IT-safety in health care

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http://www.it.uu.se/research/hci
Safe?? Risks??
Human error

• 80% of all incidents and accidents are caused by ”the human factor” (???)
• Humans make errors!!!
• We are practical but ”un-logical”
• Error types
  – Slips (“wrong button”)
  – Mistakes (“misinterpretation”)
  – Violations (“intentional braking of rules”)

Sleipner before.....
....and after
Situation awareness

• To let the human ”be in the loop”, to be in full control, by:
  – Observe the situation
  – Understand the situation
  – Make prognosis about what will happen
  – Decide on appropriate actions

• Is a prerequisite for fast and correct actions
  – E.g. taking acute care of an unconscious patient
”Automation surprises”

• Automatic functions can be difficult to predict and understand. They can cause ”automation surprises”.

• In complex situations operators often turn automatic functions off, to be able to handle the situation (”the irony of automation”).
Barriers

- A barrier shall prevent us from performing errors and/or reduce the effects of errors
  - Technical (prevent wrong actions)
  - Information support (give better information)
  - Competencies (education, training)
  - Organisations (rules, safety culture, team management)
Alarms

- Alarms should support, not cause confusion
- Alarms must show what is important and how you should act.
- We cannot handle several alarms simultaneously.
Case 1 – ”Dialysis”
Case 2 – E-records
Safe systems?

• Which are the usability and safety problems?
• What to do, to prevent errors, incidents and accidents?
• How to do it?
• Who should do it?