



Translation Services to Reduce 30-Day Readmissions for Congestive Heart Failure

Dr. Crystee Cooper, DHEd, MPH, LSSGB, CHES, Dallas-Fort Worth Hospital Council Foundation
Rajasree Sarah Das, MPH



Introduction

An estimated 5.1 million adults in the United States have Congestive Heart Failure (CHF) and projections show that by 2030, the prevalence of the condition will increase by 25%¹. Hospitalizations account for \$39 billion spent annually for CHF care making it a key focus for quality improvement and cost reduction efforts².

- 24.4% of CHF patients are readmitted to the hospital within 30 days³.

- The ACA's Hospital Readmissions Reduction Program (HRRP) requires CMS to reduce Medicare payments to hospitals with excess 30-day readmissions for CHF. Hospitals may be concerned about the overall financial impact of the HRRP including funding readmission reduction strategies.

Hypothesis

After discharge, noncompliance with medications and diet frequently contribute to higher readmissions, suggesting that about three-quarters of readmissions within 30 days were potentially preventable^{4,5}.

- Lack of understanding, language and cultural barriers contribute to noncompliance of discharge instructions⁶.

- Strategies recommended for reducing readmissions include follow-up, improved patient education and patient-centered discharge instructions⁷. Effectiveness of evaluated interventions have shown mixed results and evidence-based interventions such as nurse follow-ups post discharge may be too expensive for many hospitals, particularly safety net institutions^{5,8}.

- Two North Texas hospitals are participating in the CMS funded Partnership for Patients, which seeks to reduce readmissions for CHF by 20% over a three-year period. From Q3 2010-Q2 2012, the two hospitals had 1789 cases of CHF of which 401 (22%) were readmitted.

- **Study Objective:** Evaluate if CHF readmissions at these two hospitals can be reduced by 20% by providing a video method of communicating discharge instructions utilizing personal tablet devices for home care use.

Methods

Currently the two hospitals utilize standardized written discharge instructions and offer in-person or phone translation services. In this randomized controlled trial, study patients are provided a personal tablet device for home use that plays videos providing the hospital's standardized discharge instructions. The videos are in English, Spanish, Vietnamese and Russian. The study is organized in four phases and is currently in the second phase of patient enrollment and follow-up.



Figure 1: Tablet playing *Winning Hearts* video

- To be considered for enrollment, the CHF patient is required to demonstrate the ability to use the device.
- 30 patients were enrolled in the study.

Characteristic	Number of patients (n=30)
Sex	17 Female; 13 Male
Age (mean)	68 years
Language	27 English-speaking 3 Spanish-speaking 0 Vietnamese or Russian-speaking

Figure 2: Demographics of study patients

- Participants will be tracked over a 3-month period to determine if readmissions occurred at 30, 60 or 90 days and were surveyed after 30 days regarding device usage.

- In the third phase of the study, each study patient will be matched with another CHF patient with similar demographics to run a control group. The study group's CHF readmission rate will be verified with hospitals' admission data and compared to the control group's readmission rate.

Results

Nineteen of the 30 enrolled patients have been surveyed to date. Although the study is still in progress, a descriptive analysis of the 19 surveys was conducted to identify trends and preliminary results. All completed surveys were by English-speaking patients (or their caregivers).

- Three out of the 19 patients (15.8%) stated they had been readmitted to the hospital.
- 57.9% said that they find the discharge instruction videos to be helpful in their home care.
- 47.4% of the participants said they utilized the tablet primarily for its intended use of watching the discharge instruction videos.

Figure 3: Perceptions regarding tablet usage

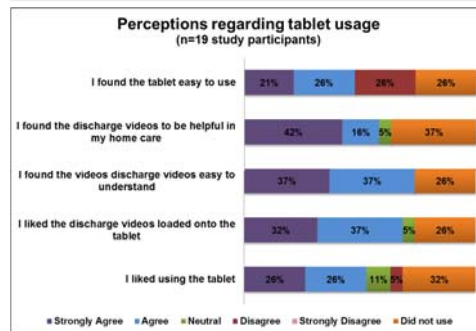
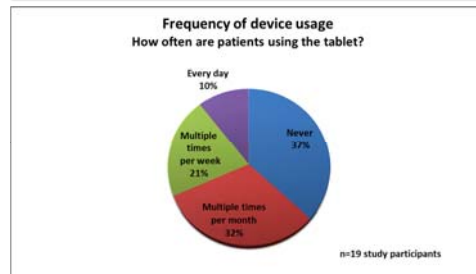


Figure 4: Frequency of device usage



Conclusions

The study population's readmission rate (15.8%) is 28% lower than the CHF readmission rate at the two hospitals (22%).

- If final study results indicate the target reduction in the CHF readmission rate, hospitals should consider adopting the tablet/video method as an affordable and effective technology-based solution to improve care transition for CHF patients.

Intervention cost and benefit: The unique features of this technology-based method of patient education such as ability to access videos at any time, play videos repeatedly and device portability were all noted as benefits by study patients.

- Approximate retail cost per tablet used in this study is \$80 and the method requires fewer resources than comparative strategies. Further comparative effectiveness and cost analysis of the intervention to other evaluated interventions is recommended.

Technology Literacy Barrier: Several survey respondents provided feedback that they had some initial difficulty operating the tablet. This may be attributed to the age of CHF patients (study median age: 72.5 years) who are generally less familiar with tablets versus younger age groups.

- A simplified tablet user guide was created for the study to address technology literacy. Hospitals should consider this barrier when designing similar technology-based interventions.

Enrollment Limitation: Three Spanish-speaking and zero Russian or Vietnamese-speaking patients were enrolled. This limitation prevents evaluating if the intervention's non-English language videos are effective in preventing readmissions.

References

1. Go AS, Mozaffarian D, Roger VL, et al. Heart Disease and Stroke Statistics-2013 Update: A Report from the American Heart Association. *Circulation*. 2013; 127: e6-e127.
2. Dunlay SM, Shah ND, Shi Q, et al. Lifetime costs of medical care after heart failure diagnosis. *Circ Cardiovasc Qual Outcomes*. 2011; 4: e57-65.
3. Krumholz HM, Merrill AR, Shone EM, et al. Patterns of Hospital Performance in Acute Myocardial Infarction and Heart Failure 30-Day Mortality and Readmission. *Circ Cardiovasc Qual Outcomes*. 2009; 2: 407-413.
4. Rich MW, Beckham V, Wittenberg C, et al. A multidisciplinary intervention to prevent the readmission of elderly patients with congestive heart failure. *The New England Journal of Medicine*. 1995; 333: 1190-1195.
5. James J. Health Policy Brief: Medicare Hospital Readmissions Reduction Program. *Health Affairs*. November 12, 2013. Available at: <http://www.healthaffairs.org/doi/full/2013/11/12/13152>. Accessed April 10, 2014.
6. Spear AM, Campbell PR, Cherie C, et al. Seamless Care: Safe Patient Transitions from Hospital to Home. In: Henriksen K, Battles JB, Marks ES, et al., editors. *Advances in Patient Safety: From Research to Implementation (Volume 1: Research Findings)*. Rockville (MD): Agency for Healthcare Research and Quality (US); 2005 Feb 7.
7. Bradley EH, Curry L, Hawley LJ, et al. Contemporary Evidence About Hospital Strategies for Reducing 30-Day Readmissions. *J Am Coll Cardiol*. 2012; 60(7): 607-614.
8. Hansen LO, Young RS, Hinami K, et al. Interventions to reduce 30-day rehospitalization: A systematic review. *Annals of Internal Medicine*. 2011; 155: 520-529.