TEAM MONITORING TOOLS: EMBAM & TBM

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OVERVIEW

- Research Development Team
- Background
- Literature Review
- Team Monitoring Tools
- Preliminary Evaluation
- Conclusion
RESEARCH DEVELOPMENT TEAM

- Dr Chris Bearman – Central Queensland Uni
- Dr Benjamin Brooks – University of Tasmania
- Dr Christine Owen – Learning Organization
- Heather Stuart – NSW State Emergency Service
- Mark Thomason – SA Country Fire Service
- Sandy Whight – Tasmanian Fire Service
• More Complexity
• Longer Duration
• More Dynamic
• More Agencies
• Increasing Technology
• Increasing Scrutiny
If we are going to ask people to operate in this environment we need to give them skills and tools to do so effectively.
From Brooks (2014)
LITERATURE REVIEW

1. Broad literature search (195 papers)
2. Referenced Papers (+78)
3. Exclusion Criteria (64)
4. Thematic Analysis
APPROACHES TO TEAM MONITORING

• Team Outputs
• Information Flow
• Linguistic Markers
• Communication, Coordination, Cooperation
TEAM OUTPUTS (TO)
TEAM OUTPUTS (TO)

• Benefits
  – Easy to use
  – Fast to apply

• Limitations
  – Fairly general
  – Doesn’t consider team processes
  – Won’t detect all problems
INFORMATION FLOW (IF)
INFORMATION FLOW (IF)

• Benefits
  – Can identify team issues

• Limitations
  – Doesn’t identify the problem
  – Context specific
  – Require base info
  – Time consuming
LINGUISTIC MARKERS (LM)
LINGUISTIC MARKERS (LM)

• Benefits
  – Can identify team issues

• Limitations
  – Correlations
  – Context specific
  – Time consuming
COMMUNICATION, COORDINATION, & COOPERATION (3C)
COMMUNICATION, COORDINATION, & COOPERATION (3C)

• Benefits
  – Can identify team issues
  – Detailed info about team

• Limitations
  – Its fairly complex
  – Difficult to observe
  – Context specific
  – Time consuming
EVALUATION

• Comprehensiveness
  – 3C is the most comprehensive method

• Speed of use
  – 3C, IF & LM are fairly slow
  – TO is fast to use

• No single approach is suitable

• Can’t use an off the shelf method
TEAM MONITORING TOOLS

• Emergency Management Aide Memoire (EMBAM)
• Team Behavioural Markers (TBM)
EMBAM - IDENTIFICATION

• Networks
• Missing Information
• Conflicting Expectations
• Intuition
• Familiarity
## TBM - COOPERATION

<table>
<thead>
<tr>
<th>Cooperation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are team members showing a willingness to work as a team?</td>
</tr>
<tr>
<td>Do team members exhibit confidence and trust in fellow team members?</td>
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<tr>
<td>Are team members following team objectives without opting for independence?</td>
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<tr>
<td>Are any team members creating unnecessary conflict?</td>
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<tr>
<td>Are team members resolving any conflict effectively?</td>
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</tbody>
</table>
EMBAM - RESOLUTION

- Delegate
- Resource
- Mentor
- Assert
- Replace
PRELIMINARY EVALUATION STUDY

- Iterative design process
- Multi-agency response to a simulated aircraft accident
- 4 observers
- Semi-structured interview
RESULTS

- EMBAM & TBM have potential
- TBM has a good range of questions
- Some questions didn’t work so well
- TBM was a bit too long
- In EMBAM replacing staff should be the last option
• Tools are being used in 2 contexts
  – Training
  – Debrief
CONCLUSION

• 4 approaches to team monitoring
• No single approach is without issues
• Can’t use an off the shelf approach
• EMBAM & TBM were developed
• Preliminary evaluation is positive
QUESTIONS

I'm still trying to get an update on the fire.

I can give you one.