Introduction & Background

Introduction
• Heart failure (HF) is the leading cause of hospital readmissions in the US
• Post-discharge readmission and mortality rates remain unchanged for the past 20 years
• mHealth technology can have a large impact on chronic disease management due to popularity, availability, portability, and technological advances of mobile devices

Background
• 26 million cases of HF worldwide, total medical cost estimated to increase by $32 Billion
• mHealth technology-assisted monitoring and education can reduce HF exacerbation and readmission by 30%
• The American Heart Association states that monitoring weights is the cornerstone of HF self-management (14% report weighing themselves, while 9% reported monitoring for changes in symptoms)
• Nurse Navigator Check-In Service (NNCIS) is a two-way automated text-message or phone-based service
• Shortens feedback loops to notify providers of events at home and allows increased low-risk patient engagement
• Patient’s intention to use the service and its efficacy has not been evaluated

Purpose & Aims

The purpose of this project is to evaluate the intention to use mHealth and self-care behaviors among outpatient patients with heart failure who opt to use the Nurse Navigator Check-In Service.

The aims of this human subjects research project were to
1) examine intent to use NNCIS among patients with HF using the Technology Acceptance Model
2) compare pre- and post- European Heart Failure Self-care Behavior Scale (EHFScBS) scores to look for improved self-care behaviors among patients who use the NNCIS

Methods

Design: This human subject research project used observational study, and a single pre-intervention survey as well as pre- and post intervention surveys
Setting: a suburban outpatient cardiology clinic in Northern Virginia

Measures:
• Technology Acceptance Model (Chuttur, 2009)
• 12-item adapted survey examining intent to use, perceived ease of use, perceived usefulness, and social factors influencing NNCIS use
• European Heart Failure Self-care Behavior Scale (Østergaard, Mahner-Jimhof, Lauridsen, & Wagner, 2017)

Inclusion criteria:
• Patients with HF diagnosis, >18 years and <90 years of age, must have texting or calling capabilities on their personal cellular devices, cognitively intact, and literate in English

Sample:
• A convenience sample of five voluntary patients with HF

Results

Sample Characteristics of Patients with Heart Failure

Demographic characteristics (N = 5)

<table>
<thead>
<tr>
<th>Age range, n(%)</th>
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<th>66-80 years</th>
<th>60+ years</th>
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Years treated for heart failure, n(%) 0-2 years 6-10 years 1+ years 3 (60) 1 (20) 1 (20)

Evaluation of Technology Acceptance and Self-Care Behaviors Among Patients Using Standardized Text-Messages or Phone-Based Interventions

Jennifer Nguyen, BSN, RN; Martha Abshire, PhD, RN; & Mary Ann Friesen PhD, RN, CPHQ

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Technology Acceptance Model (Chuttur, 2009)

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Conclusion

- The findings were consistent with what the organization has been experiencing with this mHealth tool
- It is promising that patients believe mHealth can help them manage their HF easier and that they intend on incorporating mHealth platforms into their at-home chronic disease care
- However, other mHealth platforms should be trialed to optimize patient self-care compliance and usability

Dissemination

Results of this project were shared with the nurse navigator and healthcare system facility coordinator. Copies of the validated tools, the adapted technology acceptance model and the European heart failure self-care behavior scale, were left with the nurse navigator to use with future patients. There are plans to present these findings at the hospital's annual Evidence-Based Practice Symposium.

References