Analysis of multidisciplinary tumor boards (MDTs) in Austria: Are there differences in the quality of presented patient information within the same organizational setting?

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Introduction

- In Austria, **40,000 people** are diagnosed with **cancer** each year (expected to **double by 2040)** (Statistik Austria, 2024; Wild et al., 2020).
  - Cancer is increasingly becoming a chronic disease, resulting in more **cancer survivors.**

- The Austrian health system is **among the world leaders in treatment costs**, but **the outcome** of oncological care **is average for most entities** (Allemani et al., 2018; OECD, 2023).

- As demand in oncology grows, it becomes increasingly important **to use limited resources as effectively as possible** (Lamb et al., 2014; Soukup et al., 2020a; Soukup et al., 2020b).
  - Consideration of the **quality of multidisciplinary teamwork** in cancer care.
  - Although much information is available on multidisciplinary teamwork in health care, **evidence of its quality in cancer care is still missing.**

Introduction

- The multidisciplinary approach **suggests…**
  - …**improved communication and decision-making** between health professionals.
  - …**benefits** for patients.
  - …high-**quality** cancer care and **improved survival.**

- **Tumor boards** (MDTs), are **considered the gold standard** in oncology (Kočo et al., 2022).
  - **Treatment recommendations in weekly meetings**
  - Discussion of **every initial cancer** diagnosis
  - **Mandatory disciplines**: surgery, radiology, radiation, oncology and histology

Introduction

- The **regular implementation** of tumor boards requires a high commitment of **human, financial, and time resources**, which are then not available for routine operations (Winters et al., 2021).
  - The benefits **are sometimes controversial from a business and management perspective**, particularly regarding effectiveness and efficiency (Engelhardt et al., 2021; Freytag et al., 2020).

- **No clear link has been found** between tumor board discussions and improved outcomes (Ali et al., 2023; Askelin et al., 2021; Kočo et al., 2021; Soukup et al., 2021).
  - **Evidence suggests that tumor boards do not always work optimally** (Jalil et al., 2013; Lamb et al., 2013; Walraven et al., 2023).

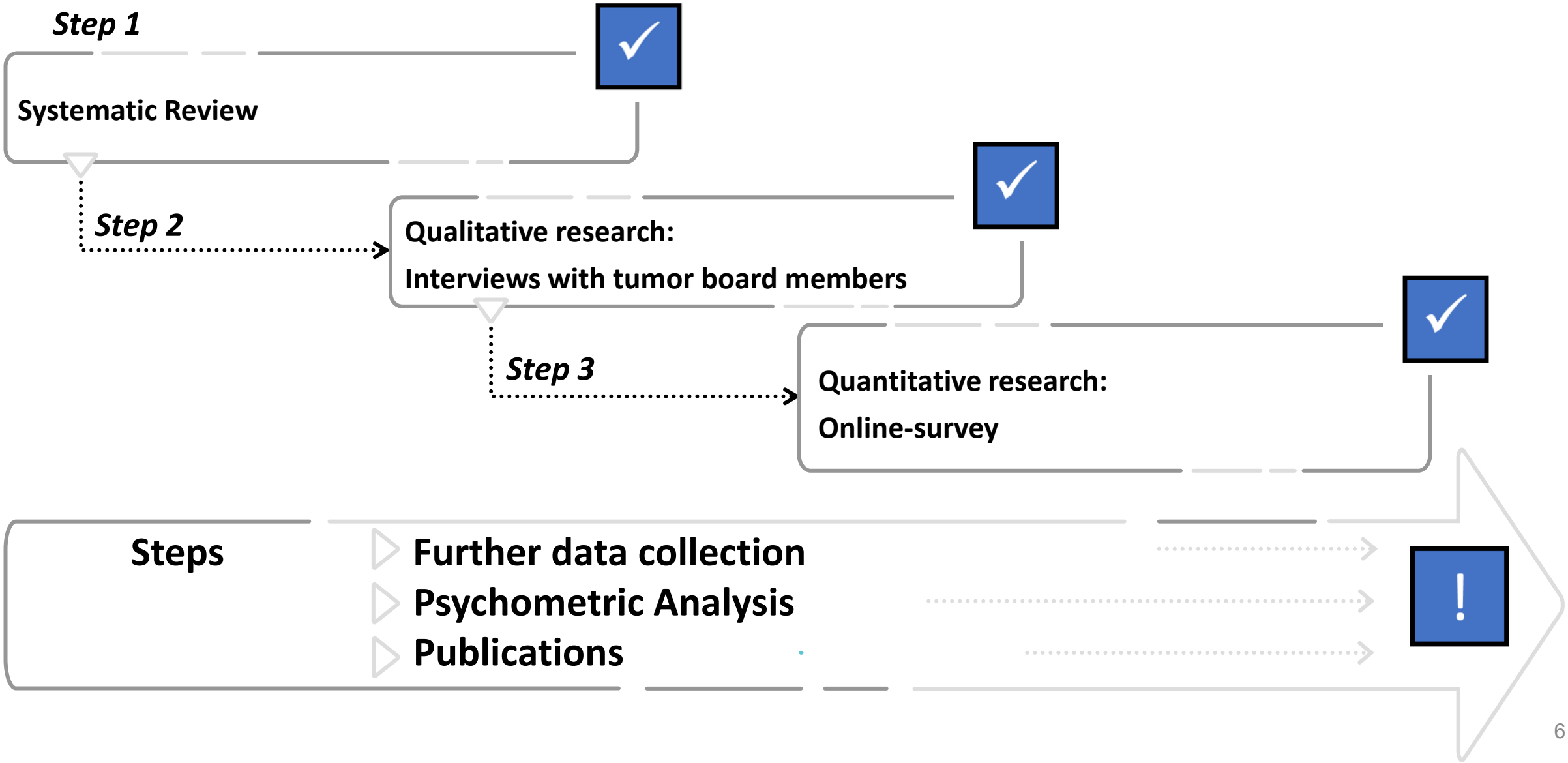
- **To evaluate the performance of MDTs, it is methodologically and ethically difficult to find a suitable comparison group, even within the same organizational setting.**

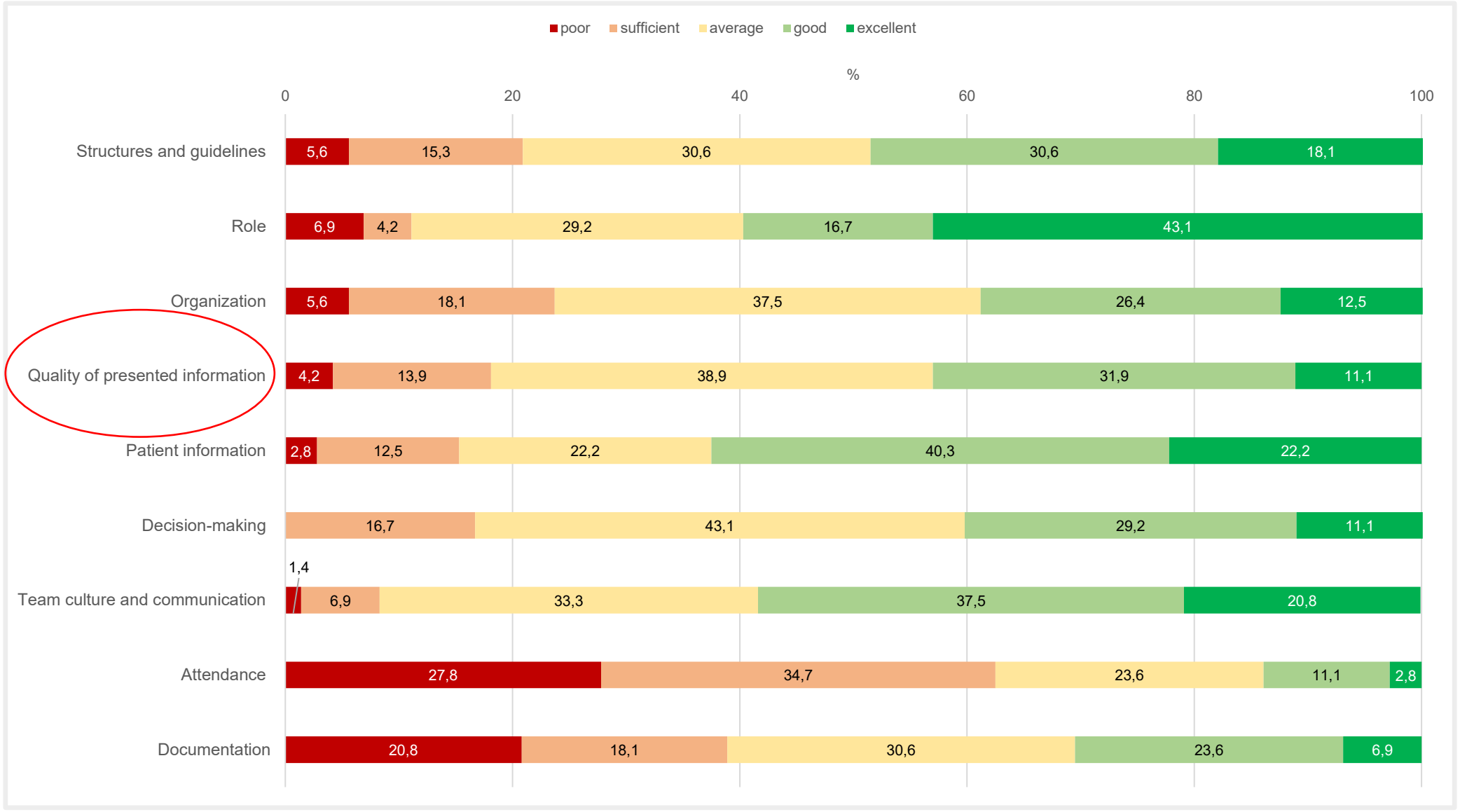
Methods

- **To assess differences in MDTs, the Austrian Tumor Board Survey (ATS) was used:**
- (1) structures and guidelines, (2) role at the MDT, (3) organization, (4) **quality of presented information**, (5) patient information, (6) decision-making, (7) teamwork and culture, (8) attendance, (9) documentation
  - (1) Tumor boards result in better patient care (Outcome-Variable 1)
  - (2) Perceived value of the tumor board for patient management (Outcome-Variable 2)

- **Online-Survey with LimeSurvey (January-August 2023)**
  - **177 members of seven MDTs of an Austrian academic hospital.**
  - **72 participants** answered the questions completely (response rate 45.7%).

- **Kruskal-Wallis test and pairwise post-hoc tests with Bonferroni correction were used.**
- **Semi-structured interviews were conducted with tumor board members to analyze the differences in the quality of presented patient information.**


Step 1
Systematic Review
Step 2
Qualitative research:
Interviews with tumor board members
Step 3
Quantitative research:
Online-survey
Steps
Further data collection
Psychometric Analysis
Publications
!


poor
sufficient
average
good
excellent
%
0
20
40
60
80
100
Structures and guidelines
5,6
15,3
30,6
30,6
18,1
Role
6,9
4,2
29,2
16,7
43,1
Organization
5,6
18,1
37,5
26,4
12,5
Quality of presented information
4,2
13,9
38,9
31,9
11,1
Patient information
2,8
12,5
22,2
40,3
22,2
Decision-making
16,7
43,1
29,2
11,1
Team culture and communication
1,4
6,9
33,3
37,5
20,8
Attendance
27,8
34,7
23,6
11,1
2,8
Documentation
20,8
18,1
30,6
23,6
6,9

n = 72

Analysis	Comparison	Test statistic	*p* - value	Effect Size (*r*)
Kruskal-Wallis Test	All MDTs (*N* = 7)	*H*(6) = 20.38	< .01	—
Pairwise Comparison (Bonferroni-corrected)	Colorectal (CRC) vs. Oncological Rehabilitation	*z* = - 3.58	< .01	.84
Pairwise Comparison (Bonferroni-corrected)	Gastrointestinal Cancer vs. Oncological Rehabilitation	*z* = 3.09	< .05	.67

Note. The following tumor boards were included in the sample: Colorectoral cancers (CRC), Gynecological malignancies, Musculoskeletal tumors, Oncological rehabilitation, Pediatric neurooncology, Urology and esophagus, Stomach, Gastrointestinal tumors (GIST).

Conclusion

- **Significant variation in the quality of patient information presented across MDTs, despite similar organizational structures.**

- **Qualitative analysis revealed internal process differences as a key cause.**

- **Lower information quality may lead to:**
  - Delays in treatment initiation
  - Repeated patient presentations

- **Implications**
  - Not all MDTs meet the same standard for information quality.
  - Structured processes can improve consistency and decision-making

Recommendations

- **Standardization**
  - **Checklists and structured templates** for consistent case presentations
  - **Digital tools** to organize and present clinical information
- **Team Roles & Participation**
  - **Key personnel** (e.g., case managers, radiologists) present for all cases
  - **Role definitions** and rotation to ensure accountability
- **Training & Feedback**
  - **Training programs** on communication and clinical documentation
  - **Peer reviews** and case audits for quality monitoring
- **Process Monitoring**
  - **Quality indicators** for measuring information completeness and timeliness
  - **Improvement cycles** (PDCA) to optimize MDT performance

Outlook

- **Further research is needed (limited sample size)**
  - To gain a **deeper understanding of the quality of presented information** in tumor boards.
  - To confirm the assumptions made and to provide implications for practice.
  - A pilot study is recommended to determine which best practice procedures are appropriate in which MDT.

- **Validation of the developed questionnaire to drive a continuous improvement process** in cancer care in Austria:
  - **Internal evaluation** of structures, processes, and outcomes to identify areas for improvement per board
  - **Independent implementation of improvement** potential by tumor board members
  - Use of **checklists and facilitated documentation** to increase patient safety

Thank you for your attention!

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