Staying on task: A tool to help state and regional-level incident management teams

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Incident management at the state and regional-level

Overview

- The demands on state and regional-level incident management teams can be considerable.

- During large-scale emergencies these teams will be working under conditions of stress and fatigue, which are known to impair cognitive processes, such as memory.

- This work is part of a research project to help provide tools to assist emergency and incident management teams.

Background

- Lee Johnson (AFAC conference 2011) noted that **'local incident management was well defined and supported by the AIIMS framework. However the strategic incident management domain is less well understood'** (Owen et al. 2014, p. 2).

- Subsequent research has investigated how networks, information flow, coordination breakdowns and errors occur within the strategic levels of incident management (e.g., Owen (2012), Owen et al. (2014), Bearman et al. (2015), Brooks et al. (2018)).

- State and regional-level teams are required to operate in a structured and deliberate manner. Yet at times, operational requirements can severely stretch team and individual resources, leading to disruptions in team processes (Bearman et al., 2015).

Two questions informing the design of this research

1. **How might we better understand the key tasks undertaken by state and regional-level incident management teams?**

   - We used Hierarchical Task Analysis (HTA) to elicit a deeper understanding of the key tasks and processes undertaken by these teams (e.g., Bearman & Bremner, 2013).
   - Interviewed highly experienced practitioners to develop initial analyses and then iteratively refined through partner agency piloting and testing in exercises.

2. **How could we support the transfer of this understanding (tacit knowledge) to state and regional teams?**

   - Use of a cognitive aid such as an aide memoire or checklist

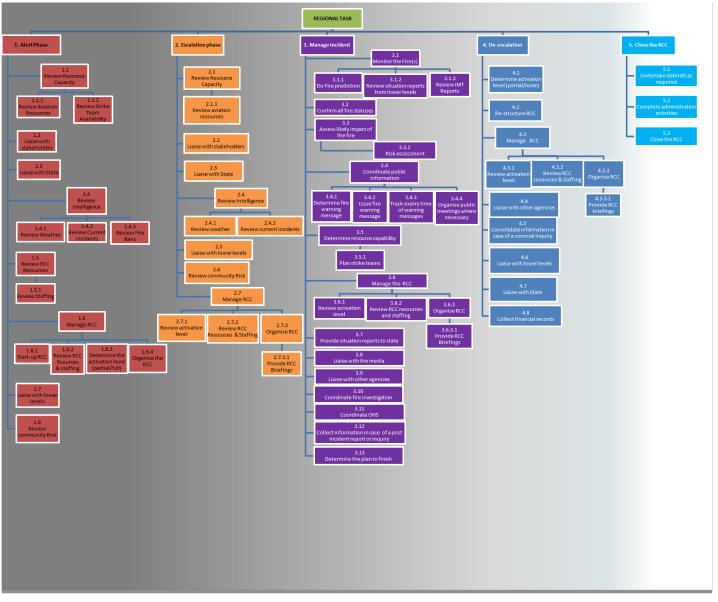Note: The challenge of tacit knowledge transfer…

Cognitive aids…

- First used in the 1930s, cognitive aids such as checklists and aide memoires have become widely used in aviation and medicine to improve performance.

- Can be used to remind incident managers of key tasks, which helps to reduce mental workload and support prospective memory.

- Cognitive aids (such as checklists) serve to make tacit knowledge that people have about a set of tasks explicit and able to be proceduralised.

- While it is reasonably easy to critique tasks that are observed it can sometimes be difficult to identify things that are not occurring.

- Checklists can be a valuable tool for observers to be able to constantly and reliably assess the performance of teams against a standard set of criteria derived from best practice.

Initial task analysis

Five phases

Earlier version of a task analysis for a regional team coordinating incident management

Checklist prototype

Readiness phase	Escalation phase	Coordination phase	De-escalation phase	Termination or Close the RCC phase
Preparing for the likely escalation of incidents	Responding to escalating incident activity	Coordination of resourcing and the response to the incidents	Scaling back activities to match the requirements of current incidents	Termination of SCC & RCC operations

Readiness phase:

☐ Understand what resources* are available for incident(s) vs. those likely to be required.

☐ Reviewed the current & forecast weather conditions.

☐ Reviewed relevant intelligence (e.g., planned community or other events).

☐ Reviewed what other incidents are currently underway & their status.

☐ Identified the potential risks to the community.

☐ Reviewed any precautions or restrictions in place (e.g., fire bans, road closures).

☐ Check for existing information relevant to likely incidents (e.g., pre-action review).

☐ Identified the staff required to adequately resource the control centre.

☐ Ensured the control centre:
  ☐ Is organised (e.g., personnel know their roles & are working in them);
  ☐ Is suitably configured (e.g., no significant constraints to information flow or collaboration);
  ☐ Has sufficient facilities for the current incidents & capability to expand at short notice.

☐ Ensured adequate liaison and coordination is occurring with the internal (e.g., other regions or state) & external parties (e.g., other agencies).

☐ Issued Chief Officer's or Commissioner's intent.

Escalation phase:

☐ Reviewed the resources available for incident(s) versus those likely to be required (i.e., gap analysis).

Coordination phase:

☐ Understand what is happening (e.g., prediction, situation reports, IMT reports, broader regional/state intelligence).

De-escalation phase:

☐ Identified what level of activation is required to support the incidents in

Termination or Close the RCC phase:

☐ The appropriate debriefing for control centre staff has been

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Escalation phase
Responding to escalating incident activity

☐ **Reviewed the resources available for incident(s) versus those likely to be required (i.e., gap analysis).**

☐ **Reviewed the forecast weather conditions & other relevant intelligence.**

☐ **Reviewed the incidents currently underway & their respective status.**

☐ **Reviewed the potential risks to the community & identified the likely consequences.**

Ensured the control centre:

☐ **Is suitably resourced (e.g., activation level, staffing, & facilities);**

☐ **Is organised (e.g., personnel know their roles & are working in them);**

☐ **Suitably configured (e.g., no significant constraints to information flow or collaboration).**

☐ **Ensured adequate liaison & coordination is occurring with internal parties (e.g., state & other regions).**

☐ **Ensured adequate liaison and coordination is occurring with external parties (e.g., other agencies, media) who we need to work with or keep informed.**

How is this work being used?

1. Aide memoire

Checklist to help incident managers ensure they are continuing to address the key tasks required to successfully coordinate the control centre and incidents.

2. Training and development resource

Outlines several important aspects of incident management and coordination:
- phases of an incident;
- tasks required to coordinate the control centre and incidents; and
- suggested hierarchy for the likely sequencing and priorities for tasks.

3. Performance management and continuous improvement

To help guide evaluation of how well a state or regional control centre is operating.

Some final considerations: Knowing the task and knowing the users

Designing and implementing these tools

- Checklists for emergency management tend to act more as guidelines than in other sectors.

- Important to get the correct level of detail required by users.

- There can be reluctance to adopt and implement the use of checklists and aide memoires. Implementation challenges include:

  o Limited appreciation of the vulnerability of decision makers working in stressful situations,

  o Ensuring leadership support; and

  o Ensuring training in the use of aids.

Next steps and thanks

Refining the checklist tool

- We are currently interviewing experienced practitioners to further refine the checklist.
- Note there are some slight differences in arrangements between jurisdictions.
- Keen to hear comments and suggestions on how we can further improve this tool. My contact details: p.hayes@cqu.edu.au.
- Many thanks to the CFS and NSW SES for their generous support and help in developing, piloting, and refining the task analyses.