

Hospital Beds are more interesting than you thought!

Summary

The value of research in Human Computer Interaction (HCI) principles and practices was investigated using a commercially available electronically-adjustable hospital bed as a case study. The bed has three control panels: for attendant, nurse, and patient, which adjust the bed to change the patient's posture. If the patient requires cardiac resuscitation (CPR) it is crucial for the bed to flatten quickly, and there is a special CPR button to do this. During our study we found we could "crash" the bed and nothing, including the CPR button, would work! Furthermore, the control panel design violated HCI principles – creating mapping, feedback, and confusion errors. It seems there are many similarly poorly-designed principle-violating medical devices: birthing bed, infant incubator, ventilator, operating table, etc. Device manufacturers and Healthcare purchasing groups should adhere to the standard HCI guidelines and those provided by National Patient Safety Agency (NPSA) and Medicines and Healthcare products Regulatory Agency (MHRA) for the design, regulations and procurement of devices, products, or systems that contribute to patient safety. The research will progress by prioritising the most helpful and effective principles, based on empirical trials and studies with device designers.

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