

Multidisciplinary Teams in Cancer Care: the pros and cons.

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Multidisciplinary care (MDC) is a collaborative and integrated team approach to healthcare and treatment that involves medical as well as allied health professionals. In the resultant multidisciplinary team (MDT) each member draws on their own area of expertise in order to consider all relevant treatment options available to the patient and as a team, develops an individualised treatment plan (NBCC 2005). The reported benefits of MDTs can be broadly grouped into three areas; benefits to the patient, benefits to the practitioners and organisational benefits (Miller 2008). Although MDTs bring to the table many advantages and potential benefits, they also bring certain challenges with them. Such challenges may include increased time demands on already overstretched practitioners, increased cost, 'turf wars' and politics between departments and specialties, and increased complexity of staff function and training (Tripathy 2003). This essay will discuss the evidence surrounding both the benefits and challenges of MDTs. Additionally, it will look at the implementation of MDTs in the Australian context and the unique set of challenges this presents.

A patient newly diagnosed with cancer faces the formidable task of attempting to navigate their way through a plethora of treatment options for their condition (Gabel et al. 1997; Tripathy 2003). Despite the extremely stressful and emotional situation in which they find themselves, it is expected that they be able to make timely and wise decisions concerning their health (Gabel et al. 1997). For many people this is simply overwhelming. To add to the stress of the situation, patients previously had to schedule a multitude of appointments with various specialists depending on the type of cancer with which they had been diagnosed. There was a shift however, in the way that cancer care was managed in the mid 1990s (Tattersall 2006). In the UK the Calman-Hine report (1995) proposed a restructuring of cancer

care services from a generalist model to a specialist model (Haward 2006). This model allowed greater equity in accessing specialist services. A decade ago, it is estimated that less than 20% of cancer patients in the UK were managed by a specialist team, whereas today, more than 80% of cases are managed by a MDT (Fleissig et al. 2006). In Australia a similar scenario was unfolding. The MDC model was recommended by a House of Representatives Report in 1995 as a means to achieving best practice in cancer care (Zorbas et al. 2003). The shift that occurred in the cancer care model meant that patients diagnosed with cancer no longer had to endure the multitude of appointments with various specialists. Instead they could see one practitioner, such as their GP or an oncologist, and know that their case would be reviewed by the rest of the MDT with their respective expertise. The new cancer care model effectively created a 'one-stop-shop' for cancer care (Zorbas et al. 2003).

A MDT is usually comprised of surgeons, a medical oncologist for chemotherapy, a clinical oncologist for radiotherapy, radiology and pathology for diagnostics, and a specialist nurse. Additionally, it may include the general practitioner (GP), psychosocial, allied and rehabilitative health professionals, dieticians, palliative care specialists, and depending on the type of cancer, genetic/risk counselling or plastic and reconstructive surgery (Tripathy 2003). Other elements that studies have shown to be an important part of the team are a research nurse to facilitate recruitment of patients into clinical trials, which will eventually lead to new and improved treatments (Whelan et al. 2006). As well as a designated meeting co-ordinator, to organise and facilitate the meeting and exchange of information, such as lab results and scans, prior to the meeting taking place (Whelan et al. 2006).

MDTs have been implemented as the predominant model of cancer care in many countries due to the numerous purported benefits associated with them (Miller 2008; Zorbas et al. 2003). These benefits can be categorised into three areas: Benefits to the patient, benefits to the practitioner, and the

organisational or system benefits (Miller 2008). Benefits to the patient include the obvious ones of a potential reduction in mortality, improved patient outcomes and a greater quality of life (Gillis and Hole 1996; Miller 2008; Ramesh et al. 2007; Ruhstaller et al. 2006; Rummans et al. 2006; Seek and Hogle 2007; Zorbas et al. 2003). A US study investigating the effect of MDC on breast cancer patients found that the treatment recommended by a reviewing MDT differed from the individual physician's recommendation in 43% of cases (Chang et al. 2001). Moreover, 41% of this differing 43%, were recommended for breast-conservation treatment rather than mastectomy (Chang et al. 2001). The difference in quality of life and psychosocial wellbeing between breast-conservation treatment and mastectomy cannot be underestimated for a woman. A study investigating the interpretation of radiological images and pathological results for breast cancers found that re-evaluation by a MDT resulted in a change of interpretation of images in 45% of patients studied (Newman et al. 2006). This in turn resulted in a change in surgical management in 11% of the cases. A review of the pathology involved resulted in a change for 29%, with 9% of these being a surgical management change. Finally, 34% of patients studied had changes in surgical management recommended through MDT discussions alone, with no change to the interpretation of results (Newman et al. 2006). The study by Newman et al. (2006) exemplified the usefulness of a MDT review in recommending treatment options to patients, especially when they are faced with a difficult decision regarding their treatment. The MDT decision-making process leads to more robust decisions and greater consistency in treatment options, thereby reducing the variability in decisions made by practitioners acting independently (Ruhstaller et al. 2006).

Other benefits to the patient are the peace of mind and confidence that comes from knowing they are being looked after by a team of experts and professionals, and that their treatment options are not just coming from one individual's knowledge and experience (Carter et al. 2003). The level of comfort

derived from this leads to greater patient satisfaction with their treatment. There is a large increase in the cost effectiveness of MDC for the patient or other third-party payers, as well as greater time effectiveness for the patient (Miller 2008). MDTs reduce the need for patients to see specialists themselves, as their case is being reviewed by the specialist via the MDTM. This means a single site of care, no lengthy waiting or referral times for specialists, and greater access to specialists for many people (Carter et al. 2003). As well, there is a more timely referral to psychosocial and support services for the patient (Miller 2008). Through a MDT, there is a greater possibility for the patient to be considered or recruited into clinical trials (Fleissig et al. 2006; Ruhstaller et al. 2006). A research nurse is often a part of the MDT as clinical trials are crucially important for the process of bringing new drugs and therapies onto the market (Kim and Toge 2004; Whelan et al. 2006).

There are also many benefits of MDTs for the practitioner. One of the main benefits cited is the professional development and training opportunities that MDTs generate for the healthcare practitioner (Miller 2008). The MDTM allows for communication, collaboration and the flow and exchange of information and ideas between practitioners from different specialties, which can in turn lead to a 'cross-fertilisation' of ideas relevant to other cases or situations (Carter et al. 2003; Ruhstaller et al. 2006). MDTs instil a sense of partnership and camaraderie between practitioners both in terms of patient care, and general professional support that can be of immense value in difficult circumstances, such as the management of complex cases, clinical errors or complaints (Carter et al. 2003; Crawford and Price 2003; Fleissig et al. 2006). Members of a MDT learn from each other, adding to their professional development (Crawford and Price 2003). They gain an understanding of what various other different specialties can offer in terms of patient care, leading to more well-rounded and knowledgeable healthcare professionals who know their own abilities and limitations and also those of their peers (Crawford and Price 2003; Ruhstaller et al. 2006). Studies have also shown greater job

satisfaction and psychological well-being amongst MDT members (Fleissig et al. 2006; Seek and Hogle 2007).

MDTMs offer a prime opportunity for junior doctors and medical students to learn more about their own specialty and how it fits into the broader patient-care model (Ruhstaller et al. 2006; Sharma et al. 2009; Tattersall 2006). A study found 75% of surgeons in the UK, who participated in MDTMs, thought there was an educational role for trainees in their meetings (Macaskill et al. 2006). Other studies conducted on MDTs have also highlighted the valuable educational and teaching component of the meetings, especially when medical students or junior doctors are set tasks to be completed for each meeting, which may involve being the advocate for the patient's wishes at the meeting (Jefferies and Chan 2004; Sharma et al. 2009). An introduction to the psychosocial aspects of cancer care and the supportive services required by cancer patients can also be achieved through the MDTM as medical students become acquainted with other team members such as psychologists, social workers, physiotherapists, palliative care practitioners and specialist nurses (Blanchard and Ruckdeschel 1986; Mann et al. 1996). Medical students are usually only able to observe a cancer patient through the eyes of one specialist, so the opportunity of attending a MDTM and observing cancer care in its full context, as a MDT effort, should not be missed (Fukuchi et al. 2000; Lebovits et al. 1984). Many medical schools have adopted the Problem Based Learning (PBL) model and as such, medical students are used to working in and learning from a collaborative team environment, where participants come from different backgrounds with differing levels of knowledge and expertise. In the PBL context the group approach brings about a synergy of knowledge that enhances the current knowledge of the individuals and also leads group knowledge to a greater level. Many parallels between the PBL model and the MDT can be drawn, and medical students, being familiar with the model can gain a lot from the exposure to the MDT and even contribute.

The MDT approach also offers organisational or system benefits, such as the introduction of treatment protocols in line with best-practice and evidence-based guidelines, as well as improved auditing processes, and resource management efficiency (Miller 2008). MDC allows for resource management and pooling that minimises waste and reduces competition between specialties for available resources. Resources pooled include informatics, biostatistics, equipment, staff and space (Miller 2008).

MDC initially emerged out of a desire to address various aspects of the healthcare system in relation to cancer care (Miller 2008). In particular, access to clinical care, fragmented and varying levels of care, long waiting lists for specialist appointments, disjointed referral lists, lack of coordination, increasing patient dissatisfaction with cancer services, and wide variation in individual treatment across different practitioners (Miller 2008). Although the introduction of MDC improved and even solved some of these issues, it has come with its own set of challenges.

One of the major challenges faced by MDC is that MDTs are extremely resource and time-intensive for the specialists involved. This is often time that is outside of normal working hours, as MDTMs will be held early morning or over the lunch period (Kane et al. 2007). MDTMs put a strain on the already overstretched health workforce, and this is especially evident in the specialties where there is already a workforce shortage, such as oncology, radiology and pathology (Chetty 2005; Fleissig et al. 2006; Hortobagyi 2007; Hunt 2005; Kenny and Andrews 2007; Kenny and Lau 2008). The number of MDTMs requiring input from pathology and radiology is between two to eight per day, and totals in excess of 50 meetings per month (Kane et al. 2007). Each meeting hour requires 2.4 pathology hours and 2 radiology hours in preparation time (Kane et al. 2007). There has been an increase of 50% over two years in the number of MDTMs per month (Kane et al. 2007). However, despite the shortage of radiologists and pathologists and the time required for their input into the meeting, a UK study of

MDTMs found 90-95% of pathologists and radiologists were present for the whole meeting. It was clinical oncologists and medical oncologists that were only present for the whole meeting 70% and 44.1% of the time respectively (Macaskill et al. 2006).

Although MDC is very cost effective to the patient (Chang 1998), it is not necessarily cost effective to healthcare providers due to the increased staff time and resources necessary to run MDTMs (Tripathy 2003). The increased complexity of staff function and training further adds to the cost of providing healthcare (Miller 2008; Tripathy 2003). The whole purpose of the MDT model is to provide patient-focussed care, however on-going 'turf wars' between specialties and within specialties switches the focus away from the patient and towards staff politics, which is an undesirable effect (Miller 2008; Seek and Hogle 2007; Tripathy 2003). Recent discussion in the literature regarding the medicolegal aspect of MDC has brought forth another potential challenge (Sidhom and Poulsen 2008; Studdert 2008). The question is one of who would be found liable if a case of negligence was brought before the courts? If a practitioner had no direct contact with the patient and opposed the consensus recommendation for treatment, would they still be equally liable in the eyes of the law? A recent workshop held in Australia produced a consensus view that health professionals who participate in a MDTM carry responsibility for their actions, and a duty of care results, even if they have no contact with the patient (Evans et al. 2008). Precedent in this area is very limited as the MDT model has only been around for just over a decade, however the scarcity of precedent itself is indicative of a low level of medicolegal risk (Evans et al. 2008; Studdert 2008).

The MDT model has been the model of choice for cancer care in Australia for over a decade now, however its implementation in Australia presents a unique set of issues due to the geographical challenge of immense distances between cities, the mix of private versus public health delivery and

significant regional variations in delivery (Harrison et al. 2008; NBCC 2005; Zorbas et al. 2003). Realising that Australia needed a more flexible MDT model than the UK, for instance, the National Breast Cancer Centre (NBCC) developed a set of guiding principles to facilitate implementation of MDTs, allowing for cancer-type and regional provision of service variations (NBCC 2005). The five Principles of Multidisciplinary Care are: a team approach; communication among team members; access to the full therapeutic range of treatment for the patient, regardless of the size of the healthcare provider or remoteness of locality; quality care in line with best practice guidelines; and involvement of the patient in decisions (NBCC 2005). Notably the Principles include the GP as part of the core team, as it is recognised that the GP plays a central role in diagnosis, referral, treatment co-ordination, and continuity of care, as well as providing information and support for the patient and their family (NBCC 2005). Especially in a rural or remote location, the GP may be the only health professional that the patient has contact with on a regular basis, so they are well placed to co-ordinate MDC for the patient and are pivotal in ongoing support (Mitchell et al. 2002; NBCC 2005). Despite this, a recent Australian study found that surgeons did not typically consider the GP or patient to be part of the treatment team (Marsh et al. 2008).

Up to 30% of women in Australia diagnosed with breast cancer live in a rural or remote location, but the inclusion of allied health and psychosocial health professionals in the MDT is less frequent in rural areas (Marsh et al. 2008; Zorbas et al. 2003). To exemplify the problem of distance, even for Darwin, a medium-sized capital city, the closest radiation oncology service is located in Adelaide, over 3000km away (Zorbas et al. 2003). Attempts to overcome the 'tyranny of distance' through the introduction of teleconferencing and videoconferencing of MDTMs has been implemented, with videoconferencing being the preferred option to teleconferencing (Delaney et al. 2004; Harrison et al. 2008; Marsh et al. 2008). However despite the large distances involved in the Australian context, and the other challenges

involved in MDTs, such as the necessary fusion of private and public health services for the conduct of the meeting, the majority of healthcare practitioners involved in MDTs believe they are effective (Harrison et al. 2008).

Access to large amounts of medical information through the internet has created a sophisticated and discerning patient who wants to partake in their treatment decisions (Chang 1998). As more cancer therapies come onto the market, patients are wanting more MDC that is individualised and tailored for their particular set of circumstances (Chang 1998; Ruhstaller et al. 2006). They have high expectations of medical care and this need is best met through the MDT, where each member can draw on their own expertise to create a synergy of knowledge, whereby more robust decisions can be made (Harrison et al. 2008).

In conclusion MDC ensures that a patient receives input from all concerned disciplines with respect to their treatment plan. The patient reaps the benefit of a team of experts with no additional time investment on their part, and their cancer care effectively becomes a 'one-stop-shop'. Although this is a very appealing model for the patient, it is an extremely resource and time intensive model for the practitioner, especially during the initial implementation period of the MDT. Healthcare providers and practitioners need to continue to work together to iron out some of the challenges that MDC presents. It represents best practice in cancer care for the patient, but there are many additional benefits to be gained by the team members in terms of professional development, as well as organisationally. The apparent benefits of the MDT model far outweigh its associated challenges, and as such, the model has now been introduced to patient care for other chronic diseases such as diabetes and inflammatory bowel disease (Nicholls 2007).

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