Evaluating and Optimizing the Design of Clinical Decision Support for Paramedics in the Field

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Millions of people call upon emergency medical services each year to access the healthcare system by ambulance. Nearly every moment of every day, paramedics across the globe respond to provide medical care in austere environments with limited access to the tools, diagnostics, and technologies available to clinicians in the hospital setting. As such, these clinicians rely heavily upon their clinical skills and predetermined decision support, or protocols, which are prescribed by a medical directorate. These protocols usually take a paper form and can be extensive. To date, there has not been any kind of empirical review of these clinical decision tools and whether their design supports or impairs their utility and usability. Our novel investigation seeks to answer these questions and evaluate the effectiveness of redesigned protocol displays informed by research in other domains as well as user profile analyses of providers in two different Kansas EMS Systems.