Emergency visualized

Exploring visual technology for paramedic-physician collaboration in emergency care

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This thesis explores the potential of visual information and communication technologies (ICTs) for collaboration in emergency care. The thesis consists of four studies exploring future technology, 3D telepresence technology for medical consultation (3DMC), from several different methodological and analytical perspectives. Together the studies provide a broad view of the potential benefits, risks and implications of using visual technologies for collaboration in emergency care.

The results show that paramedic-physician collaboration via 3DMC might have some benefits for patient care, both in the immediate patient care situation and beyond, for example, when coordinating transport and resources; improving understanding between different actors; and in developing paramedic competence and confidence in their skills. However, collaboration is heavily impacted by physicians’ and paramedics’ respective work practices which are situated in very different physical, professional and organizational contexts. Adding a visual dimension to this collaboration presents unique challenges for the overall design, development, implementation, and appropriation process. Thus, the thesis emphasizes the importance of understanding both the individual users as well as the complex overall image which, although often neglected or ignored, is crucial to understand when developing and introducing new technology that is successful and justified in the overall context while also being useful and meaningful for the individual users.

Keywords: 3D video; emergency care; e-health; paramedic; collaboration; collaborative work; computer supported cooperative work; CSCW; information ecology; information practice; pre-hospital care; sociotechnical; telemedicine; telepresence; video communication; visual technology