The Capital Region of Denmark

Presentation of the

Danish Institute for Medical Simulation (DIMS)

Capital Region

2008

www.herlevsimulator.dk

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Where is the institute located?

Herlev University Hospital

Danish Institute for Medical Simulation

Denmark

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The history behind the Danish Institute for Medical Simulation (DIMS)

- **1991** - The first initiative, development of a Danish Anaesthesia simulator and as "Happy amateurs" we introduced simulation nationwide
- **2001** – DIMS established in the Copenhagen County
- **2007** – DIMS is the main centre for postgraduate training in the Capital Region and moves to the top floor of Herlev University Hospital (the highest building in DK)

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Danish Institute for Medical Simulation

- Increase the quality and safety for patients
- Development of training activities for health professions
- Training programs for the trainers (educators)
- Research and development

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Facts – the team in Danish Institute for Medical Simulation (DIMS)?

A multiprofessional team of

- 5 doctors from different specialities
- 5 nurses from anaesthesia, intensive care medicine, cardiology
- 2 nurse assistants
- 1 psychologist
- 3 secretaries
- 1 technician
- 4 ph.d.students, 1 post doc.
- 25 medical students
- Appr. 200 external educators trained in using simulation as en educational tool

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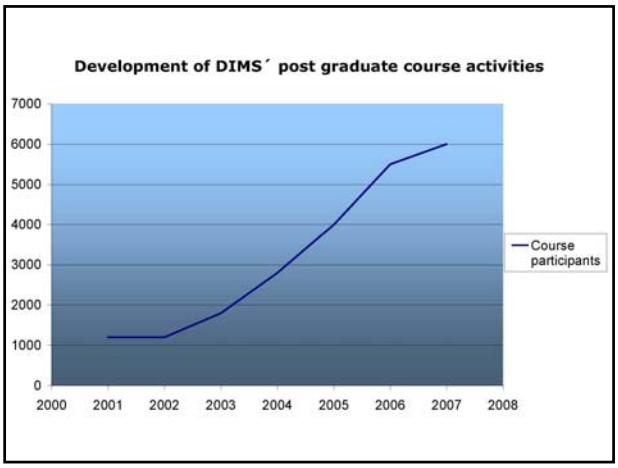
The facilities of Danish Institute for Medical Simulation (DIMS)

- A total of 2800 m^2
- 13 full scale simulation rooms (OR, delivery room, emergency room, medical wards, intensive care suite)
- 7 rooms for debriefing or group discussions
- 4 lecture rooms
- 1 room for drug dispension and delivery



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Facts - training activities Danish Institute for Medical Simulation (DIMS)

Training of >6.000 health professions pr. year

1. Integration of simulation in local, regional and national mandatory programs for doctors and nurses
2. Postgraduate training of teams

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Integration of simulation in the mandatory regional program for first year doctors

A 4 days emergency course with focus on

- Medical expertise skills
- Team skills

- Cardiac arrest
- The critically ill patient
- Transportation

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Integration of simulation in Specialist training of anaesthesiologists – a national program

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Running a scenario 1

Introduction by the Instructor

The scenario begins

The operator

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Running a scenario 2

A nurse and a junior doctor arrives

The nurse is calling for more help

The senior doctor arrives

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Debriefing

- Reflection and learning
- The facilitator
- Learning objectives
- Structure*: *Steinwachs
  - Description phase
  - Analytic phase
  - Application phase

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Full scale simulation - benefits

Novice

The situation can evolve more slowly – time to think

Time outs are possible

Train in context

A link between training and clinical problems

Building up competence

Expert

Experience with rare critical incidents

The possibility to train

- Problemsolving
- Complex decisionmaking
- Situation awareness
- Use of available resourcer

Discussion with peers

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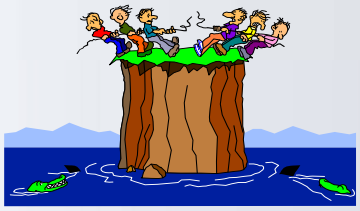
How do we turn a team of experts into an expert team?



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Non technical skills

Know the environment
Anticipate and plan
Distribute workload
Mobilize all available resources
Use all available information
Prevent and manage fixation errors
Allocate attention wisely
Set priorities dynamically

Communicate effectively
Call for help early
Exercise leadership and follower ship
Distribute the workload
Cross (double) check
Use cognitive aids
Re-evaluate repeatedly
Use good team work

Rall M et al in Miller: Anesthesia 2005

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Team training programs

The possibility to train

- complex skills
- problem-solving
- complex decision making

Discussion with peers

A link between training and clinical problems

Building up competence

Train with the "*real team*" (individual/team learning objectives)

Integrate in daily practice

From real team to dream team?

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The combination of a simulated patient and part task trainers – the scenario begins

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A critical situation handled by the team

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The scenario continuous in the OR with a mannikin

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The critical situation is solved – a baby is born

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Microsimulation programs for nurses and doctors - integration at the hospital level

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Research in Danish Institute for Medical Simulation (DIMS)

"The critically ill patient"
a ph.d project (Lone Fuhrmann, MD, BSc)

Purpose

To investigate the staffs' identification of patients with physiological signs of critical illness before and after an educational intervention.

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Research in Danish Institute for Medical Simulation (DIMS)

A ph.d on team training of the cardiac arrest team
(Peter Oluf Andersen, M.D.)

- Development and validation of a check list on team skills
- Education of course facilitators
- Development and implementation of a 1-day course
- Before and after study using clinical data

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