

Project Title: Improving CPR quality through effective integration of visual feedback

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Project description:

High-quality cardiopulmonary resuscitation (CPR) is directly associated with better patient outcomes and decreased mortality. However, studies have demonstrated that provider compliance with American Heart Association CPR guidelines for chest compression rate, depth, and fraction is poor. New generation defibrillators have capitalized on efforts to improve CPR quality by developing real-time feedback to support CPR providers during resuscitation events. Though prior research has demonstrated the value of immediate feedback in improving human performance, a recent systematic review found that the use of real-time CPR feedback is not consistently associated with improved outcomes. Optimizing CPR performance requires examining resuscitation teams' use of real-time feedback from a defibrillator, and understanding how these responses are shaped by characteristics of the work system. The objective of the proposed study is to investigate how resuscitation teams receive and respond to real-time visual feedback from a defibrillator with CPR feedback technology and how these responses and CPR quality are affected by alterations to the physical environment. The findings from this study will inform the redesign of clinical work systems to achieve better integration of CPR feedback technology and consistent, high quality resuscitations.

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