



mHealth at an Urban Safety-net Emergency Department



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Learning Objectives

- To understand the efficacy, utility, and technological proficiencies of patients visiting a urban, busy safety-net ED.

Case Description

- Mobile phone technology (mHealth) based interventions have expanded rapidly to improve chronic disease self-management in a variety of clinical settings.
- mHealth interventions in safety-net EDs are limited. In this study, we describe feasibility and provide practical considerations for mHealth solutions at safety-net emergency departments (EDs) via analysis of patient technological capacity and its effect on mHealth engagement.
- We analyzed the 2017 Text-MED + FANS social support intervention for diabetes randomized clinical mHealth trial. We surveyed patient technological capacity and frequency of use at initiation.
- Patient technological capacity was used with latent class analysis (LCA) to identify two classes of patients with higher or lower technological proficiency.

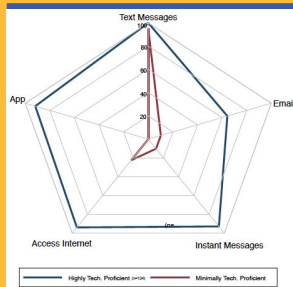


Figure 1. Tech capacity at a safety-net ED.

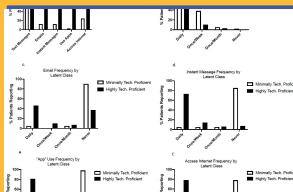


Figure 2. Tech frequency of use.

Discussion

A 90% minority cohort was recruited. Significant variance was found in technology capacity and frequency of use.

LCA classified 75% of patients as "highly technologically proficient" and 25% as "minimally technologically proficient." Age ($p < 0.0001$) and educational attainment ($p < 0.05$) correlated with class membership.

Highly technologically proficient patients were younger and had higher educational attainment than the minimally technologically proficient patients (45.74 years old with 90% high school or more compared to 53.64 years old and 18% high school or more for minimally technologically proficient patients).

Highly technologically proficient participants exchanged a mean of 40 text-messages compared to 10 text-messages by minimally technologically proficient patients ($p < .0001$).

Capacity varies for different ED communication modalities, but the majority of patients classify as highly technologically proficient; these highly proficient patients had greater engagement in the mHealth intervention.

Implications

Diverse safety-net ED patients are equipped and ready for mHealth solutions.