

What Makes a Multidisciplinary Team (MDT), and How Do MDTs Work?

Bridget Kane¹, Kristina Groth², Pieter Toussaint³

¹Trinity College Dublin, ²Karolinska Hospital Stockholm, ³NTNU, Trondheim.

kaneb@tcd.ie

kicki@csc.kth.se

pieter@idi.ntnu.no

Abstract. We report on a comparison study of multidisciplinary team constitution and practices in three hospitals: one in each of three jurisdictions. Similarities and differences in day-to-day practices exist and we identify how technology can be employed to improve the person-to-person interaction, collaboration and the use of information, particularly image data. We identify support for MDT work is part of infrastructure, and we further identify the need for a framework for evaluation of this infrastructure that will take account of patient benefits from improved technologies being applied in the work setting.

Introduction

A comparison between three studies of multidisciplinary team (MDT) practices is described that was conducted in teaching hospitals in Dublin, Stockholm and Trondheim. The comparison highlights the similarities and differences in practices found, all within the description of the term ‘Multidisciplinary Team’.

Our aim is to identify commonalities and differences so that we can inform the model of MDT working and help to identify areas where communication technologies might be further employed in providing improved patient services. While we talk of MDT meetings in general, we are using the examples of MDTs at Karolinska University Hospital in Sweden, St. James’s Hospital in Dublin, and at St. Olav’s hospital in Trondheim for comparison purposes.

Background

Over recent years there has been significant growth in multidisciplinary team working (Ruhstaller et al., 2006), because of increasing specialisation, advances in medical technologies, including teleconferencing, and recommendations by respected agencies (Rasmussen and Bulow, 2005). These developments have led to a need for highly specialised health professionals to engage in intense collaboration to provide effective services (Hall and Weaver, 2001, Arnaudova and Jakubowski, 2005). Building multi-disciplinary (or interdisciplinary) teams to address the complex problems arising in patient care can reduce health care system error (Øvretveit, 1999). The practice of having MDTMs is becoming increasingly necessary and MDTs and their meetings now occupy a central role in developed health systems (Houssami and Sainsbury, 2006).

It is accepted that patients experience improved outcomes when managed by an MDT and some studies demonstrate these benefits (Birchall et al., 2004). MDT working is now advised as a better way of organising health services for patients, particularly cancer patients (Wright et al., 2007). MDT practice has become widespread, particularly in the United Kingdom, and MDTMs are now incorporated as a standard into cancer patient care pathways in Europe as well as in Australia and North America despite the view that evidence is weak and that more research is needed (Taylor et al., 2010).

MDTMs are being advocated as the standard of care for a wider range of illnesses (Jefford et al., 2007), yet a variety of practices are described as MDT working, making it difficult to assess activity or make direct comparisons. While Øvretveit proposes MDTs are compared on degree of integration; extent of collective responsibility; membership; client pathway and decision-making; and management structures, we also examine roles and how they interact, as well as the use of technology.

Method

Ethnographically informed studies were conducted independently in Dublin at St. James's Hospital (SJH) and Karolinska Hospital (KH) in Stockholm. A further short study was conducted at St. Olav's Hospital (SOH) in Trondheim. All of these hospitals are large teaching hospitals. Findings from each of the centres were compared and the main results with respect to information and use of technology are reported here. The studies at SJH and KH were long-term studies; both utilised questionnaires, observation of work processes, the use of artefacts and team meeting practices. The study at SOH involved 3 interviews, the review of artefacts and participant observations at approximately 4 hours of meetings only. In addition, workshops were held with MDTM participants in KH, while in SJH some exercises were undertaken as part of the study.

Findings

Terms used to describe multidisciplinary teams (MDTs) can be confusing, and include multidisciplinary, interdisciplinary, tumour boards and cancer teams. Roles and specialities involved are similar, and all of the MDTs examined undertake two major decisions: clarifying diagnosis (at that point in time) and treatment planning in the context of the established facts (including the patient's preferences). Table 2 lists some of the variables we have examined with regard to MDTs in the three hospitals.

Feature	No. of MDTs Studied	Feature Present	Comment
Room Layout	6	6	All 6 rooms are different in layout and technology installations.
PC	6	6	2/6 locations have 1 PC. Others use 2-3 PCs
Videoconferencing	6	3	Unavailable for 1. Poor quality in 1 case, not required by another. Not used by all.
Oncology Role	6	>12	Single Role in Scandinavia. Med Onc and Rad Onc separate roles in Eire. Some MDTs require 2 of speciality to be present.
Pathologist + Radiologist roles	6	5	Considered unnecessary by 1
Radiology Images	6	4	Considered unnecessary by 1. Another has no facility.
Pathology Images	6	2.5	Considered unnecessary by 1. Another has no facility. Another does not have time, but examines images in some cases.
Patient Present	6	1	Wide variation in opinion on benefit, if any.

We found a wide variation in MDT practices and we ask “how do we know if it matters?” We suggest that frameworks need to be developed to evaluate our infrastructures in order to demonstrate benefits in patient care in the context of differing technological support. We believe to have knowledge to advise on technological use in the MDT setting, but none of the sites utilise a system that would meet all the requirements identified to support collaboration and communication among MDTs. We argue that until we can demonstrate real patient benefit from implementing full technological requirements we will not achieve full technological support in MDT settings.

In conclusion, the main work of an MDT is the coordination and communication of patient information, whatever the MDT constitution and local practice. Improving how MDTs collaborate and communicate information has the potential to reduce healthcare system error (Kohn et al., 2000). Developing technologies to enhance interaction, multimedia information sharing and collaboration will have significant impact on patient outcomes. Furthermore developing interfaces by which patients can interact will empower patients and carers to interact and collaborate with MDT professionals and contribute to improved outcomes.

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