cases
☐ All newly diagnosed early cancer
☐ All newly diagnosed advanced cancer
☐ Recurrent Cases
☐ Difficult cases
☐ Screen detected cancers
☐ Cases referred for a second opinion
☐ No protocol – individual clinician choice
☐ Other – please specify: ____________________________________________________________

__________________________________________________________
12. At which point/s along the treatment pathway is patient management discussed by the MDT?
Please tick any that apply.
- [ ] Initial diagnosis and referral
- [ ] Determination of treatment
- [ ] Treatment
- [ ] At the time treatment is changed – e.g. relapse
- [ ] At each hospital admission
- [ ] Follow-up care
- [ ] End of life care
- [ ] Other – please specify: ____________________________________________

13. a) Are treatment plans for each patient generated at MDT meetings?
- [ ] Yes (Go to Question 13(b))
- [ ] No (Go to Question 14)

b) What information is included in treatment plans?
Please tick any that apply.
- [ ] Diagnosis
- [ ] Relevant medical history
- [ ] Surgical treatment plan
- [ ] Radiotherapy treatment plan
- [ ] Medical Oncology treatment plan
- [ ] Psychosocial treatment plan
- [ ] Disciplines/services to refer to
- [ ] Further Investigations required
- [ ] Eligibility for clinical trials
- [ ] Other – please specify: ___________________________________________________________
c) How are treatment plans recorded?
- Electronically
- Hard copy
- Both

d) How often are treatment plans recorded in patient notes?
- Always
- Usually
- Sometimes
- Rarely
- Never

14. How often are patients’ supportive care needs (e.g. social, financial or other needs) discussed in MDT meetings?
- Always
- Usually
- Sometimes
- Rarely
- Never

15. How often do the supportive care needs of patients influence recommendations for treatment?
- Always
- Usually
- Sometimes
- Rarely
- Never
16. a) Is patient eligibility for clinical trials discussed at MDT meetings?
   □ Yes
   □ No  (Go to Question 17)

   b) Are open clinical trials known to all key members of the MDT?
   □ Yes
   □ No
   □ Don’t know

17. Is there a process at MDT meetings for identifying patients who need a referral …
   a) for a psycho-oncology consultation?
      □ Yes
      □ No

   b) to other allied health service(s)?
      □ Yes
      □ No

18. a) How often are GPs informed of the MDT’s clinical management decisions?
    □ All of the time
    □ Some of the time
    □ For specific patients only
    □ Never – Go to Q19

    b) How is a patient’s GP informed of the MDT’s clinical management decisions? Please tick any that apply.
       □ Email  □ Attendance at meeting
       □ Individualised Letter  □ Verbally / telephone – directly through clinician
       □ Standardised Letter  □ Indirectly through the clinician
       □ Written treatment plan  □ Other – please specify: _______________________________
19. a) Does the team have established links with other cancer specialists or MDTs in regional / rural areas?
   - Yes (Go to Question 19 b)
   - No (Go to Question 20)

   b) How were these links established?
   - Formal agreement
   - Informal agreement
   - Previous relationship with the service/staff member
   - Other – please specify: ________________________________

Patient Involvement in the Multidisciplinary Team

20. Are patients informed that they are to be discussed in a multidisciplinary forum?
   - Always
   - Usually
   - Sometimes
   - Rarely – Go to Q22
   - Never – Go to Q22

21. Is patient consent obtained for discussion of their case in a multidisciplinary forum?
   - Yes – verbal consent
   - Yes – written consent.
   - No

22. Are patients informed of who is part of the MDT?
   - Always
   - Usually
   - Sometimes
   - Rarely
   - Never
23. **Are patients informed of who the MDT leader is?**
   - [ ] Always
   - [ ] Usually
   - [ ] Sometimes
   - [ ] Rarely
   - [ ] Never

24. **Are patients encouraged to be involved in the MDT decision making process?**
   - [ ] Always
   - [ ] Usually
   - [ ] Sometimes
   - [ ] Rarely
   - [ ] Only for specific decisions – please specify: ____________________________

25. **How often are patient preferences discussed in MDT meetings?**
   - [ ] Always
   - [ ] Usually
   - [ ] Sometimes
   - [ ] Rarely
   - [ ] Never

26. **How are patients informed of clinical management recommendations decided at MDT meetings?**
   Please tick any that apply.
   - [ ] Verbal – face-to-face
   - [ ] Verbal - telephone
   - [ ] Written treatment plan
   - [ ] Not informed of decisions
   - [ ] Hand held patient record
   - [ ] Other – please specify: ____________________________
27. Who is usually responsible for informing patients of MDT recommendations?

[ ] Referring specialist
[ ] Referring specialist team member
[ ] Designated member of the MDT
[ ] Other – please specify: _____________________

28. When there are dissenting or alternative views among MDT members, are patients informed of these views?

[ ] Always
[ ] Usually
[ ] Sometimes
[ ] Rarely
[ ] Never

29. Following discussion with patients, how are any changes to the treatment plan or decisions dealt with? Please tick all that apply.

[ ] Clinician consults with another individual team member before changing plan
[ ] Team discusses different treatment plans at next meeting
[ ] Patient strongly encouraged to accept proposed plan (no alternative discussed)
[ ] Plan changed and reason noted
[ ] Plan changed and team informed at next meeting
[ ] Other – please specify: _____________________

Professional Development

30. What professional development activities are held for MDT members?

[ ] Journal club
[ ] Case studies
[ ] Guest speaker
[ ] In-service
[ ] Recent research results discussed/presented
Reports from medical or scientific meetings
☐ None
☐ Other – please specify: ____________________

31. How often are professional development activities made available for MDT members?
☐ Weekly
☐ Monthly
☐ Quarterly
☐ Less frequently
☐ Never

32. Do you feel there are any barriers to the implementation or improvement of multidisciplinary care in your hospital? If so, please list these barriers below.

Barriers

33. Finally, do you have any additional comments about MDTs or your cancer care centre?

Thank you for your participation in this survey.
Appendix B: 2008 questionnaire

Introduction email for online version

Dear (Name of MDT Contact),

We understand you are involved with a Multidisciplinary Team (MDT) that meets to discuss treatment options and plans for patients with cancer.

The Cancer Institute NSW is conducting a census of all MDTs in NSW to:

• Update the profile of MDTs for the NSW Directory of Cancer Services.
• Identify the stage of development of MDTs in 2008, and any changes since November 2006.
• Plan future MDT initiatives by identifying gaps in the current environment.

To this end, we would be most grateful if you could take the time to provide information about your MDT and its activities. It will be critical to the study's success that feedback is received from all MDTs.

The survey can be accessed at the link below. You may stop the survey at any time and then continue it later by clicking on the link in this e-mail.

[insert link]

We would appreciate you completing the survey by Friday 3rd October 2008.

If you are the nominated contact/convenor for more than one MDT, you should receive multiple emails with different links to the survey. Please complete a separate survey for each MDT by clicking on the unique link in each email.

Please be assured this is a genuine research study. If you have any queries about the purpose of the study, you may contact Robyn Thomas at the Cancer Institute NSW (02 8374 5621, robyn.thomas@cancerinstitute.org.au). If you are experiencing any technical difficulties or cannot access or complete the survey online, please contact Bettina Johnson at Ipsos-Eureka Social Research Institute (02 9519 2021, bettina.johnson@ipsos.com.au).

Please do not reply to this email. Reply instead to bettina.johnson@ipsos.com.au.

Thank you for your valued contribution to this study.

Sincerely,

Sue Sinclair
Director of Cancer Services and Education
Cancer Institute NSW
Introduction screen for online version

Thank you for agreeing to participate in this survey of MDTs across NSW. It should take about 15 minutes to complete.

If you wish to take a break, please click the “Finish later” button at the bottom of the page. You can restart the survey at a later time by clicking on the link in the email you received.

Please click “Next>>” to start the survey.

Multidisciplinary team survey

[HARD COPY] Please complete the following table. [ONLINE] The first few questions ask for basic details about the MDT. Information regarding the institution and cancer type may be used to update the NSW Directory of Cancer Services.

Individual responses to subsequent questions will not be published, but will only be reported in aggregate (non-identifiable) form. A datafile of all responses will be provided to the Cancer Institute NSW for research analysis purposes, to be treated confidentially.

On what cancer type(s) is this MDT focused?

- [ ] Bone & Soft Tissue
- [ ] Breast
- [ ] Colorectal
- [ ] Genito-urinary
- [ ] Head & Neck
- [ ] Haematological
- [ ] Lung
- [ ] Neurological
- [ ] Skin (melanoma)
- [ ] Thyroid & endocrine
- [ ] Upper gastrointestinal
- [ ] Other - please specify:

Your name

Your role

Department

Institution

Address

City/Suburb

State

Postcode

Telephone

Fax

Email
This survey will provide a follow-up snapshot, to identify any changes in multidisciplinary care activity across NSW since the original MDT Profiling Survey, which was conducted in November 2006. Your responses should reflect your MDT’s current practices.

Features of the MDT

1. a) How often does the MDT meet?
   - □ At least once a week
   - □ At least once a fortnight
   - □ At least once a month
   - □ Less frequently – please specify: ________________________________
   - □ Irregularly - as needed

   b) What is the average duration of the MDT meetings (in minutes)? Please enter a single number rather than a range.

     ______

   c) What is the average amount of time spent discussing each patient within a given MDT meeting?

     - □ Up to 4 minutes
     - □ 5-9 minutes
     - □ 10-14 minutes
     - □ 15 minutes or more

2. a) How are MDT meetings conducted?

     - □ Face-to-face (Go to Question 3)
     - □ Via teleconference or video link (Go to Question 2 b)
     - □ Combination (Go to Question 2 b)
b) Is your centre a:

- [ ] Main host site (hub)
- [ ] Satellite site (spoke)

3. a) Please indicate which of the disciplines listed below are involved in the MDT. Please include all relevant disciplines, even if involved only occasionally or for specific patients. Please tick all that apply.

b) Please indicate how each discipline interacts with the MDT.

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Attend MDT meetings regularly</th>
<th>Attend MDT meetings occasionally</th>
<th>Patient specific attendance</th>
<th>Have referral links to the team</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgeon</td>
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<tr>
<td>Thoracic Surgeon</td>
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<tr>
<td>ENT Surgeon</td>
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<tr>
<td>Head &amp; Neck Surgeon</td>
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<tr>
<td>Reconstructive surgeon</td>
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<tr>
<td>Breast Surgeon</td>
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<tr>
<td>Plastic Surgeon</td>
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<tr>
<td>Neuro Surgeon</td>
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<tr>
<td>Radiation Oncologist</td>
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<tr>
<td>Medical Oncologist</td>
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<tr>
<td>Gynaecological Oncologist</td>
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<tr>
<td>Neuro Oncologist</td>
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<tr>
<td>Respiratory Physician</td>
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<td>Fertility Physician</td>
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<td>Dermatologist</td>
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<td>Gynaecologist</td>
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<tr>
<td>Urologist</td>
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<tr>
<td>Clinical Haematologist</td>
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<tr>
<td>Palliative Care</td>
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<tr>
<td>General Practitioner</td>
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<tr>
<td>Discipline</td>
<td>Attend MDT meetings regularly</td>
<td>Attend MDT meetings occasionally</td>
<td>Patient specific attendance</td>
<td>Have referral links to the team</td>
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<td>-----------------------------------</td>
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<tr>
<td>Pathologist</td>
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<tr>
<td>Neuro Pathologist</td>
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<td>Radiologist</td>
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<tr>
<td>Neuro Radiologist</td>
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<td>Endoscopist</td>
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<td>Nurse</td>
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<td>Nurse Coordinator</td>
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<td>Psychologist</td>
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<td>Psychiatrist</td>
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<td>Social Worker</td>
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<td>Pharmacist</td>
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<td>Dietician</td>
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<td>Physiotherapist</td>
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<td>Occupational Therapist</td>
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<td>Genetic Counsellor</td>
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<tr>
<td>Continence/Erectile Dysfunction</td>
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<tr>
<td>Stomal Therapy</td>
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<tr>
<td>Pain Clinic</td>
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<tr>
<td>Lymphoedema Service</td>
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<tr>
<td>Pastoral Care</td>
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<tr>
<td>Medical Trainees</td>
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<tr>
<td>Nursing Trainees</td>
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<tr>
<td>Allied Health Trainees</td>
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<tr>
<td>Others:</td>
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</tbody>
</table>
4. a) Who or which discipline(s) is(are) responsible for organising the MDT meetings (e.g., preparing meeting agendas and other administrative support prior to meetings)? Select all that apply.

- [ ] MDT coordinator
- [ ] Cancer Nurse Coordinator / Cancer Care Coordinator
- [ ] Other nurse
- [ ] Other MDT-specific administration staff
- [ ] Other general administration staff
- [ ] Other project staff
- [ ] Other – please specify all others responsible: ___________________________

b) [FOR EACH SELECTED ABOVE, AT 4A] Is this provision of administrative support to the MDT a formal part of the job description for this(these) role(s)?

[IF SELECTED ABOVE, AT 4A]  Yes  No

- MDT coordinator
- Cancer Nurse Coordinator / Cancer Care Coordinator
- Other nurse
- Other MDT-specific administration staff
- Other general administration staff
- Other project staff
- Other


c) Which of the following computer software or programs are used to assist with preparation, administration and documentation relating to MDT meetings (e.g., agendas, treatment plans, sharing/viewing visual records)? Select all that apply.

- [ ] CHARM
- [ ] MDT Clinical Information System
- [ ] Software to share and view images (e.g., CT scans, test results) on a screen (e.g., PACS)
Multidisciplinary teams in New South Wales: 2006 and 2008

[ ] Word processing applications (e.g., Microsoft Word)
[ ] Spreadsheet applications (e.g., Microsoft Excel)
[ ] Generic database applications (e.g., Microsoft Access)
[ ] Other – please specify all others: ______________________________
[ ] In-house software program – please describe: ____________________

d) Are any of the following used within the context of MDT planning, development or education for MDT meetings?
Yes   No   Unsure

<table>
<thead>
<tr>
<th>Application Description</th>
<th>Yes</th>
<th>No</th>
<th>Unsure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online pathology or PACS (Picture Archival Communication System) to share and view images (e.g., scans, test results)</td>
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<tr>
<td>Telehealth or teleconferencing facilities</td>
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<tr>
<td>CI-SCaT (standard cancer treatment protocols)</td>
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<tr>
<td>Business Objects (data system providing reports based on NSW public and private hospital information)</td>
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<tr>
<td>Cancer statistics available online (e.g., Cancer Institute NSW, AIHW, interstate data, etc)</td>
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<td>Online journals</td>
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<tr>
<td>Online central cancer registry</td>
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</tbody>
</table>

e) Does the MDT have access to formal IT support services (e.g., helpdesk or repairs), if required?
[ ] Yes
[ ] No

5. a) In total, over the last 12 months, approximately how many different patients have been discussed by the MDT? If unsure, please make your best estimate.

___________

b) Of those patients, how many had been diagnosed with cancer within the last 12 months? If unsure, please make your best estimate. (That is, the number of patients, not the proportion.)
c) Of all patients discussed at the MDT in the last 12 months, what percentage was discussed… NB: Your responses should add to 100%.

Once (within the last 12 months) _______%
Twice (within the last 12 months) _______%
Three or more times (within the last 12 months) _______%

**Quality Assurance**

6. a) Which of the following data and statistics are recorded by the MDT?

Please tick all that apply
- [ ] No data recorded (Go to Question 7)
- [ ] MDT agreed treatment plans recorded in the patient notes
- [ ] Team present at each meeting
- [ ] Number of patients discussed at each meeting
- [ ] Number of patients discussed at each meeting by week, month or year
- [ ] Number of patients discussed as proportion of total patients treated for tumour type in AHS
- [ ] Proportion of patients managed according to agreed protocols
- [ ] Patient mortality
- [ ] Patient morbidity (please specify what is recorded):

_______________________________________________________________

- [ ] Patient survival
- [ ] Other (please specify)
- [ ] Not sure (Go to Question 7)
b) How is this data collected and recorded?

<table>
<thead>
<tr>
<th>[IF SELECTED ABOVE, AT 6A]</th>
<th>Electronically</th>
<th>Hard copy</th>
<th>Some electronically, some hard copy</th>
</tr>
</thead>
<tbody>
<tr>
<td>MDT agreed treatment plans recorded in the patient notes</td>
<td></td>
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<tr>
<td>Team present at each meeting</td>
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<tr>
<td>Number of patients discussed at each meeting</td>
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<tr>
<td>Number of patients discussed at each meeting by week, month or year</td>
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<tr>
<td>Number of patients discussed as proportion of total patients treated for tumour type in AHS</td>
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<tr>
<td>Proportion of patients managed according to agreed protocols</td>
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<tr>
<td>Patient mortality</td>
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<td>Patient survival</td>
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<tr>
<td>Other</td>
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</table>

8. Does the MDT have a system for the collection and review of data for audit purposes?

- [ ] There is central data collection and a process for the team to review data
- [ ] There is central data collection but no process for the team to review data
- [ ] There is no central data collection (individual clinicians contribute to audit coordinated by professional college)
- [x] There is no data collection at the hospital, either centrally or by individual clinicians
- [ ] Not sure

8. What quality assurance activity occurs in MDT meetings? Please tick all that apply.

- [ ] Relevance to guideline development and compliance
- [ ] Review of patient outcomes
- [ ] Review of unexpected morbidity or mortality
- [ ] Other – please specify: ____________________________
- [ ] None – occurs elsewhere
- [ ] None – does not occur at all
9. How often are all relevant test results, reports and films available at MDT meetings?

☐ Always
☐ Usually
☐ Sometimes
☐ Rarely
☐ Never

Standards of Care

11. a) Does the MDT utilise Clinical Practice Guidelines or Standard Treatment Protocols relevant to the diagnosis, treatment and psychosocial care of cancer patients?

☐ Yes (Go to Question 11)
☐ No

b) If no, on what basis are treatment decisions made?

☐ Consensus
☐ Other – please specify: ________________________________

11. a) Are there established criteria for the referral of patients to MDT meetings?

☐ Yes
☐ No
☐ Not sure

b) Which of the following patient groups are referred to the MDT?

Please tick any that apply.

☐ All patients diagnosed with the relevant type of cancer
☐ Suspected cases
12. At which point/s along the treatment pathway is patient management discussed by the MDT? Please tick any that apply.

- Initial diagnosis and referral
- Determination of treatment
- After surgery but before other treatment
- During treatment
- At the time treatment is changed (e.g., relapse)
- At each hospital admission
- Follow-up care
- End of life care
- Other – please specify: ____________________________________________

13. a) Are treatment plans or documented recommendations for each patient generated at MDT meetings?

- Yes (Go to Question 13(b))
- No (Go to Question 14)
b) Who or which discipline(s) is(are) responsible for completing patient treatment or management plans, or documenting the treatment recommendations in the notes? Select all that apply.

- [ ] MDT coordinator
- [ ] Cancer Nurse Coordinator / Cancer Care Coordinator
- [ ] Other nurse
- [ ] Other MDT-specific administration staff
- [ ] Other general administration staff
- [ ] Other project staff
- [ ] Referring clinician / Patient’s primary clinician
- [ ] Social worker
- [ ] Registrar
- [ ] Surgeon
- [ ] Radiation oncologist
- [ ] Medical oncologist
- [ ] Other – please specify all others responsible: ___________________________

c) What information is included in treatment plans or documented recommendations? Please tick any that apply.

- [ ] Diagnosis
- [ ] Relevant medical history
- [ ] Surgical treatment plan
- [ ] Radiotherapy treatment plan
- [ ] Medical oncology treatment plan
- [ ] Psychosocial treatment plan
- [ ] Disciplines/services to refer to
- [ ] Further investigations required
- [ ] Eligibility for clinical trials
- [ ] Other – please specify: ________________________________________
d) How are treatment plans or documented recommendations recorded?
- Electronically
- Hard copy
- Both

e) How often are treatment plans or documented recommendations recorded in patient notes?
- Always
- Usually
- Sometimes
- Rarely
- Never

14. How often are patients’ supportive care needs (e.g., social, financial or other needs) discussed in MDT meetings?
- Always
- Usually
- Sometimes
- Rarely
- Never

15. How often do the supportive care needs of patients influence recommendations for treatment?
- Always
- Usually
- Sometimes
- Rarely
- Never
16. a) Is patient eligibility for clinical trials discussed at MDT meetings?
   □ Yes
   □ No (Go to Question 17)

   b) Are open clinical trials known to all key members of the MDT?
   □ Yes
   □ No
   □ Not sure

17. Is there a process at MDT meetings for identifying patients who need a referral:
   a) for a psycho-oncology consultation?
      □ Yes
      □ No
   b) to other allied health service(s)?
      □ Yes
      □ No

18. a) How often are GPs informed of the MDT’s clinical management decisions?
    □ All of the time
    □ Some of the time
    □ For specific patients only
    □ Never – Go to Q19

   b) How is a patient’s GP informed of the MDT’s clinical management decisions? Please tick any that apply.
      □ Email
      □ Attendance at meeting
      □ Individualised Letter
      □ Verbally / telephone – directly through clinician
      □ Standardised Letter
      □ Indirectly through the clinician
      □ Written treatment plan
      □ Other – please specify: ________________
19. a) Does the team have established links with other cancer specialists, cancer services or other MDTs in …

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) regional or rural areas?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ii) metropolitan areas?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

b) [ASK ALL] Does your MDT have any of the following links across cancer services or MDTs? Please tick any that apply.

- [ ] Joint MDT meetings to discuss cases
- [ ] Individual working mainly for another cancer service provides fly-in services
- [ ] Individual from another service participates in MDT, as a member
- [ ] Individual from another service participates in MDT, but not as a member
- [ ] Site visits, presentations and other educational activities from people external to your MDT
- [ ] Site visits, presentations and other educational activities to people external to your MDT
- [ ] Ready access for your MDT to external specialists in order to discuss difficult cases, or to provide a second opinion
- [ ] Other – please specify: _______________
- [ ] None of these links across cancer services or MDTs

c) [ASK IF 19b ≠ none] With which other external sites does your MDT have established links?

---------------------------------------------------------------------------------------------------------------------------------
---------------------------------------------------------------------------------------------------------------------------------

d) [ASK IF 19b ≠ none] How were these links across cancer services or MDTs established? Select all that apply.

- [ ] Formal agreement
- [ ] Informal agreement
- [ ] Previous relationship with the service/staff member
20. How often are patients informed that they are to be discussed in a multidisciplinary forum?
   - [ ] Always
   - [ ] Usually
   - [ ] Sometimes
   - [ ] Rarely – Go to Q22
   - [ ] Never – Go to Q22

21. Is patient consent obtained for discussion of their case in a multidisciplinary forum?
   - [ ] Yes – verbal consent
   - [ ] Yes – written consent
   - [ ] No

22. How often are patients informed of who is part of the MDT?
   - [ ] Always
   - [ ] Usually
   - [ ] Sometimes
   - [ ] Rarely
   - [ ] Never

23. How often are patients informed of who the MDT leader is?
   - [ ] Always
   - [ ] Usually
   - [ ] Sometimes
   - [ ] Rarely
24. a) How often are patients encouraged to be involved in the MDT decision making process?

- Never
- Always
- Usually
- Sometimes
- Rarely
- Never
- Only for specific decisions – please specify: ______________________________

b) How often do patients attend MDT meetings?

- Always
- Usually
- Sometimes
- Rarely
- Never

25. How often are patient preferences discussed in MDT meetings?

- Always
- Usually
- Sometimes
- Rarely
- Never

26. How are patients informed of clinical management recommendations decided at MDT meetings? Please tick any that apply.

- Verbal – face-to-face
27. Who is usually responsible for informing patients of MDT recommendations?
   - Referring specialist
   - Referring specialist team member
   - Designated member of the MDT
   - Other – please specify: ________________

28. When there are dissenting or alternative views among MDT members, how often are patients informed of these views?
   - Always
   - Usually
   - Sometimes
   - Rarely
   - Never

29. Following discussion with patients, how are any changes to the treatment plan or decisions dealt with? Please tick all that apply.
   - Clinician consults with another individual team member before changing plan
   - Team discusses different treatment plans at next meeting
   - Patient strongly encouraged to accept proposed plan (no alternative discussed)
   - Plan changed and reason noted
   - Plan changed and team informed at a subsequent meeting
   - Other – please specify: ___________________________________________
Professional Development

30. What professional development activities are held for MDT members?
   □ Journal club
   □ Case studies
   □ Guest speaker
   □ In-service
   □ Recent research results discussed/presented
   □ Reports from medical or scientific meetings
   □ Registrar presentations
   □ None
   □ Other – please specify: _______________________

31. How often are professional development activities made available for MDT members?
   □ Weekly
   □ Monthly
   □ Quarterly
   □ Less frequently
32. Do you feel there are any barriers to the implementation or improvement of multidisciplinary care in your hospital? If so, please list these barriers below.

_________________________________________________________________________________
_________________________________________________________________________________
_________________________________________________________________________________

33. Finally, do you have any additional comments about MDTs or your cancer care centre?

_________________________________________________________________________________
_________________________________________________________________________________
_________________________________________________________________________________

Thank you for your participation in this survey.
## Appendix C: List of MDTs in NSW in 2008

The following table lists all 160 MDTs in NSW, as of November 2008. The 17 new MDTs that were not established at the time of the previous 2006 survey are noted with * below.

Table 2: Details of all MDTs in NSW in 2008

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<thead>
<tr>
<th>Facility</th>
<th>Tumour stream</th>
<th>AHS</th>
<th>Metropolitan or Regional/ Rural</th>
<th>Public or private sector</th>
<th>With or without radio-therapy</th>
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<tbody>
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<td>Bankstown-Lidcombe Hospital *</td>
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## Multidisciplinary teams in New South Wales: 2006 and 2008

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i. While John Hunter Hospital does not have radiotherapy facilities, this site has a close working relationship with Newcastle Mater Misericordiae Hospital, which does have radiotherapy facilities.
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<th>AHS</th>
<th>Metropolitan or Regional/ Rural</th>
<th>Public or private sector</th>
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<td>Colorectal</td>
<td>-</td>
<td>Regional / Rural</td>
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</tr>
<tr>
<td>Riverina Cancer Care Centre</td>
<td>Urological</td>
<td>-</td>
<td>Regional / Rural</td>
<td>Private</td>
<td>Yes</td>
</tr>
<tr>
<td>Royal Hospital for Women</td>
<td>Gynaecological</td>
<td>SESI</td>
<td>Metropolitan</td>
<td>Public</td>
<td>Yes</td>
</tr>
<tr>
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<td>Breast</td>
<td>NSCC</td>
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<td>Public</td>
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<tr>
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<td>Public or private sector</td>
<td>With or without radio-therapy</td>
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<td>NSCC</td>
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<td>Public</td>
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<td>Public or private sector</td>
<td>With or without radio-therapy</td>
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<td>Public</td>
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<tr>
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<td>Breast</td>
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<td>Metropolitan</td>
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<td>General (other)</td>
<td>SESI</td>
<td>Metropolitan</td>
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<td>Lung</td>
<td>SESI</td>
<td>Metropolitan</td>
<td>Public</td>
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<tr>
<td>Wollongong Hospital</td>
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<td>Metropolitan</td>
<td>Public</td>
<td>Yes</td>
</tr>
<tr>
<td>Woy Woy Hospital</td>
<td>General (other)</td>
<td>NSCC</td>
<td>Metropolitan</td>
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</table>
Appendix D: List of MDTs in NSW with access to radiotherapy facilities

The following table lists those MDTs in NSW with access to radiotherapy facilities in 2006 and 2008, based on data collated separately by the Cancer Institute NSW. Note that the radiotherapy status of some MDTs changed from 2006 to 2008, with increased access to radiotherapy facilities.

Table 3: List of MDTs in NSW with access to radiotherapy facilities (2006 and 2008)

<table>
<thead>
<tr>
<th>MDTs in NSW with access to radiotherapy facilities</th>
<th>2006</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Border Cancer Collaboration (via Wodonga)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Campbelltown Hospital (Macarthur)</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Coffs Harbour</td>
<td>-</td>
<td>Yes</td>
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<tr>
<td>Gosford Hospital, including North Gosford linked MDTs (via Central Coast Radiation Oncology Centre)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Liverpool Hospital / Health Service</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Mater Misericordiae Private Hospital</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Nepean Cancer Care Centre</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Newcastle Mater Misericordiae Hospital</td>
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<td>Yes</td>
</tr>
<tr>
<td>Port Macquarie</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>Prince of Wales Hospital (including Royal Hospital for Women)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Royal North Shore Hospital</td>
<td>Yes</td>
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<tr>
<td>Royal Prince Alfred Hospital</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>St George Hospital</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>St Vincent’s Hospital (Public and Private Hospitals)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Sydney Adventist Hospital</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Sydney Children’s Hospital</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Wagga Wagga (Riverina Cancer Care Centre)</td>
<td>Yes</td>
<td>Yes</td>
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<td>Westmead Hospital (including Children’s Hospital Westmead, and Breast Cancer Institute)</td>
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<tr>
<td>Wollongong Hospital</td>
<td>Yes</td>
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Appendix E: Calculation of population estimates relating to patients discussed by MDTs

The following tables provide the calculations required for the following:

- proportion of all newly diagnosed cases in NSW that were discussed by MDTs (Section 4.2.1)
- proportion of all cases discussed by MDTs that were newly diagnosed (Section 4.2.2).

Example based on 2006 data for Breast MDTs:

- Twenty-one out of 22 MDTs in NSW participated in the survey. This corresponds to a response rate or 95% (21 divided by 22), or a non-response weighting of 1.05 (1 divided by the response rate).
- The survey data indicated 4,174 patients were discussed by those 21 MDTs who responded. Multiplying this survey figure by the corresponding non-response weighting (1.05) results in an estimated population figure of 4,373 patients discussed by all MDTs in NSW. This process was repeated for the survey data relating to newly diagnosed patients discussed.
- Total new cases data (actual and projected) were taken from the NSW Central Cancer Registry.
- Section 4.2.1: This figure was calculated by dividing the population estimate of all newly diagnosed cases discussed by the total number of new cases in NSW, to obtain a ratio figure.
- Section 4.2.2: This figure was calculated by dividing the population estimate of all newly diagnosed cases discussed by the population estimate of all cases discussed (including newly diagnosed or other cases).

Table 4: 2006 calculations of population estimates relating to patients discussed by MDTs

<table>
<thead>
<tr>
<th>MDT</th>
<th>Number of MDTs in NSW</th>
<th>Number of MDTs in survey</th>
<th>Response rate</th>
<th>Non-response weighting (1 divided by response rate)</th>
<th>All patients discussed by MDTs surveyed</th>
<th>Estimate of all patients discussed by all MDTs in NSW</th>
<th>Newly diagnosed patients discussed by MDTs surveyed</th>
<th>Estimate of newly diagnosed patients discussed by all MDTs in NSW</th>
<th>Total new cancer cases in NSW (actual 2006)</th>
<th>4.2.1 – Newly diagnosed cases discussed (population estimate) as proportion of total new cases in NSW</th>
<th>4.2.2 - Proportion of all cases discussed that were newly diagnosed (population estimates)</th>
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</thead>
<tbody>
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<td>22</td>
<td>21</td>
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<td>1.05</td>
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<td>4,373</td>
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<td>1,278</td>
<td>1,491</td>
<td>1,354</td>
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<td>0.49</td>
<td>72</td>
</tr>
</tbody>
</table>
### Multidisciplinary Teams in New South Wales: 2006 and 2008

<table>
<thead>
<tr>
<th>MDT</th>
<th>Number of MDTs in NSW</th>
<th>Number of MDTs in survey</th>
<th>Response rate</th>
<th>Non-response weighting (1 divided by response rate)</th>
<th>All patients discussed by MDTs surveyed</th>
<th>Estimate of all patients discussed by all MDTs in NSW</th>
<th>Newly diagnosed patients discussed by MDTs surveyed</th>
<th>Estimate of newly diagnosed patients discussed by all MDTs in NSW</th>
<th>Total new cancer cases in NSW (actual 2006)</th>
<th>4.2.1 – Newly diagnosed cases discussed (population estimate) as proportion of total new cases in NSW</th>
<th>4.2.2 - Proportion of all cases discussed that were newly diagnosed (population estimates)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bone &amp; Soft Tissue</td>
<td>3</td>
<td>2</td>
<td>0.67</td>
<td>1.50</td>
<td>400</td>
<td>600</td>
<td>225</td>
<td>338</td>
<td>-</td>
<td>-</td>
<td>56</td>
</tr>
<tr>
<td>General (Other)</td>
<td>16</td>
<td>15</td>
<td>0.94</td>
<td>1.07</td>
<td>3,591</td>
<td>3,830</td>
<td>1,581</td>
<td>1,686</td>
<td>-</td>
<td>-</td>
<td>44</td>
</tr>
<tr>
<td>General (Palliative Care)</td>
<td>15</td>
<td>11</td>
<td>0.73</td>
<td>1.36</td>
<td>7,866</td>
<td>10,726</td>
<td>2,175</td>
<td>2,966</td>
<td>-</td>
<td>-</td>
<td>28</td>
</tr>
<tr>
<td>Paediatric</td>
<td>7</td>
<td>5</td>
<td>0.71</td>
<td>1.40</td>
<td>440</td>
<td>616</td>
<td>190</td>
<td>266</td>
<td>-</td>
<td>-</td>
<td>43</td>
</tr>
<tr>
<td><strong>Total (non-duplicated)</strong></td>
<td><strong>143</strong></td>
<td><strong>114</strong></td>
<td><strong>0.80</strong></td>
<td><strong>1.25</strong></td>
<td><strong>29,533</strong></td>
<td><strong>37,046</strong></td>
<td><strong>16,535</strong></td>
<td><strong>20,741</strong></td>
<td><strong>34,896</strong></td>
<td><strong>0.59</strong></td>
<td><strong>56</strong></td>
</tr>
</tbody>
</table>

* Combined Gastrointestinal MDTs (n=3 within survey sample, and n=5 within population in 2006) included for both Colorectal and Upper GI data (i.e., double-counted in sub-total, but only counted once in final total).

'-' indicates those tumour streams for which data on the projected number of new cases within that specific tumour stream is not available. The total (non-duplicated) includes the aggregated figures for these non-additional tumour streams.

### Table 5: 2008 Calculations of Population Estimates Relating to Patients Discussed by MDTs

<table>
<thead>
<tr>
<th>MDT</th>
<th>Number of MDTs in NSW</th>
<th>Number of MDTs in survey</th>
<th>Response rate</th>
<th>Non-response weighting (1 divided by response rate)</th>
<th>All patients discussed by MDTs surveyed</th>
<th>Estimate of all patients discussed by all MDTs in NSW</th>
<th>Newly diagnosed patients discussed by MDTs surveyed</th>
<th>Estimate of newly diagnosed patients discussed by all MDTs in NSW</th>
<th>Total new cancer cases in NSW (actual 2006)</th>
<th>4.2.1 – Newly diagnosed cases discussed (population estimate) as proportion of total new cases in NSW</th>
<th>4.2.2 – Proportion of all cases discussed that were newly diagnosed (population estimates)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast</td>
<td>23</td>
<td>21</td>
<td>0.91</td>
<td>1.10</td>
<td>5,034</td>
<td>5,513</td>
<td>4,554</td>
<td>4,988</td>
<td>4,215</td>
<td>1.18</td>
<td>90</td>
</tr>
<tr>
<td>Colorectal*</td>
<td>16</td>
<td>13</td>
<td>0.81</td>
<td>1.23</td>
<td>2,208</td>
<td>2,718</td>
<td>1,512</td>
<td>1,861</td>
<td>4,790</td>
<td>0.39</td>
<td>68</td>
</tr>
<tr>
<td>Gynaecology</td>
<td>7</td>
<td>6</td>
<td>0.86</td>
<td>1.17</td>
<td>1,789</td>
<td>2,087</td>
<td>1,065</td>
<td>1,243</td>
<td>1,389</td>
<td>0.89</td>
<td>60</td>
</tr>
<tr>
<td>Haematology</td>
<td>13</td>
<td>11</td>
<td>0.85</td>
<td>1.18</td>
<td>2,227</td>
<td>2,632</td>
<td>1,605</td>
<td>1,897</td>
<td>3,645</td>
<td>0.52</td>
<td>72</td>
</tr>
<tr>
<td>Head &amp; Neck</td>
<td>10</td>
<td>8</td>
<td>0.80</td>
<td>1.25</td>
<td>1,020</td>
<td>1,275</td>
<td>820</td>
<td>1,025</td>
<td>961</td>
<td>1.07</td>
<td>80</td>
</tr>
<tr>
<td>Lung</td>
<td>15</td>
<td>14</td>
<td>0.93</td>
<td>1.07</td>
<td>2,144</td>
<td>2,297</td>
<td>1,689</td>
<td>1,810</td>
<td>3,218</td>
<td>0.56</td>
<td>79</td>
</tr>
<tr>
<td>Melanoma</td>
<td>3</td>
<td>3</td>
<td>1.00</td>
<td>1.00</td>
<td>1,190</td>
<td>1,190</td>
<td>360</td>
<td>360</td>
<td>3,991</td>
<td>0.09</td>
<td>30</td>
</tr>
<tr>
<td>MDT</td>
<td>Number of MDTs in NSW</td>
<td>Number of MDTs in survey</td>
<td>Response rate</td>
<td>Non-response weighting (1 divided by response rate)</td>
<td>All patients discussed by MDTs surveyed</td>
<td>Estimate of all patients discussed by all MDTs in NSW</td>
<td>Newly diagnosed patients discussed by MDTs surveyed</td>
<td>Estimate of newly diagnosed patients discussed by all MDTs in NSW</td>
<td>Total new cancer cases in NSW (actual 2006)</td>
<td>4.2.1 – Newly diagnosed cases discussed (population estimate) as proportion of total new cases in NSW</td>
<td>4.2.2 – Proportion of all cases discussed that were newly diagnosed (population estimates)</td>
</tr>
<tr>
<td>---------------------------</td>
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<td>--------------------------</td>
<td>---------------</td>
<td>-----------------------------------------------------</td>
<td>----------------------------------------</td>
<td>------------------------------------------------------</td>
<td>----------------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>---------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Neurology</td>
<td>4</td>
<td>3</td>
<td>0.75</td>
<td>2.25</td>
<td>255</td>
<td>340</td>
<td>185</td>
<td>247</td>
<td>506</td>
<td>0.49</td>
<td>73</td>
</tr>
<tr>
<td>Upper GI*</td>
<td>14</td>
<td>14</td>
<td>1.00</td>
<td>1.00</td>
<td>2,390</td>
<td>2,390</td>
<td>1,827</td>
<td>1,827</td>
<td>2,721</td>
<td>0.67</td>
<td>76</td>
</tr>
<tr>
<td>Urology</td>
<td>15</td>
<td>12</td>
<td>0.80</td>
<td>1.25</td>
<td>2,305</td>
<td>2,881</td>
<td>2,063</td>
<td>2,579</td>
<td>8,363</td>
<td>0.31</td>
<td>90</td>
</tr>
<tr>
<td>Sub-total</td>
<td>120</td>
<td>105</td>
<td>0.88</td>
<td>1.14</td>
<td>20,562</td>
<td>23,499</td>
<td>15,680</td>
<td>17,920</td>
<td>33,798</td>
<td>0.53</td>
<td>76</td>
</tr>
<tr>
<td>Bone &amp; Soft Tissue</td>
<td>4</td>
<td>4</td>
<td>1.00</td>
<td>1.00</td>
<td>720</td>
<td>720</td>
<td>525</td>
<td>525</td>
<td>-</td>
<td>-</td>
<td>12</td>
</tr>
<tr>
<td>General (Other)</td>
<td>19</td>
<td>10</td>
<td>0.53</td>
<td>1.90</td>
<td>599</td>
<td>1,138</td>
<td>488</td>
<td>927</td>
<td>-</td>
<td>-</td>
<td>81</td>
</tr>
<tr>
<td>General (Palliative Care)</td>
<td>16</td>
<td>13</td>
<td>0.81</td>
<td>1.23</td>
<td>9,583</td>
<td>11,794</td>
<td>1,134</td>
<td>1,396</td>
<td>-</td>
<td>-</td>
<td>12</td>
</tr>
<tr>
<td>Paediatric</td>
<td>8</td>
<td>6</td>
<td>0.75</td>
<td>1.33</td>
<td>361</td>
<td>481</td>
<td>300</td>
<td>400</td>
<td>-</td>
<td>-</td>
<td>83</td>
</tr>
<tr>
<td>Total (non-duplicated)</td>
<td>160</td>
<td>131</td>
<td>0.82</td>
<td>1.22</td>
<td>31,825</td>
<td>38,870</td>
<td>18,127</td>
<td>22,140</td>
<td>38,845</td>
<td>0.57</td>
<td>57</td>
</tr>
</tbody>
</table>

* Combined Gastrointestinal MDTs (n=7 within survey sample and n=7 within population in 2008) included for both Colorectal and Upper GI data (i.e., double-counted in sub-total, but only counted once in final total).

'-' indicates those tumour streams for which data on the projected number of new cases within that specific tumour stream is not available. The total (non-duplicated) includes the aggregated figures for these non-additional tumour streams.
### Appendix F: Core disciplines for each tumour stream*

<table>
<thead>
<tr>
<th>Cancer Stream</th>
<th>Core disciplines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast Cancer</td>
<td>– breast care nurse&lt;br&gt;– general practitioner&lt;br&gt;– medical oncologist&lt;br&gt;– pathologist&lt;br&gt;– radiation oncologist&lt;br&gt;– radiologist&lt;br&gt;– social worker&lt;br&gt;– surgeons—breast&lt;br&gt;– plastics if reconstruction is a consideration&lt;br&gt;with access to:&lt;br&gt;– allied health services where appropriate&lt;br&gt;– palliative care service for patients with locally advanced cancers and metastatic disease&lt;br&gt;– psycho-oncology services where appropriate (psychologist/psychiatrist).</td>
</tr>
<tr>
<td>Colorectal (Colon and Rectal Cancer)</td>
<td>– dietician&lt;br&gt;– general practitioner&lt;br&gt;– medical oncologist&lt;br&gt;– nurse&lt;br&gt;– pathologist&lt;br&gt;– radiation oncologist&lt;br&gt;– radiologist&lt;br&gt;– social worker&lt;br&gt;– surgeon (colorectal surgeon for rectal cancer)&lt;br&gt;with access to:&lt;br&gt;– allied health services (including dietician) where appropriate&lt;br&gt;– stomal therapist prior to surgery&lt;br&gt;– palliative care service for patients with locally advanced cancers and metastatic disease&lt;br&gt;– psycho-oncology services where appropriate (psychologist/psychiatrist).</td>
</tr>
</tbody>
</table>

*Source: Victorian Patient Management Frameworks
<table>
<thead>
<tr>
<th>Cancer Stream</th>
<th>Core disciplines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gynaecological (Ovarian Cancer)</td>
<td>– certified gynaecological oncologist (lead role)</td>
</tr>
<tr>
<td></td>
<td>– general practitioner</td>
</tr>
<tr>
<td></td>
<td>– gynaecologist</td>
</tr>
<tr>
<td></td>
<td>– medical oncologist</td>
</tr>
<tr>
<td></td>
<td>– nurse</td>
</tr>
<tr>
<td></td>
<td>– pathologist with expertise in gynaecological oncology</td>
</tr>
<tr>
<td></td>
<td>– radiation oncologist</td>
</tr>
<tr>
<td></td>
<td>– social worker</td>
</tr>
<tr>
<td></td>
<td>with access to:</td>
</tr>
<tr>
<td></td>
<td>– allied health services where appropriate</td>
</tr>
<tr>
<td></td>
<td>– geneticist and counsellors</td>
</tr>
<tr>
<td></td>
<td>– palliative care services where appropriate</td>
</tr>
<tr>
<td></td>
<td>– pharmacist</td>
</tr>
<tr>
<td></td>
<td>– psycho-oncology services where appropriate (psychologist/psychiatrist)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Head and Neck (Larynx, Pharynx and Oral Cancer)</td>
<td>– diagnostic radiologist</td>
</tr>
<tr>
<td></td>
<td>– dietician</td>
</tr>
<tr>
<td></td>
<td>– general practitioner</td>
</tr>
<tr>
<td></td>
<td>– ENT/HN surgeon</td>
</tr>
<tr>
<td></td>
<td>– medical oncologist</td>
</tr>
<tr>
<td></td>
<td>– nurse</td>
</tr>
<tr>
<td></td>
<td>– radiation oncologist</td>
</tr>
<tr>
<td></td>
<td>– reconstructive surgeon</td>
</tr>
<tr>
<td></td>
<td>– social worker</td>
</tr>
<tr>
<td></td>
<td>– speech pathologist</td>
</tr>
<tr>
<td></td>
<td>with access to:</td>
</tr>
<tr>
<td></td>
<td>– dentist/dental specialist familiar with cancer treatment</td>
</tr>
<tr>
<td></td>
<td>– pathologist with experience in head and neck cancer</td>
</tr>
<tr>
<td></td>
<td>– palliative care service where appropriate</td>
</tr>
<tr>
<td></td>
<td>– psycho-oncology services where appropriate (psychologist/psychiatrist)</td>
</tr>
<tr>
<td></td>
<td>– other allied health services where appropriate</td>
</tr>
</tbody>
</table>
### Multidisciplinary teams in New South Wales: 2006 and 2008

<table>
<thead>
<tr>
<th>Cancer Stream</th>
<th>Core disciplines</th>
</tr>
</thead>
</table>
| Lung (Non-Small Cell Lung Cancer) | - general practitioner  
                                    | - medical oncologist  
                                    | - nurse  
                                    | - pathologist  
                                    | - radiation oncologist  
                                    | - radiologist/imaging specialist  
                                    | - respiratory physician  
                                    | - social worker  
                                    | - thoracic surgeon  
                                    | with access to:  
                                    | - allied health services where appropriate (for example, self-care, rehabilitation, management of symptoms (shortness of breath, cough, nutrition, fatigue, pain)  
                                    | - palliative care service where appropriate  
                                    | - psycho-oncology services where appropriate (psychologist/psychiatrist). |
| Skin (Melanoma)                | - dermatologist  
                                    | - general practitioner  
                                    | - medical oncologist  
                                    | - nurse  
                                    | - pathologist  
                                    | - radiation oncologist  
                                    | - social worker  
                                    | - surgeon  
                                    | with access to:  
                                    | - allied health services where appropriate  
                                    | - palliative care services where appropriate  
<pre><code>                                | - psycho-oncology services where appropriate (psychologist/psychiatrist). |
</code></pre>
<table>
<thead>
<tr>
<th>Cancer Stream</th>
<th>Core disciplines</th>
</tr>
</thead>
</table>
| Genitourinary (Prostate Cancer) | – general practitioner  
– medical oncologist  
– nurse  
– pathologist  
– radiation oncologist  
– radiologist  
– social worker  
– urologist (lead clinician)  
with access to:  
– allied health services where appropriate  
– palliative care services where appropriate  
– psycho-oncology services where appropriate (psychologist/psychiatrist). |
| Genitourinary (Testicular Cancer) | – dietician  
– endoscopist (expertise in endoscopic retrograde cholangiopancreatography +/- endoscopic ultrasound)  
– general practitioner  
– medical oncologist (expertise in gastrointestinal oncology)  
– nurse  
– pathologist (expertise in gastrointestinal pathology)  
– radiation oncologist (expertise in gastrointestinal radiation therapy)  
– radiologist (expertise in hepatopancreatobiliary interventional procedures)  
– social worker  
– surgeon (expertise in hepatopancreatobiliary surgery)  
with access to:  
– allied health services where appropriate  
– palliative care services where appropriate  
– psycho-oncology services where appropriate (psychologist/psychiatrist). |
<table>
<thead>
<tr>
<th>Cancer Stream</th>
<th>Core disciplines</th>
</tr>
</thead>
</table>
| Upper Gastrointestinal (Oesophagogastric Cancer) | – dietician  
– endoscopist (may be the surgeon or gastroenterologist)  
– general practitioner  
– medical oncologist (expertise in oesophagogastric oncology)  
– nurse  
– pathologist (expertise in gastrointestinal pathology)  
– radiation oncologist (expertise in oesophagogastric radiation treatment)  
– radiologist (expertise in oncological radiology)  
– social worker  
– surgeon (expertise in oesophagogastric surgery)  
with access to:  
– allied health services where appropriate  
– palliative care services where appropriate  
– psycho-oncology services where appropriate (psychologist/psychiatrist). |
| Central Nervous System (Malignant Glioma) | – general practitioner  
– medical oncologist or neuro-oncologist  
– neurologist  
– neuropathologist  
– neuroradiologist  
– neurosurgeon  
– nurse  
– palliative care service  
– radiation oncologist  
– social worker  
with access to:  
– allied health services where appropriate (physiotherapy, speech pathology, occupational therapy, dietician and pharmacist)  
– psycho-oncology services where appropriate (psychologist/psychiatrist). |
<table>
<thead>
<tr>
<th>Cancer Stream</th>
<th>Core disciplines</th>
</tr>
</thead>
</table>
| Central Nervous System (Cerebral Metastases)     | – general practitioner  
|                                                  | – medical oncologist  
|                                                  | – neurosurgeon  
|                                                  | – nurse  
|                                                  | – palliative care service  
|                                                  | – pathologist  
|                                                  | – radiologist  
|                                                  | – radiation oncologist  
|                                                  | – social worker  
|                                                  | with access to:  
|                                                  | – allied health services where appropriate (physiotherapy, speech pathology, dietician, occupational therapy).                                                                                                   |
| Haematological (Acute Myeloid Leukaemia)         | – clinical haematologist (adequate experience in the management of acute leukaemia)  
|                                                  | – general practitioner  
|                                                  | – nurse  
|                                                  | – pharmacist  
|                                                  | – social worker,  
|                                                  | with access to:  
|                                                  | – a clinical haematologist expert in stem cell transplantation, to be consulted to enable early consideration and planning for allogeneic transplantation (including unrelated donor transplantation), if appropriate  
|                                                  | – infectious diseases physician, immediately the diagnosis is established  
|                                                  | – allied health services where appropriate (physiotherapist, occupational therapist, dietician)  
|                                                  | – oral medicine specialist (for example, dentist for some patients)  
|                                                  | – palliative care services or pain management specialists where appropriate  
|                                                  | – psycho-oncology services where appropriate (psychologist/psychiatrist). |
## Multidisciplinary teams in New South Wales: 2006 and 2008

<table>
<thead>
<tr>
<th>Cancer Stream</th>
<th>Core disciplines</th>
</tr>
</thead>
</table>
| Haematological (Intermediate Grade Non-Hodgkin Lymphoma) | – general practitioner  
– haematologist/medical oncologist  
– nurse specialist  
– pharmacist  
– radiation oncologist  
– social worker  
– surgeon  
– symptom management specialists, such as palliative care or pain specialists  
  with access to:  
  – allied health services where appropriate (dietician, physiotherapist, occupational therapist)  
  – infectious diseases physician  
  – psycho-oncology services where appropriate (psychologist/psychiatrist). |
| General (Palliative Care)                    | – general practitioner  
– palliative care physician  
– nurse  
– social worker  
– pharmacist  
  with access to:  
  – allied health services where appropriate (dietician, physiotherapist, occupational therapist)  
  – pain specialist  
  – psycho-oncology services where appropriate (psychologist/psychiatrist). |
| General (other)                               | – general practitioner  
– medical oncologist  
– nurse  
– radiation oncologist  
– social worker  
– palliative care service  
  with access to:  
  – allied health services where appropriate (physiotherapy, speech pathology, dietician, occupational therapy)  
  – psycho-oncology services where appropriate (psychologist/psychiatrist). |
Cancer Stream | Core disciplines
--- | ---
Paediatric | – general practitioner
| – medical oncologist
| – nurse
| – radiation oncologist
| – social worker
| – palliative care service
| – pharmacist
| with access to:
| – allied health services where appropriate (dietician, physiotherapist, occupational therapist)
| – psycho-oncology services where appropriate (psychologist/psychiatrist).

NB: Core disciplines for other tumour streams that are not specified in the Victorian Patient Management Frameworks (i.e., Bone and Soft Tissue MDTs, and Neurological MDTs) were developed by the Cancer Institute NSW at the time of the 2006 study, and are listed below.

<table>
<thead>
<tr>
<th>Cancer Stream</th>
<th>Core disciplines</th>
</tr>
</thead>
</table>
| Bone and Soft Tissue Cancer (Sarcoma) | – surgeon
| | – radiation oncologist
| | – medical oncologist
| | – general practitioner
| | – pathologist
| | – radiologist
| | – nurse
| | – social worker |
| Neurological Cancer | – neuro surgeon
| | – radiation oncologist
| | – medical oncologist
| | – neuro oncologist
| | – palliative care service
| | – general practitioner
| | – pathologist
| | – radiologist or neuro radiologist
| | – nurse
| | – social worker
Abbreviations and acronyms

<table>
<thead>
<tr>
<th>AHS</th>
<th>Area Health Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARIA+</td>
<td>Accessibility-Remoteness Index of Australia Plus</td>
</tr>
<tr>
<td>CHW</td>
<td>The Children’s Hospital Westmead</td>
</tr>
<tr>
<td>GI or GIT</td>
<td>Gastrointestinal</td>
</tr>
<tr>
<td>GP</td>
<td>General Practitioner</td>
</tr>
<tr>
<td>GS(AHS)</td>
<td>Greater Southern (Area Health Service)</td>
</tr>
<tr>
<td>GW(AHS)</td>
<td>Greater Western (Area Health Service)</td>
</tr>
<tr>
<td>HNE(AHS)</td>
<td>Hunter New England (Area Health Service)</td>
</tr>
<tr>
<td>MDT</td>
<td>Multidisciplinary Team</td>
</tr>
<tr>
<td>n</td>
<td>Number of participants (sample size or ‘base’)</td>
</tr>
<tr>
<td>NB(O)CC</td>
<td>National Breast (and Ovarian) Cancer Centre</td>
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<td>NSCC(AHS)</td>
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<td>SESI(AHS)</td>
<td>South Eastern Sydney / Illawarra (Area Health Service)</td>
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<td>SW(AHS)</td>
<td>Sydney West (Area Health Service)</td>
</tr>
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</table>

References


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