Introducing Design Principles for Clinical Decision Support Systems

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Abstract : The increasing usage of clinical decision support systems in healthcare and the demand for software that enables doctors to take informed decisions is changing everyday clinical practice. However, as technology advances not only are the benefits of technology growing, but so are the potential risks. A growing danger is the doctors' over-reliance on the proposed decision of the clinical decision support system, leading towards deskilling and rash decisions by doctors. In that regard, identifying doctors' requirements for software and developing approaches to prevent technological over-reliance is of utmost importance. In this paper, we report the results of a design science research study, focusing on the requirements and design principles of ultrasound software. We conducted a total of 15 interviews with experts about poten-tial ultrasound software functions. Subsequently, we developed meta-requirements and design principles to design future clinical decision support systems efficiently and as free from the occur-rence of technological over-reliance as possible.

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