

Public Abstract

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Title:Evaluating Usability, Effectiveness, and Usage of Telehealth Technologies

Affordable Care Act (ACA) has allowed more patients that did not previously have health care insurance to have coverage and access to care. This increase in the number of patients seeking medical care will only add additional stress to the existing disproportion of supply and demand for health care providers. In addition, rising health care costs have major effect on how, where, and even if consumers will get needed care.

This study examined three different telehealth platforms in three different medical specialties in order to evaluate the perception that they would be appropriate vehicles for increasing access to care. I also wanted to find out what the users' perceptions of these technologies are, as that can be a driving factor in adoption of new technologies.

The first study examined the usability and acceptance of new mobile application in tele dermatology clinic. The second study focused on usability and acceptance of ICU Robots in a medical ICU. Finally, the third study evaluated if children and youth currently using telepsychiatry as a care delivery method would have other in-person options if telehealth was not available.

The results of these three studies point at the complexity and richness of telehealth. The adoption and acceptance of mHealth was very fast and streamlined. In the same fashion, children might not have other appropriate options for care if telepsychiatry was not available in rural Missouri. Interestingly, though, the provider acceptance of ICU Robots was slow, with some provider disengagements observed.

This research contributes to the field of health informatics and medical informatics by evaluating adoption and usability of technologies from the provider perspective, vs. the more traditional approach of examining patient satisfaction, or even provider satisfaction without fully understanding the implications of attitudes on the adoption itself. This study has focused purposefully on different groups of providers using different types of telehealth technologies so we could try to see the bigger picture of how telehealth actually contributes to the health care organizational structure.