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## Background

- Congestive Heart Failure (CHF) is a leading cause of readmission among those who are 65 years and older.
- According to CDC, 5.1 million Americans are living with heart failure costing the nation \$32 billion annually for treatment and in missed productivity.
- □ Recent changes in reimbursements by Centers for Medicare and Medicaid Services (CMS) are placing burden on healthcare facilities to minimize 30-day readmission rates.
- □ As the healthcare industries are trying to meet the new guidelines, evidenced based practices are explored to reduce re-hospitalization rates and improve patient outcomes.

### Purpose

- CHF is leading cause of re-admission among 65 years and older and as all of the baby boomers are expected to reach this age group by 2030 which makes up of 19% of the total population hence managing CHF disease process become a national priority.
- □ As nurses, it is essential to be aware of evidenced based modalities to transition care into the community and be an advocate for their patients.
- □ If telemonitoring is proven to be a tool that can reduce readmission rates and support selfmanagement skills, nurses can identify and advocate for potential candidates.
- The purpose of the study was to see if there was ample evidence to show telemonitoring may perhaps improve 30-day readmission rate of CHF patients, post acute care.
- □ Previous studies that evaluated admission data determined, three-fourths of the approximately one million admission each year are preventable.

## **Patient Selection Criteria**

- □ Participants in this study were veterans who were hospitalized with primary diagnosis of CHF during the period of May 2013 to December 2013.
- □ Participants were divided into 2 group:, the telemonitoring group and the usual care.
- □ Intervention group were enrolled in telemonitoring program during hospitalization with exacerbation of CHF.
- The usual care group was hospitalized during the same time period but discharged without telehealth intervention.
- Telemonitoring group patients were enrolled into telehealth program while in the hospital by an RN care coordinator before discharge and usual care group patients were discharged prior to RN care coordinator evaluation for the program.

## sampling for selection of participants.

- □ Participants were selected into 2 groups and outcomes were compared for both intervention groups.
- The study variables were analyzed and organized using descriptive statistics and inferential statistics was used when looking at the relationship between the independent variables, the telemonitoring group and usual group and the dependent variables, the readmission rates.
- Chi-Square test was conducted to assess the relationship between the two categorical variables.
- Telemonitoring consults were screened for inclusion and exclusion criteria using the guidelines already in use by the program.
- □ Institutional IRB approval was received prior to data collection according guidelines set forth.

**Telemonitoring Reduces 30-Day Readmission Rates of Congestive Heart Failure Patients, Post-Acute Care** Aleyanma J. Samuel, MSN, RN-BC Michael E. DeBakey VA Medical Center, Houston, TX aleysamuel75@gmail.com/832-721-9064

### Design

Quantitative descriptive study, employing convenient

# Methods

- Total of 60 participants were selected with 30 in usual care group and 30 in telemonitoring group.
- Retrospective chart reviewed were conducted and organized in Excel spreadsheet and data analyzed separately and compared
- □ Variables collected during chart review: age, gender, ethnicity, primary diagnosis, co-morbidities to include diabetes, chronic kidney disease, COPD, hypertension, length of stay for the enrollment admission and subsequent admissions, number of re-admissions during the first 30 days of discharge, left ventricular ejection fraction (LVEF), New York Heart Association (NYHA) functional class for both group.
- □ Participants from each group were numbered and stripping any identifiable data.
- Researcher used the Minitab® Statistical Software package to preform data analysis.
- The probability value (P-value) for this research study was 0.05. The P-value of 0.05 indicated that researcher was 95% confident that the difference in variables did not occur by chance alone. Only 5% chance that the differences in variables occurred by chance.

## **Baseline Characteristics**

- □ The median age for both groups (N=60) were 67 years: 50% (N=30) were blacks, 45% (N=27) were Whites and 5% (N=3) were Hispanics.
- □ NYHA: Class 1- 3% (N=2); Class II -18% (N=11); Class III -50% (N=30); Class IV-12% (N=7); while 17% (N=10) did no have this class documented.
- □ LVEF: EF <15-20% 38% (N=23); EF 26-35% 20% (N=12); EF 36-45% - 28% (N=17); EF 46-55% - 13% (N=8)
- □ DM: 62% (N=37), HTN: 85% (N=51), COPD: 38% (N=23); CKD: 35% (N=21)





### Results

- □ Re-admissions within 30 days of discharge: Usual Care 37% (N=11); Telemonitoring group 7% (N=2)
- LOS for initial admission: Usual Care Mean (std) 5.30  $(\pm 4.60)$ , telemonitoring group 4.87  $(\pm 3.10)$
- LOS for repeat admission: Usual group Mean (std) 2.60  $(\pm 4.80)$ , telemonitoring group 0.40  $(\pm 1.52)$ .
- Percentage of ER visits related to CHF within 30 days: Usual Care and telemonitoring group were almost identical
- □ Percentage of PCP visit within 30 days of discharge: Usual care group 73% (N=22), telemonitoring group 60% (N=18).
- Chi-Square analysis was conduced to evaluate the relationship between the independent variable, telemonitoring group and usual care group and the dependent variable, re-admission rates with predetermined p-value of 0.05.
- Chi-Square calculation of number of participants readmitted within 30 days of discharge due to CHF and treatment group was p=0.005, less than predetermined p-value of 0.05 which indicate the relationship is of significant difference.

### Conclusion

- □ Based on the Chi-Square analysis, there seems to be association between the re-admission rate for CHF and the two treatment modalities.
- Although, implementation of he telemonitoring may add an additional cost up front, this added component embraces positive outcomes when used as an adjunct to usual care.
- This is a promising result showing reduction in readmissions thereby providing care right care at the right time.