Pilot evaluation of a novel observational tool for collaboration and communication within multidisciplinary team meetings (MDTs)

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NASCE Meeting, Dublin 2016
Background

- Facilitate patient care
- Implied and expected benefit
- Research limited
- Outcome
Methodology

• Focus Group
• Tool Development
• Pilot evaluation
• Ethics
  • Statistical Analysis
    • Inter rater reliability
    • Intra class correlation
    • Evaluation participant vs. matched observations
Methodology

- Sections of interest
  - Structure
  - Communication
  - Collaboration
  - Overview

Multidisciplinary Team Meetings – Functional Evaluation

<table>
<thead>
<tr>
<th>Section</th>
<th>Evaluation</th>
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</thead>
<tbody>
<tr>
<td>Overall</td>
<td></td>
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<tr>
<td>Time Allocated Case Discussion</td>
<td>1-5</td>
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<tr>
<td>Evidence Based Discussion</td>
<td>1-5</td>
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</tbody>
</table>

**Structure**

- Discipline Participation
- Representation by role
- Representation by gender

**Communication**

- General Communication Within Group
- Limited communication between team members around majority of cases; inappropriate comments made by some team members during discussion

**Collaboration**

- Tone of Discussion
- Group attitude is generally open to conflicting opinions, but some members convey a dismissive, patronizing manner
- Participant Involvement
- Limited involvement (<25%) of the group in discussion; team members seemed involved only in the discussion of their own patients, ignoring the presentations of other patients
- Open attitude toward all opinions, conflicting opinions are welcomed and facilitate discussion

**Evidence Based Discussion**

- The majority of cases discussed rely on evidence based literature to form conclusions

**Quality of Involvement/Discussion**

- The majority of participants (>75%) engage in discussion on most (>75%) of patients
Methodology

• 3 independent observers - consultant level surgical oncologist, SHO-level general surgical trainee, PhD candidate in medical education and communication skills evaluation

• Differing levels of familiarity with MDT process

• 2 observers fully blinded of any preexisting knowledge of participants/relationships within the MDTs

• Raters blinded to evaluation of other observers
Results

- 3 MDTs – oncology/surgery (colorectal/HPB/Gastric/oesophageal), mix cancerous and complex benign urological and respiratory
- 133 cases in 9 MDTs; 8 consultants/MDT

<table>
<thead>
<tr>
<th>Session</th>
<th>Number of cases</th>
<th>Duration (min)</th>
<th>Number of consultants</th>
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</thead>
<tbody>
<tr>
<td>MDT #1</td>
<td>i 8 (4 discussed) 35 7</td>
<td>ii 11 60 11</td>
<td>iii 14 60 11</td>
</tr>
<tr>
<td>MDT #2</td>
<td>i 16 60 11</td>
<td>ii 14 60 6</td>
<td>iii 15 60 6</td>
</tr>
<tr>
<td>MDT #3</td>
<td>i 18 90 5</td>
<td>ii 19 90 6</td>
<td>iii 22 90 5</td>
</tr>
</tbody>
</table>

General data of studied multidisciplinary teams
Results

- Overall: High intraclass correlation (0.935), Crohnbach’s Alpha 0.977
- Each separate ICC/IRR – high correlation
- 1 outlier MDT 1

<table>
<thead>
<tr>
<th></th>
<th>MDT</th>
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<tr>
<td></td>
<td>#1</td>
<td>#2</td>
<td>#3</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>i</td>
<td>ii</td>
<td>iii</td>
<td>i</td>
<td>ii</td>
<td>iii</td>
</tr>
<tr>
<td>ICC</td>
<td>0.245</td>
<td>0.774</td>
<td>0.876</td>
<td>0.923</td>
<td>0.746</td>
<td>0.654</td>
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<tr>
<td>CI (95 %)</td>
<td>0.365–</td>
<td>0.386–</td>
<td>0.626–</td>
<td>0.757–</td>
<td>0.328–</td>
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<td></td>
<td>0.703</td>
<td>0.929</td>
<td>0.963</td>
<td>0.977</td>
<td>0.919</td>
<td>0.886</td>
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<tr>
<td>p-value</td>
<td>0.210</td>
<td>0.001</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
<td>0.002</td>
<td>0.008</td>
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<tr>
<td></td>
<td>0.394</td>
<td>0.872</td>
<td>0.934</td>
<td>0.960</td>
<td>0.854</td>
<td>0.791</td>
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Means, range and intra-class correlations for MDT #1, #2 and #3
Results

• Overall evaluation by participants vs. objective observer evaluation
• 4 questions for participant based on 4 matched observer questions
• No significant difference noted
Limitations

- First iteration of tool – correlations higher (not significant) when results favourable - high tension MDT – more discordance (tone of discussion)
- Observer bias - single value discordance implies weakness of the tool
- Correlation with outcome
Discussion

• Interesting result – useful tool for MDT evaluation
• Evaluate presence of conflict
• Time allotted case discussion vs complexity
• Next steps:
  • Need to correlate group functioning/structure with outcome
  • Determine measurable outcome performance indicators