Bringing crisis resource management principles to life

Using (Hollywood) movies to make people think about CRM

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Main Focus: Patient Safety

- Work and Organisational Psychology
- Since 1999 Simulation and Simulators
  - Center-based, In-Situ
  - Instructor Training
  - Ph.D. on using simulation for training
- Human Factors and Human Error
- Crisis Resource Management
- Incident Reporting and Analysis
Overview

- 20 min  •  Introduction
- 40 min  •  Video Example 1
  Master and Commander
- 30 min  •  Video Example 2
  Let’s go Springfield
- 30 min  •  Reflection and Discussion

Basic ideas for the workshop

- Experience a method to learn about CRM
- Reflect how it works
- Get ideas to apply the method in your own teaching
Basic Procedure

Crisis Resource Management (CRM)
USA 2000 IOM-Report
Institute of Medicine
• 44.000 bis 100.000 death/y due to error in medicine
• Errors a leading cause of death

• several measures required:
  • National Center for Patient Safety
  • New Reporting-Systems
  • New Safety Culture
  • Use of Simulation whenever possible

Causes of accidents in medicine

70 % due to „Human Factors“ (preventable?)

• Not a lack of medical knowledge
• But Problems with transferring theoretical knowledge into actions under the real world conditions of a hospital setting
  • Problems with complexity
  • Team, Communication

These issues are addressed ~ 0%
in medical school and continuous training!
Crisis Resource Management
(Gaba, Howard & Fish, 1992; Rall & Gaba, 2005)

- Know the environment
- Anticipate and plan
- Call for help early
- Exercise leadership and followership
- Distribute the workload
- Mobilize all available resources
- Communicate effectively
- Use all available information
- Prevent and manage fixation errors
- Cross (double) check
- Use cognitive aids
- Re-evaluate repeatedly
- Use good teamwork
- Allocate attention wisely
- Set priorities dynamically

Components of CRM

Individual, cognitive Elements
- Limitations of Human Factors ("Allocation of Attention", cognitive aids checklists)
- Dynamic Decision Making
- Planing & Antizipation
- Use all available Informations
- Fixation error

Team Management and Communication
- Leadership & followership
- "Assertiveness"
- Effective Communication (!)
- Distribution of workload
- Call for help early
- Use all available resources
CRM ≠ Simulation

Typical way to „teach“ CRM

- Presenting principles in overview
- Explaining what is meant
  - All principles
  - Factual reduction to 3-4 principles
    - Communication
    - Leadership and Followership
    - Teamwork
    - Fixation Error
- Ambiguous descriptions
  - Instructors do not always have clear picture of what is meant
  - Sticking to single examples

⇒ Center-specific CRM versions (re-definition)?
The principles read easy but are not so easy to apply.

General Idea

Cognitive Friction

Deeper analysis
Alternative methods to teach CRM
The „bringing CRM to life series“

- Lecture, Reading
- Specialized video clips
- Interactive computer-based training
- Story telling
- Asking questions, facilitated group discussions
- (Hollywood) Movies
- Practical exercises
- Observational tasks

P. Dieckmann
Analysis

• Description
  • What happens during this scene?
  • Who is involved in the decision to “beat to quarters” (alarming the ship)?

• Analysis
  • How does the crew on board influence the decision of the leaders?

• Application
  • In the movie the pirate’s ship hidden in the fog can be a picture for “dangerous spots” in complex systems. Which examples do you know from running debriefings that also show such spots?

More Communication
Adapted from Schulz von Thun (2001)

In every utterance there are four messages.

Sender „Mouth“
- Facts
- Self Disclosure
- Relationship
- Appeal

Receiver „Ear“
- Facts
- Self Disclosure
- Relationship
- Appeal
Hey, the blood pressure drops!

Facts: Blood pressure decreases

Self Disclosure: I am proud that I saw it first.

Relationship: I am better than you.

Appeal: Do something!

Fixation Errors, Second opinions and Communication

The long wanted help arrives...

„Hey, we have an anaphylaxis case here. Can you please help us. Would you please...“

„Good you are here. What do you think of this situation?“

...
Questions (not) asked…

- She is ill:
  - What are symptoms?
  - When did it start?
  - How did it develop?
  - What is the differential diagnosis?
  - What could we do?

- She made an error:
  - What exactly did happen?
  - Where did the error have its roots?
  - What type of error was it?
  - What can we learn systematically from this error?
Simpsons…deleted scenes…

Analysis

- **Description**
  - What is going on in this scene?

- **Analysis**
  - Which CRM-principles do you see here? Please describe observable behaviours.
  - Focus on communication: which strategy is used to convince the president? Which effects does it have?
  - Which strategy would you have chosen? Why?

- **Application**
  - Which similar situation do you know in clinical or simulation practice? What did you or others do then? How did it work?
  - What can you take out of this scene?
CRM in debriefing

- Sticking with description of what happens
  - Especially for positive aspects
- Little analysis
  - How did this principle influence…?
  - How did you see this?
- Superficial discussions
  - Yes, communication was important for you… (How? Why?)
- Fear of “all positive“- scenarios
  - What to say then?
- Application discussion is often missing
  - What can you do to apply/ improve/ repeat positive aspects?
  - How can this principle help you? What can you do?
- Perceived difference between CRM and practice of medicine

Critique of CRM

- (Too) many
  - Working memory: 7 +/- 2 chunks
  - Practical focus on 3-4 topics (communication, leadership, fixation error, call for help)
- Overlaps
  - Difference between leadership and teamwork
- Too easy
  - No cognitive friction ➔ shallow processing
- Abstract
  - Application in specific context is not easy
  - Psychological reality sometimes different (e.g. leadership and followership)?
  - What is missed?
Reflection: Using Hollywood Movies to teach CRM

• Goals
  – Focus on specific principles
  – Show aspects very clearly
  – Discuss emotional side

• Points to consider
  – The movie is only one part
  – Analysis equally/more important
  – Relate metaphores in the movie to the actual situation of participants

• Conduction
  – Watch and discuss
    • Leading questions
    • Group work?
  – Same principle in different movies
  – Show scene and ask participants to continue
    • To make it better
    • To make it worse
  – Cut pictures form the movie to focus discussion
  – Assignments for finding movie sequences for CRM principles

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