Title: Increased nurse involvement in MDTMs: enhancing patient-centred decision-making in cancer care?

ABSTRACT

Although multidisciplinary team meetings (MDTMs) play a large role in cancer care and are designed to facilitate multidisciplinary collaboration, nurses are often not actively involved in the discussions. With this paper we aim to define the determinants that can increase the role of nurses in patient-centred decision-making in MDTMs. A qualitative multiple case study design with cross case comparison was used. Data collection involved 50 structured non-participant observations, 41 semi-structured interviews with participants of 12 different tumour groups and document analysis of policy documents, hospital protocols and information brochures. Three different groups of determinants are distinguished: determinants of current nurse involvement, future nurse involvement and input of psychosocial information in the MDTMs. This study concludes that there is a need for increased involvement of nurses, especially in complex cases.

Keywords:
cancer, nursing, multidisciplinary team meeting, hospital
Background

Multidisciplinary team meetings (MDTM) play a large role in cancer care around the world and are known for increasing multidisciplinary collaboration, ensuring scientifically based and interdisciplinary recommendations for oncological treatments and improved patient’s quality of life and treatment adherence (B. Lamb, Sevdalis, Benn, Vincent, & Green, 2013; Rosell, Alexandersson, Hagberg, & Nilbert, 2018). However, due to inefficient organization and time management MDTMs do not benefit from input of all disciplines present at the MDTM meetings (B. W. Lamb, Brown, et al., 2011; Raine et al., 2014). Consequently, the preferences and psychosocial needs of the patient are rarely discussed during the meetings (Horlait, Baes, Dhaene, Van Belle, & Leys, 2019; Jalil, Ahmed, Green, & Sevdalis, 2013; B. W. Lamb, Brown, et al., 2011). Patient centred care (PCC) is widely accepted as philosophy and practice that underpins quality of care (Pulvirenti, McMillan, & Lawn, 2014). The Institute of Medicine defines PCC as “providing care that is respectful of, and responsive to, individual patient preferences, needs and values, and ensuring that patient values guide all clinical decisions” (IOM, 2001). What is more, decisions that are made about care of the patient, should always be in consideration of his or her preferences, values and personal circumstances (Picker institute 1993). The Calman-Hine report (1995) recommends that “cancer care should be patient centred and should take account of patients’, families’ and carers’ views and preferences” (Cancer, Calman, & Hine, 1995). A concept that lays close to patient-centred care is that of person-centred care, where there is more focus on the person who besides the medical perspective has certain needs and preferences (Eklund et al., 2019). A framework that combines the concepts of person-centred care and nursing is the person-centred nursing framework by McCormack and McCance (2006). The framework comprises four constructs to enhance person-centred nursing: prerequisites, which focus on the attributes of the nurse, the care environment, which focuses on the context in which care is delivered, person-centred processes, which focus on
delivering care through the range of activities and expected outcomes which are the results of effective person-centred nursing. To reach effective person-centred care, the perquisites must first be considered and the necessary care environment must be guaranteed through the care processes (McCormack & McCance, 2006).

Previous research has pointed out that during MDTMs, health care professionals who know the patient and his or her preferences, situation and values (GP’s or psychologists or nurses) are not always present and if they are, they do not engage or speak up during the MDTM (Horlait et al., 2019; Jalil et al., 2013; B. W. Lamb, Brown, et al., 2011). However, these healthcare practitioners, usually nurses, could potentially act as a spokesperson on behalf of the patient.

In Belgium, MDTMs in oncology are formally regulated and financed as Multidisciplinary Oncological Consultations (MOCs) since 2003. The purpose of the MOCs is to discuss the patient case and develop a treatment plan. Due to organizational convenience, consultations are clustered in a collective meeting instead of single consultations per patient case. The MOCs must be chaired by a medical coordinator with participation of at least four different medical specialists who belong to the hospital staff and one extra-muros participant. Non-physician oncology staff members (i.e. psychologists, nurses, social workers and data managers who register data for the national cancer centre) are not legally bound to participate in the MOC. The MOC includes a financial incentive for participating physicians paid by the National Institute for Health and Disability Insurance (NIHDI) (Dubois et al., 2018). The reimbursement of nurses often happens based on the number of MOCs in the hospital on a yearly basis.

Nurses who attend MOCs are often specialist nurses, nurse consultants or oncocoaches. Advanced practice nursing is commonly used to classify nurse practitioner, nurse specialist, nurse consultant, clinical nurse, oncological nurse or head nurse (O. Cook, McIntyre, &
Recoche, 2015; Giles, Parker, & Mitchell, 2014), but a consensus on terminology seems to be missing (Dowling, Beauchesne, Farrelly, & Murphy, 2013; Offredy, 2000; Pulcini, Jelic, Gul, & Loke, 2010). In 2020, an annotation was published by the Belgian Association of Nursing in cooperation with several Flemish universities proposing to define the distinct roles of specialist nurses and nurse consultants (KU Leuven, 2020). According to the report, nurse specialists are nurses with an academic education that hold an expert role within a specific domain and are mostly involved in direct patient care as clinical expert and clinician. They work on the organizational level as communicator, clinical and professional leader and function as a gate keeper of quality of care. Nurse consultants work on the level of the target group (for example adults, elderly) and function as a consultant of guidelines for complex care situations within the target group. Some hospitals in Belgium have so called oncocoaches, a position initiated by individual hospitals, where the oncocoach is a nurse that functions as the contact person for the patient and sometimes prepares the cases for the MOC meeting. In Belgium, MDTMs in oncology are formally regulated and financed as MOCs since 2003. The purpose of the MOCs is to discuss the patient case and develop a treatment plan. Due to organizational convenience, consultations are clustered in a collective meeting instead of single consultations per patient case. The MOCs must be chaired by a medical coordinator with participation of at least four different medical specialists who belong to the hospital staff and one extra-muros participant. Non-physician oncology staff members (i.e. psychologists, nurses, social workers and data managers who register data for the national cancer centre) are not legally bound to participate in the MOC.

The MOC includes a financial incentive for participating physicians paid by the National Institute for Health and Disability Insurance (NIHDI) (Dubois et al., 2018). The reimbursement of nurses often happens based on the number of MOCs in the hospital on a yearly basis.
As nurses play an important role in oncology care, they are often the contact person of the patient and as such can provide valuable input on psychosocial factors in MDTMs (O. Cook et al., 2015; Kobleder, Mayer, Gehrig, & Senn, 2017) there is a need to optimize the current MDTM in terms of 1) defining the role that nurses can play in MDTM meetings to enhance patient-centred decision-making and 2) clarifying which determinants are necessary to increase the input of psychosocial factors in MDTMs.

By building further on the foundations of patient centred decision-making, the aim of this study is to define the determinants that can increase the role of nurses in patient-centred clinical decision-making in MDTMs.

**Methods**

**Study design**

A qualitative multiple case study design with cross case comparison was used. According to Yin (2009) the researcher can gain insight into complex contemporary phenomena through case study design. By using this design it is possible to study real life situations with relevant contextual conditions over which the investigator has little or no control (Eisenhardt, 1989; Verleye, 2019; Yin, 2009).

**Selection**

Sampling for this study has been done purposively as done often in qualitative research, as a particular phenomenon is studied and the participants have to considered ‘fit for the purpose’ (Bryant, 2003; Cunningham & Carmichael, 2017; Glaser & Holton, 2007). For this study, two hospitals in Flanders, Belgium were included, one large university hospital with 1000 beds and one large regional hospital with 1369 beds.
Data collection

In total 12 tumour groups were observed during several meetings in the two different hospitals. The tumour groups that were observed are digestive-, uro-, gynecological-, pneumo-, lung-, bone- and soft tissue-, endocrinology, head and neck-, liver-, neurological- and thoracic-oncology. The data collection involved 50 structured non-participant observations, 41 semi-structured interviews with participants of the different tumour groups and document analysis of policy documents, hospital protocols and information brochures. During the observations an insight in communication patterns, interactions between the different participants of the MOC and behaviour was gained using a predesigned tool; the Multidisciplinary Team-Observational Assessment Rating Scale (MDT-OARS) (Taylor, Atkins, Richardson, Tarrant, & Ramirez, 2012). The tool contains 18 aspects of an effective MDTM that can be observed (Taylor et al., 2012).

For the interviews the existing criteria of The Characteristics of an Effective Multidisciplinary Team (NCAT, 2010) were used. As characteristics such as teamworking and culture, patient-centred decision-making and meeting organisation and logistics are important in the effective functioning of MDTMs, interview questions were based on the NCAT. In 2009, the NHS developed the characteristics of an Effective Multidisciplinary Team. The characteristics are divided into 5 categories: the team (membership, attendance, leadership, team working & culture, personal development), infrastructure for meetings (physical environment & technology and equipment), meeting organisation and logistics (scheduling, meeting preparation, organisation/administration & post-meeting coordination), patient-centred clinical decision-making (who to discuss, patient-centred care, clinical decision-making process) and team governance (organisational support, clinical governance). According to the characteristics, an effective MDT working should result in continuity of care, improved equality of outcomes, promotion of good working relationships between staff and information
and support on the level of the patient (NCAT, 2010). Table 1 contains an overview of the number of observations and interviews per MOC.

Analyses

Observations and interviews were transcribed. Transcriptions were imported and coded manually in Nvivo (version 11) and placed in an Nvivo-Tree node, as the Nvivo-Tree node was based on the categories of the NCAT (2010). Data were triangulated between observations, interviews and document analysis. For the cross case comparison, data from the twelve cases were synthesized and compared after which it was possible to create three different categories of determinants of nurse involvement in MDTMs: current involvement of nurses in the MOC, future nurse involvement and future input of psychosocial factors, upon which further cross case comparison was based.
**Ethical considerations**

This study was approved by the Ethical Committee of Ghent University Hospital. Written consent of all participants of the observations and interviews was obtained through an informed consent form at the start of data collection.

**Results**

The caseload in the MOC meetings is often high and the time of the meetings regularly extend beyond the original planning, resulting in a higher overall workload for participants as time is lost for other tasks.

In table two, the tumour groups were categorized into three themes, namely: the current involvement of nurses in the MOC, determinants of nurse involvement and determinants of input of psychosocial factors in the MOC. The determinants of nurse involvement differed per tumour group with some enjoying high involvement of nurses during the MOC while in other MOCs there was no involvement of nurses at all.

-------------------
Insert Table 3 here
-------------------
Current involvement of nurses in the MOC

As shown in table 2, there is no active involvement of nurse consultants during observations in hospital A MOCs 1 until 4. The nurse consultants took place on the second row in the meeting room and primarily took notes about information that applied to their patients. However, nurse consultants in hospital A have a leading role in a so called ‘multidisciplinary ward meeting’ (called MDO) between physicians, psychologists, dietitians and the social services in which psychosocial factors of the patients are discussed. This meeting takes place on a weekly basis at the department after the MOC has taken place. The points of discussions are the feasibility of the treatment plan developed by the MOC for the patients. The psychosocial aspects of the patient’s treatment plan play a large role in this deliberation.

“Next to the MOC there are also the MDO meetings, in which psychosocial factors are discussed more. This meeting is to deliberate within the team and where a nurse consultant plays the leading role” (nurse consultant, digestive MOC).

Oncological nurses play a key role in MOC 5 (bone and soft-tissue). They actively contribute with information about the patient’s wishes and opinions and help with administrative tasks such document distribution and taking notes. The oncological nurses of this tumour group are present at patient consultations of the treating physicians, they are aware of the needs and preferences of patients and therefore can play an active role in MDTM although, nurse consultants are not always present in this MDTM due to time management issues.

“When there is a need for psychosocial information of the patient, I will always try to contribute to the discussions” (oncological nurse, bone and soft tissue MOC).

In MOC 6, nurses are rarely present however as mentioned in interviews, this would be desired by the MOC participants:

“As the workload of the physicians is high, an extra staff member to help with the coordination of the MOC meeting would be desired. I think an oncological nurse would be suited for this role” (MOC chair, endocrinology MOC).
In MOC 7, there is a nurse consultant present in the meetings who actively contributes information on psychosocial and psychological matters when required. The team takes this advice into account in the decision-making process. All participants of the MOC agree that the contribution of nurse is essential in the team discussion and the information adds to the final decision.

“The contribution of the nurse is important during the MOC, especially when this information is needed during more complex cases” (surgeon, head- and neck tumour MOC).

A nurse consultant is not always present in MOC 8. Out of the interviews and observations, it did not become clear why this is case.

The nurse consultant that attends MOC 9 mostly takes notes as there is a meeting between the physicians, the nurses of the department, the nurse consultants, nutritionists, psychologists, the palliative support team and the social service after the MOC ends, to discuss what information of the MOC is relevant for their patients. One interviewee expressed that it could be interesting if nurses contribute more to the discussions of the MOC.

“When nurses or the GP are not present in the meeting you lose information about patient preferences, and you cannot interpret personal circumstances of the patient. The result is that you start looking at every patient with a standard routine. Where the focus will be more on the medical aspects instead of psychosocial aspects. You don’t know whether a patient will be able to handle the treatment etcetera” (medical oncologist, digestive MOC).

For MOC 10, nurse consultants do not attend the MOC after some issues with attendance in the past that were not specified further. Although interviewees expressed the desire to include nurses in future MOCs.

In MOC 11 both a nurse consultant and a head nurse radiotherapy attend the meeting. The nurse consultant has a strong influence in the meeting where she expresses her opinion and she has a prominent role when psychosocial factors such as the patient’s wishes and opinions
are being discussed. She also assists with practical matters such as planning follow up appointments with the physicians and adding appointments in the common calendar on her computer. In the follow up of the MOC she holds a prominent role in discussing the MOC decisions with the patients.

There is a less prominent role for the nurse consultant in MOC 12. The nurse observes the MOC meeting and takes notes in the background. Interviewees explain that the thoracic MOC is very theoretical and the role of the nurse becomes more prominent after the MOC has taken place.

**Determinants for future involvement of nurses in the MOC**

As for determinants that could increase involvements of nurses in the MOC, participants of tumour groups one until four expressed that those who need to contribute to the MOC, currently do so. Although one nurse of MOC three explains that there is currently little attention given to psychosocial information of patients.

“I think there is too little attention for psychosocial aspects and the MOC becomes mainly a medical meeting. I think it is very important to discuss psychosocial factors in future meetings to determine the right treatment plan for the patient.” (nurse consultant, gyneco-oncology MOC).

In MOC four, one interview respondent expressed the need for making a distinction between clear cut and complex cases to determine when input of nurses is needed.

“We are thinking about making a distinction between clear cut and complex cases. If the case is really clear cut, you need less time to discuss the case and for instance less input is needed of nurses. This way, you have more time for complex cases, in which more input of different disciplines is needed” (pneumo-oncologist, pneumo-oncology MOC).

In MOC 6, the presence of the nurse is desired mainly for taking up administrative tasks. However, the amount of patient cases that are being discussed are too low for the reimbursement
of the nurse. Hence, the absence of the nurse in this MOC is caused by a policy issue of the reimbursement rules.

“As physicians we have a high workload. It would be helpful to have one extra staff member for coordinating the functioning of the MOC, this role could be filled by the oncological nurse, for example” (radiologist, endocrinology MOC).

In MOC 9, the input of the nurse is said to be essential for the group discussions and it is seen as a disadvantage that the nurse is present but does not actively contribute.

“A second disadvantage is that although nurses are present in the meeting, they do not contribute a lot while this information is needed for the discussions. This is for instance something that you could facilitate more in multidisciplinary meetings at the department level because there will be more time.” (medical oncologist, digestive oncology MOC).

In MOC 10, where nurses are not present, one interviewee expressed the need for a nurse specialist to take over certain tasks in the MOC. A practical issue is that nurse specialists do not always have access to software due to data privacy issues with information that is coming from other hospitals (i.e., a ehealth platform through which care professionals of the hospitals can access the different patient files). If nurses could have access to the software, they could facilitate better communication with the treating physician. Hence, the absence of nurses in this MOC is due to organizational problems.

In all other MOCs there was no further information on the determinants that could enhance the involvement of nurses in the MOC, either because the nurse was already actively involved in the discussions of the MOC, or was not present in the MOC at all. During the interviews and observations it did not become clear if there was a desire to involve nurses in the future MOCs.
Determinants of input on psychosocial factors in the MOC

In MOCs 1 until 4, the sharing of psychosocial information is currently secondary to the medical aspects that are being discussed. However, the presence of a nurse or GP was said to be a crucial factor for increasing input on psychosocial factors in the MOC. The GP can not be present due to the need for relocation and the timeslot of the MOC’s.

“One of the things that is still an issue, is the absence of the GP. We are already discussing this for years on how we will be able to improve this.” (medical oncologist, digestive MOC).

One interview respondent also expresses that the presence of the treating physician is essential for the input of psychosocial factors:

“The presence of treating physician is essential, otherwise the patient shouldn't be discussed at the MOC” (pneumo oncologist, pneumo-oncology MOC).

In MOC 8, the presence of a psychologist was said to be essential for the contribution on psychosocial factors, mainly for transplant patients. If the psychologist is not present in the MOC, less psychosocial factors are being discussed. The cases are often prepared by medical students and interviewees think that because of that reason, there is a stronger focus on the purely medical information over the psychosocial information.

“Cases are prepared by medical students and they often do not have all information about a case, this results in a medical and technical way of thinking during case discussions.” (oncologist, liver MOC).

In MOC 9, psychosocial factors are often discussed in meetings between psychologists, nurses and dieticians before the MOC takes place but not during the MOC itself.

For MOC 10, one interviewee expresses that is important to keep an eye out for the purpose of the meetings and the danger of it becoming too theoretical:

“I think that the purpose of the MOC is to create a helicopter view and it’s often a reality check. There is also danger in that, that the MOC will become too theoretical and it is always important to discuss decisions or advices with the patient. Providing care but keeping in mind
the human aspects of care as well, that is the most important” (neuro-surgeon, neuro-oncology MOC).

Discussion

The observed meetings do not follow a specific structure although efficient time management and a structured approach can contribute to an optimal time management (Alcantara et al., 2014; B. W. Lamb, Allchorne, Sevdalis, Vincent, & Green, 2011).

Findings suggest that in three of the twelve tumour groups included in this study, nurses actively contributed to MOC discussions. In these three MOCs, nurses acted as spokespersons for patients, added relevant psychosocial information to case discussions and had a prominent role in the final decision of the treatment plan. Indeed, literature repeatedly points out that nurses are the right profession to take up this role (Chirgwin et al., 2010; Wallace, 2017). In these cases, interviews confirmed that other team members of the MOC agreed that this role of the nurse was necessary in order to have fruitful discussions.

In seven of the twelve observed cases nurses were present but did not actively contribute to the discussions and mainly had observatory roles, making notes or acting as administrative support for the meetings. These findings are in line with literature (B. W. Lamb, Allchorne, et al., 2011; Lanceley, Savage, Menon, & Jacobs, 2008; Raine et al., 2014). On determinants that can increase nurse involvement in MOCs, these study findings suggest that nurses have to have access to the necessary software for patient files, there has to be sufficient reimbursement for the nurse to be present at the meeting and there is a need for help with administrative tasks that could be taken up by a nurse. The input of nurses on psychosocial factors in case discussions where this could be of added value, such as more complex cases, was mentioned during the interviews. Indeed, the product-process matrix, developed by Hayes & Wheelright (1979) originated from Operations Management separates and analyses the fit between a chosen
product positioning and manufacturing process in order to ensure efficiency. Bohmer (2009) applied the product-process matrix to healthcare operations management and argued that different approaches to problem solving in healthcare reflect to what extent a health problem is structured. The segmentation of patients into homogenous groups is in line with the idea that the design of the care process should be consistent with the nature of the illness and care (Bohmer, 2009; D. Cook et al., 2014; Kleinke, Christensen, Grossman, & Hwang, 2009; Lillrank & Liukko, 2004; Porter, Pabo, & Lee, 2013). This could also be translated to MDTMs by streamlining case discussions according to complexity, as that might provide a clearer framework on when input on psychosocial factors is needed (Soukup et al., 2020). The MDT-MeDiC tool is designed specifically for reorganizing the agenda of MOC meetings according to case complexity in a structured manner and has obtained good results in England (Gandamihardja, Soukup, McInerney, Green, & Sevdalis, 2019). The feasibility of the use of such tool in the Belgian context remains to be tested.

As the findings of this study point out, there is a need expressed by other MOC members for nurses who are present at the MOC but do not contribute at the moment, to increase their contribution. From the interviews conducted in this research, it became clear that nurses perceive their role as observatory, especially when there is another meeting pre- or post-MOC between nurses, or between nurses and the treating physicians. Literature points out that other causes for the observatory role of nurses during MOCs can consist of various reasons, such as that the MOC is perceived as a purely ‘medical’ meeting, external barriers such as standardization of decision-making and the timing of the meeting in the patient’s trajectory, and internal barriers such as team climate and work experience (Dew et al., 2015; B. W. Lamb, Brown, et al., 2011). As McCormack and McCane highlight, context characteristics such as systems that facilitate shared decision-making, effective staff relationships and the sharing of
power has the greatest potential to limit or enhance on the operationalization of person-centred nursing (McCormack & McCance, 2006).

As such, it could be of benefit to the discussions to use a tool specifically designed for team discussions in MOCs. The MDT-QulC tool (B. W. Lamb, Sevdalis, Vincent, & Green, 2012) provides a structured manner to support the discussion and decision-making processes during multidisciplinary team meetings. The tool is made up of a checklist to act as an aide memoire for the MOC coordinator to structure referral documentation and the recording of multidisciplinary team outcomes. The tool incorporates the input of nurses as one of the key tasks to be checked. In England, where the tool has been developed and tested, the tool contributes to the multidisciplinary character of the team discussions. Further research is needed to test whether this tool can also increase multidisciplinarity in Belgian MOC meetings.

This study has several limitations. First, observations took place in only two hospitals in Flanders, of which one regional and one academic hospital. More regional and academic hospitals should be included in future research in order to study whether there is a difference between the characteristics of an efficient functioning MOC in regional and academic hospitals. Second, this study was only conducted in Flanders and excluded Wallonia. In order to study the effect on the Belgian context in total, it is essential to include Wallonia hospitals in future research. However, the findings are in line with international literature and point out the need for further research on nurse involvement in MDTMs. Future research could identify which nursing roles fit best in MDTMs and whether for example a mentoring programme could enable nurses to speak up more during MDTMs.
Conclusion

As this study demonstrated, current contributions of nurses in MOCs are mainly observatory, while there is a clear need for nurses to take up a more active role in the MOC in cases where psychosocial information is needed. The input of psychosocial information in the MDTMs was named as essential during the interviews and interviewees agreed that nurses would be a right fit to take up this role. Determinants for an increased involvement of nurses could be having access to patient files, sufficient reimbursement for the nurse to attend the meetings, taking up an administrative role in the MDTMs to support the meeting process and contribute essential psychosocial information when needed during the meetings.

REFERENCES


NCAT, N. C. A. T. (2010). *The characteristics of an effective multidisciplinary team (MDT).*


## Table 1

Overview of interviews per MOC

<table>
<thead>
<tr>
<th>MOC</th>
<th>Nr. Of Interviews</th>
<th>Disciplines interviewees</th>
<th>Sex interviewees</th>
</tr>
</thead>
<tbody>
<tr>
<td>digestive oncology</td>
<td>2</td>
<td>1 medical oncologist 1 surgeon</td>
<td>2 male</td>
</tr>
<tr>
<td>uro-oncology</td>
<td>2</td>
<td>1 urologist 1 nurse consultant</td>
<td>1 male 1 female</td>
</tr>
<tr>
<td>gyneco-oncology</td>
<td>3</td>
<td>1 medical oncologist 1 pathologist 1 nurse consultant</td>
<td>1 male 2 female</td>
</tr>
<tr>
<td>pneumo-oncology</td>
<td>3</td>
<td>1 cancer registration consultant 2 pneumo oncologists</td>
<td>2 male 1 female</td>
</tr>
<tr>
<td>bone- and soft tissue oncology</td>
<td>4</td>
<td>1 chair 1 oncologist 1 oncological nurse 1 cancer registration consultant</td>
<td>1 male 3 female</td>
</tr>
<tr>
<td>endocrine oncology</td>
<td>3</td>
<td>1 cancer registration 1 chair 1 radiologist</td>
<td>2 male 1 female</td>
</tr>
<tr>
<td>head and neck oncology</td>
<td>5</td>
<td>2 surgeons 1 radiologist 1 radiotherapist 1 pathologist</td>
<td>5 male 0 female</td>
</tr>
<tr>
<td>liver oncology</td>
<td>4</td>
<td>2 medical oncologists 2 gastro-enterologists</td>
<td>3 male 1 female</td>
</tr>
<tr>
<td>digestive oncology</td>
<td>5</td>
<td>1 medical oncologist 1 data manager 1 nurse consultant 1 gastro-enterologist 1 surgeon</td>
<td>2 male 3 female</td>
</tr>
<tr>
<td>neuro-oncology</td>
<td>4</td>
<td>1 neurosurgeon 1 data manager 1 oncologist 1 nurse consultant</td>
<td>2 male 2 female</td>
</tr>
<tr>
<td>pelvic oncology</td>
<td>3</td>
<td>1 oncologist 1 radiotherapist 1 nurse consultant</td>
<td>0 male 3 female</td>
</tr>
<tr>
<td>thoracic oncology</td>
<td>3</td>
<td>1 oncologist 1 surgeon 1 nurse consultant</td>
<td>1 male 2 female</td>
</tr>
</tbody>
</table>

1 Multidisciplinary Oncological Consultation
**TABLE 2**

*Overview of number of observations per MOC*

<table>
<thead>
<tr>
<th>MOC</th>
<th>Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Digestive oncology</td>
<td>4</td>
</tr>
<tr>
<td>2. uro-oncology</td>
<td>4</td>
</tr>
<tr>
<td>3. gyneaco-oncology</td>
<td>2</td>
</tr>
<tr>
<td>4. pneumo-oncology</td>
<td>3</td>
</tr>
<tr>
<td>5. bone- and soft tissue oncology</td>
<td>4</td>
</tr>
<tr>
<td>6. endocrine oncology</td>
<td>6</td>
</tr>
<tr>
<td>7. head and neck oncology</td>
<td>4</td>
</tr>
<tr>
<td>8. liver oncology</td>
<td>4</td>
</tr>
<tr>
<td>9. digestive oncology</td>
<td>6</td>
</tr>
<tr>
<td>10. neuro-oncology</td>
<td>4</td>
</tr>
<tr>
<td>11. pelvic oncology</td>
<td>5</td>
</tr>
<tr>
<td>12. thoracic oncology</td>
<td>4</td>
</tr>
</tbody>
</table>
### TABLE 3
Overview of current involvement nurses, determinants for future involvement nurses and determinants of input of psychosocial factors per MOC

<table>
<thead>
<tr>
<th>Hospital</th>
<th>MOC</th>
<th>Current status involvement nurses in MOC</th>
<th>Determinants of future involvement nurses in MOC</th>
<th>Determinants of input psychosocial factors in MOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1. Digestive oncology</td>
<td>• Observing but leading role in the multidisciplinary ward meeting</td>
<td>• Presence of nurse desired when input psychosocial factors needed</td>
<td>• Current psychosocial information input suboptimal</td>
</tr>
<tr>
<td>A</td>
<td>2. Uro-oncology</td>
<td>• Observing but leading role in the multidisciplinary ward meeting</td>
<td>• Presence of nurse desired when input psychosocial factors needed</td>
<td>• Current psychosocial information input suboptimal</td>
</tr>
<tr>
<td>A</td>
<td>3. Gynaeco-oncology</td>
<td>• Observing but leading role in the multidisciplinary ward meeting</td>
<td>• Presence of nurse desired when input psychosocial factors needed</td>
<td>• Current psychosocial information input suboptimal</td>
</tr>
</tbody>
</table>
| A        | 4. Pneumo-oncology | • Observing but leading role in the multidisciplinary ward meeting | • Presence of nurse desired when input psychosocial factors needed  
| | | | • Distinction between clear cut and complex cases desired to determine when input is needed | • Current psychosocial information input suboptimal |
| B        | 5. Bone- and soft tissue oncology | • Oncological nurses as key members  
| | | • Nurse consultant sometimes present  
| | | • Administrative support  
| | | • Active contribution in case of absence treating physician | | |
| B | 6. Endocrine oncology | • None | • Nurse presence desired by members for administrative tasks  
• Increase in patient cases needed to receive reimbursement for nurse presence at MDTM |
|---|----------------------|-------|---------------------------------------------------|
| B | 7. Head- and neck oncology | • Nurse present  
• Contributes when psychosocial or psychological info is required  
• Overall less contribution than other disciplines  
• MDTM members take input nurse into account in decision-making process | • Members find nurse contribution important  
• Information in MDTM still mainly focused on medical | • Increase patient information obtained at consultations |
| B | 8. Liver oncology | • Nurse not always present | • Medical students prepare cases  
• Absence of treating physician results in less patient-centred decision-making  
• Input of psychologists on transplant patients |
| B   | 9. Digestive oncology | Nurse present  
Taking notes of cases | Contribution in MDTM low due to meeting between nurses after MDTM  
Member expresses need for more contribution nurses during MDTM |
|-----|-----------------------|--------------------------|
| B   | 10. Neuro-oncology    | No nurse present         | Future inclusion nurses desired for administrative support  
Nurses should have access to CoZo for better communication with physician |
| B   | 11. Pelvic oncology   | Two nurses present  
Nurse consultant strong involvement  
Prominent role in discussion patient centred decision-making  
Meeting overview on laptop  
Spokesperson for patient | No further determinants mentioned |
| B   | 12. Thoracic oncology | Nurse present  
Observatory role  
Notes       |