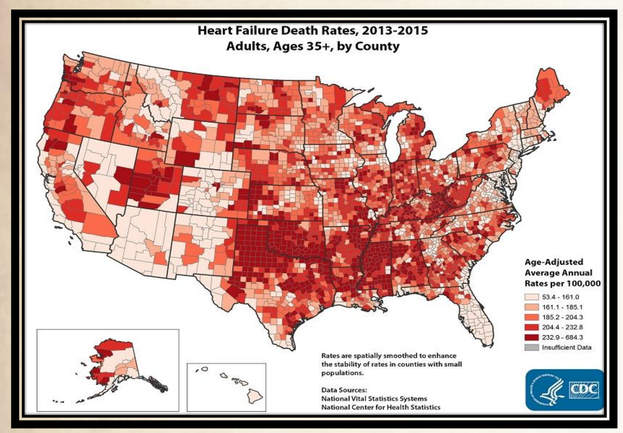
DECREASING CONGESTIVE HEART FAILURE READMISSION WITH TELEMONITORING

Mary Ezebuiro BS, BSN, RN, CVRN

University of Houston College of Nursing

Practice Concern

- CHF is a leading cause of mortality, morbidity and economic cost to the United States (CDC, 2014)
- Majority of these deaths associated with CHF can be prevented through a timely and effective medical care intervention



(CDC, 2014)

Needs Assessment

- 5.7 million Americans are currently living with congestive heart failure and the number is expected to double over the next 25 years
- 1 in 9 deaths in 2009 included heart failure as contributing cause (CDC, 2014)
- 20% will die within 1 year of CHF diagnosis and 50% within 5 years (CDC, 2014)
- Heart failure costs the nation an estimated $30.7 billion each year (CDC, 2014)
- 25% CHF are readmitted within 30 days and 30% within 60 to 90 days

PICOT Question

In patients with CHF between the ages 21-70 years who are going to be discharged, does the use of CHF app result in a decline in readmission rates due to CHF Exacerbation in a 3 month period?

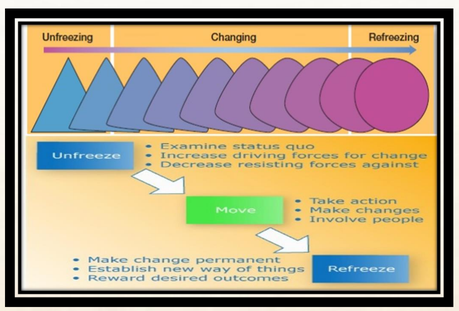
Literature Review

- Databases- CINAHL, PubMed, MEDLINE, OVID, and Cochrane.
- Levels of evidence- Level I and II; 10 of level 1; 6 of level 2
- Level I evidence-The Agency for Healthcare Research and Quality (AHRQ),Cochrane database systematic reviews, Center of disease control (CDC), the guidelines found from American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines and the Heart Failure Society of America (ACC/AHA/HFSA)
- Key search words- CHF readmission, CHF noncompliance, Mobile Health, self-monitoring; CHF (Congestive Heart Failure)

EBP Guidelines

- Identify patients by risk of readmission and classification
- Reconcile medications across the continuum of care based on 2016 ACC/AHA/HFSA focused update on new pharmacological therapy for Congestive heart failure (Yancy et al., 2016)
- Provide CHF education at multiple intervals that emphasize weight monitoring, medications, activity, diet, smoking cessation and avoid illegal drugs; education should include definition of CHF, precipitants of worsening disease, warning signs, and home self-care activities
- Referral to multidisciplinary CHF care team including dietician, respiratory therapist physical therapy, cardiac rehab, case manager, social worker and patient
- Schedule a follow up appointment within 7 days after discharge (AHA, 2014)
- Pre-cardiac workup based on recommendation including echocardiogram (echo) and electrocardiogram (EKG)
- Download the free CHF app at the time of admission

Theoretical Framework



(Levin, 1951)

UNIVERSITY of HOUSTON
COLLEGE of NURSING

Implementation

Multidisciplinary CHF Care Team

- Apply for a research grant for financial incentive
- Recruit a programmer to create an app
- Reinforced to the stakeholders at the Hospital about financial incentives to reduce hospitalizations and penalization for readmission

Implementation Process

- Research will be at hospital in Houston
- 30 patients will be selected based on the inclusion criteria and followed for 90 days; patients will be given scale, blood pressure machine and pulse oximetry which will wirelessly upload to the app daily to prevent human error
- Data will be analyzed daily including subjective data to assess the likelihood of exacerbation
- Virtual Care will be done via app by a cardiologist or NP for potential readmission cases and monthly for medication adjustments based on vital signs, labs and weight
- Follow up every 4 weeks at the heart failure clinic for evaluation of treatment

Evaluation

Impact on Hospitalization and Mortality

- The app will reduce CHF readmission and all-cause hospitalization by 20%
- Increase or normalization of ejection fraction will be noted in intervention group
- 5-10% decline in mortality

References

- Available upon request

Acknowledgements

- Good Samaritan Scholarship
- Dr. Varghese and Dr. Wade
- University of Houston and College of Nursing