How do clinical teams create and maintain Team Situation Awareness? Why does this matter?

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To deliver safe, high quality care, health practitioners combine

- Technical skills with
- ‘Non-technical skills’ (NTS)
  - Cognitive and social skills that contribute to safe and efficient care
  - e.g. Anticipation; prioritisation; effective communication; decision-making; conflict resolution; seeking, offering or accepting help

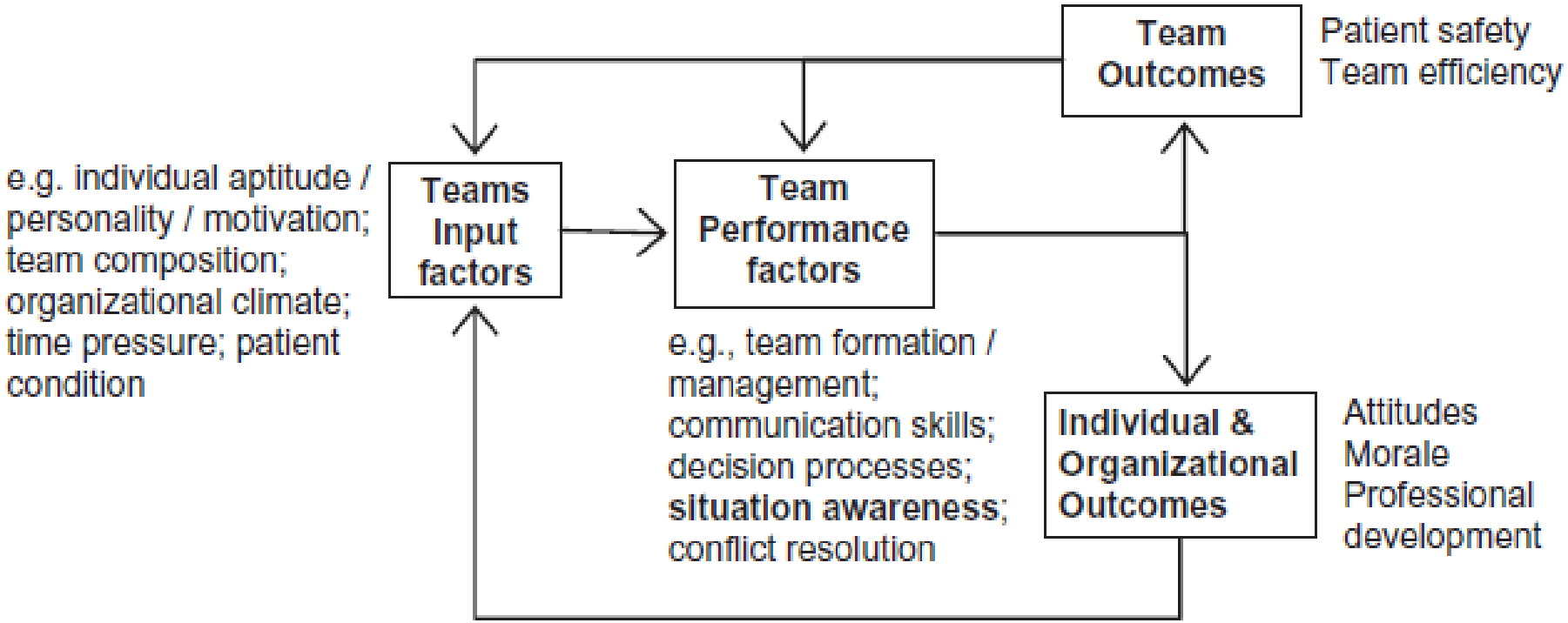
Team Situation Awareness (TSA)

- I have chosen to focus on one important NTS - situation awareness within healthcare teams. I will:
  - Explain the key features of situation awareness and team situation awareness
  - Describe an in-depth study of four maternity teams and what was learnt about creating and maintaining TSA
  - Illustrate different patterns of maintaining TSA and describe some of their consequences

Situation Awareness includes:

- Gathering and updating information
  - Finding a balance between overload and over-focus (fixation)
- Interpreting information and updating interpretations
  - Patient, clinical team and current status of clinical service and resources
- Anticipation and linked actions
  - Prioritise, support, compensate, correct ...

Linking situation awareness to team outcomes



- From Mackintosh, Berridge, Freeth (2009), adapted from Helmreich & Schaefer 1994

Key features of model

- Situation awareness regarded as a precursor of patient safety and team efficiency
- Takes into account context, other factors contributing to outcomes and the feedback of outcomes into the context

Team Situation Awareness (TSA)

- Not just the sum of individuals' situation awareness but an integrated perception of the current situation comprising complimentary and common knowledge.
  - Common knowledge is shared
  - Complimentary knowledge is not (fully) shared but its complementarily means that the team has the knowledge it needs

High TSA

- Leonard et al (2004) showed that effective teams had higher levels of TSA than low performing teams
- Teams can be considered to have high TSA when members posses the (complimentary and shared) TSA necessary for their roles

Creating and maintaining TSA

- Teams create and maintain TSA through
  - team process behaviours (e.g. communication, coordination, planning, leadership)
  - use of shared artefacts (e.g. patient notes, ‘whiteboard’, notices)

MOSES (Multidisciplinary Obstetric Simulated Emergency scenarios)

- MOSES study (among other things) examined TSA creation and maintenance in 4 Delivery Suites (Labour Wards) in UK
  - Multiple teams, multiple work spaces, workload fluctuates widely, limited scope for proactive planning, urgent problems can develop with little prior warning.
  - Multiple teams have partially overlapping and sometimes contested boundaries.

Study design

Milltown	Romantown	Eastborough	Westborough
t_0: baseline examination of safety culture			
	MOSES		MOSES
t_1: follow-up examination of safety culture			
MOSES		MOSES	
t_2: follow-up examination of safety culture			

Supporting structures for TSA & decision making, Mackintosh N, Berridge EJ, Freeth D (2009)

- 277 hours of progressively focused ethnographic observation at main staff working hubs (not at ‘bedside’)
- Three main supports for TSA (‘whiteboard’, ‘handover’, the role of the delivery suite coordinator) plus some (often less formal) supplementary supports
- The interplay between supports is central to creating and maintaining TSA

Main supports in this context

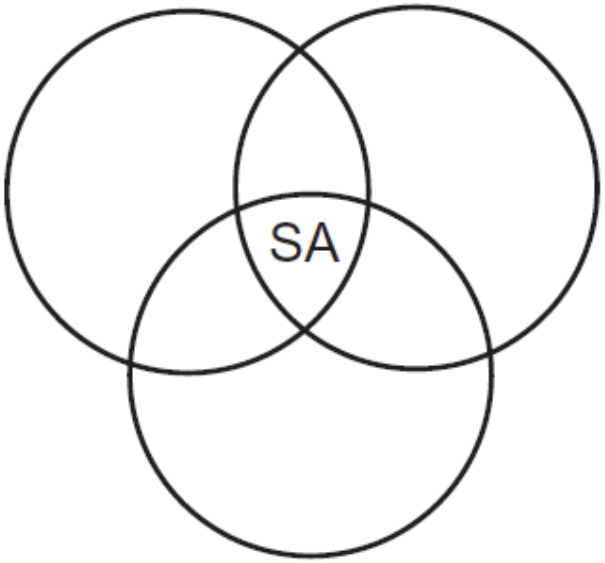
- Whiteboard: ‘snapshot’, available at a glance ... updating, location, content, contributors
- Handover: uni-professional, interprofessional, formal/informal, levels of participation, who attends, relevance of information cascaded
- Delivery suite coordinator role (DSC): managing staff, workload, supporting less experienced colleagues, liaison across teams. Compromised if DSC mainly delivers care and neglects coordination.

Supplementary supports in this context

- Tended to be less formally constituted than main supports
- Could function alongside main supports or only appear when main supports became compromised
- Examples:
  - temporary expansion of roles of ward clerk or, less often, obstetric team leader
  - written briefings, ad hoc communication

Strong and balanced supports

Whiteboard:
- Large, clear
- Regularly updated (and consulted)
- Salient information regarding clients' progress and needs



Handover:
- Sacrosanct
- Inclusive, but flexible

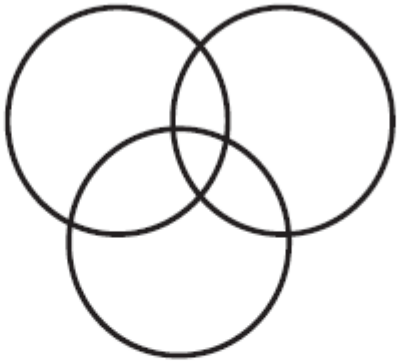
Co-ordinator:
- Client-free
- Supports other staff
- Regularly takes overview of current work & future needs (DS and wider unit)

Outcomes

- Strong TSA
- Culture of shared ownership and prioritisation of situation awareness
- Proactive workload management
- If one support becomes compromised the others expand to compensate.

Diminished supports

Whiteboard:
Limited / limiting
OR
Irregularly updated



Handover:
Insufficiently inclusive
OR
Not prioritized

Co ordinator:
Inaccessible
OR
Role insufficiently developed

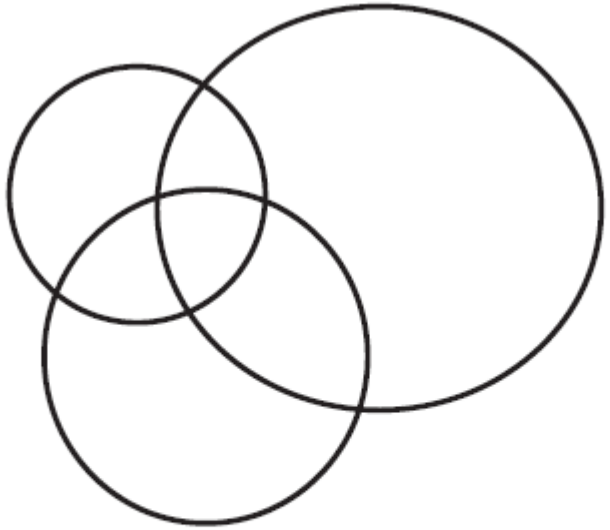
Outcomes

- Diminished supports
  - Reduced TSA
  - Individual work prioritised
  - Reactive workload management
  - Virtually no compensation when a support is compromised

Adaptive, but at risk

(occurred in low volume setting)

Whiteboard:
Infrequently updated/ accessed



Handover:
-frequent informal updating
- *ad hoc* updating as supplement

Co ordinator:
-Rarely client free
-Workload planning considered

Outcomes

- Adaptive supports
  - Culture of shared ownership of situation awareness and prioritisation
  - Proactive workload management
  - Variable levels of TSA
  - Safe with low to moderate workload, but at risk during busy periods due to limited ability to change habits

Supports for TSA

- How does it look where you work?

Image: Microsoft Office Online Clip Art

Summary

- TSA is a precursor to well-informed decision-making and, hence, good care
- We must expect individual supports for TSA to become compromised from time to time and so use supports in combination
  - Ideally, main supports for TSA are strong and balanced
  - Main and supplementary supports can expand to cover gaps when one support becomes compromised

- References
  - See separate bibliography
- Thank you for listening
- Della Freeth d.freeth@qmul.ac.uk