Assessment of a Heart Failure 30-Day Readmission Risk Tool

Joyce Putnam DNP, RN, ACNP-BC, CCRN

Acknowledgements

- I must thank my committee
- Chair, Dr. Kenneth Lowarance
- Committee member, Dr. Melissa Sherrod

Objectives

- Discuss the evidence regarding the 30-day readmission tool.
- Describe the implementation of the tool using the Iowa model.
- Discuss the findings of the project with implications for practice.

Purpose

- The goals of this project were to identify heart failure patients at risk for 30-day readmission, to provide a smooth transition from hospital to home, to improve the patient's quality of life, and to reduce healthcare costs by decreasing the readmission rates for this patient population.

Background

- Heart Failure (HF) affects more than five million Americans
- HF is the #1 reason for hospital admissions in people over age 65
- Annual cost of HF hospitalizations $34.8 billion
- Approximately 25% are readmitted within 30 days
- Readmissions cost an estimated $17 billion a year

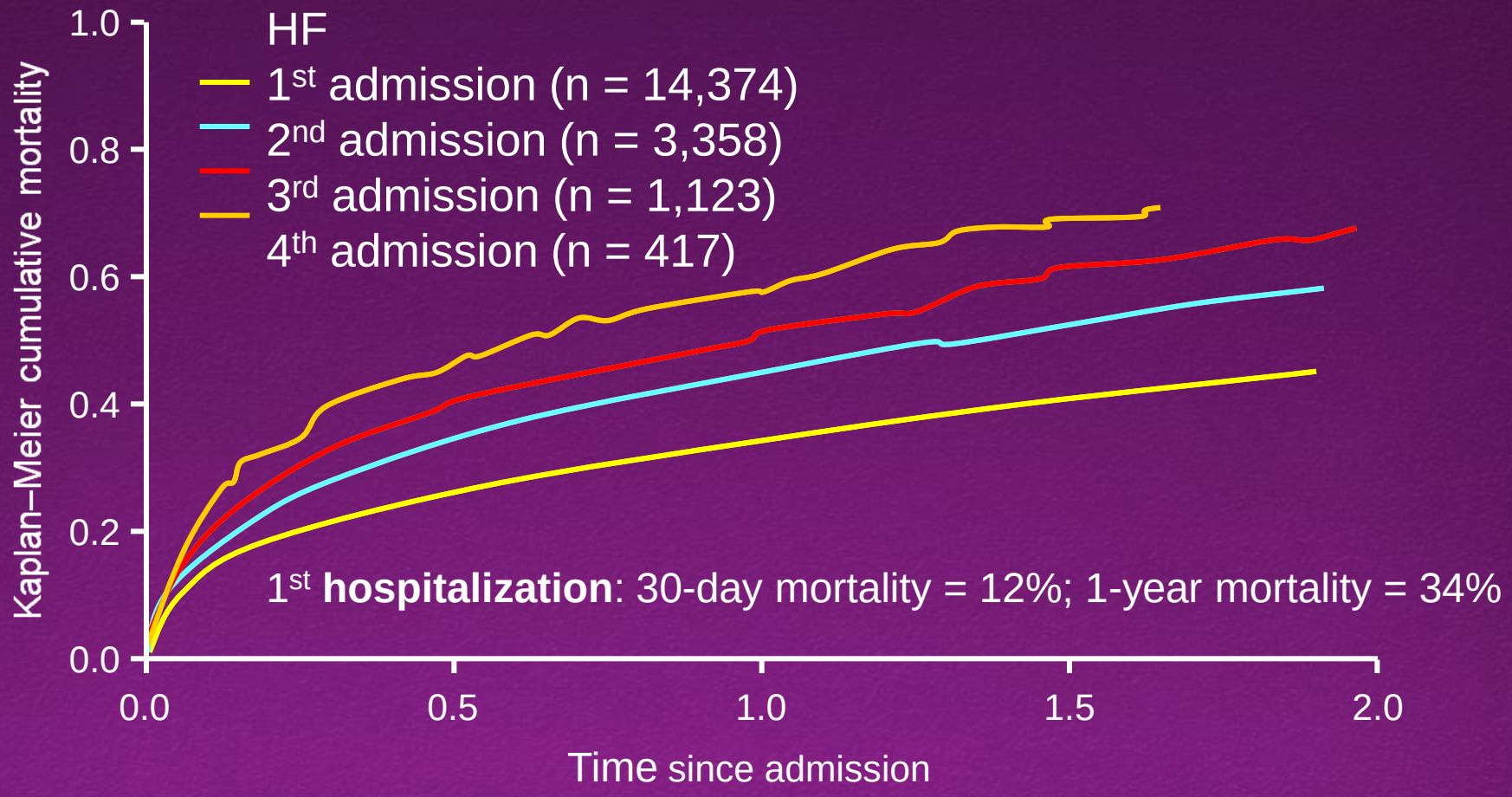
Background

- Target of legislative action
- Readmissions rates of hospitals are posted on Hospital Compare website (CMS)
- Fall 2012 Medicare payments will be reduced to hospitals with high readmission rates

Background

- It is not just about cost, there is a human factor
- Loss of independence for HF patients
- Quality of life decreases with each HF hospital readmission

All-Cause Mortality After Each Subsequent Hospitalization for HF



Setoguchi S, et al. *Am Heart J.* 2007;154:260-266.

Guiding Framework

- Iowa Model of Evidence-Based Practice to Promote Quality Care
- Priority to organization
- Team development
- Relevant research
- Pilot the change
- Evaluation and outcomes
- Dissemination of results

Synthesis of Literature

- 30-Day HF readmission risk models
- Transition from hospital discharge to home
- Lack of social support
- Cognitive dysfunction
- HF mortality risk models
- HF survival models

Intervention

- ESCAPE Risk Model (Evaluation Study of Congestive Heart Failure and Pulmonary Artery Catheterization Effectiveness)
  - Age > 70 years
  - BUN > 40 mg/dl
  - BUN > 90 mg/dl
  - Six minute walk test less than 300 feet
  - Sodium < 130mEq/l
  - CPR/mechanical ventilation
  - Furosemide dose > 240 mg at discharge
  - BNP level > 500 pg/dl
  - BNP level > 1300 pg/dl

Intervention

- Added features to ESCAPE Risk Tool
- Inadequate support systems
  - Living alone
  - Being homebound
  - No family available
- Cognitive dysfunction

Implementation

- Identify patients on admission
- BNP levels
- List of possible HF admission diagnoses
- Identified patients by number on tool
- Discharge list compared to admission data

Data Collection

- BNP Levels
- Admitting and discharge diagnoses
- ESCAPE Risk tool with modifications implemented and scored

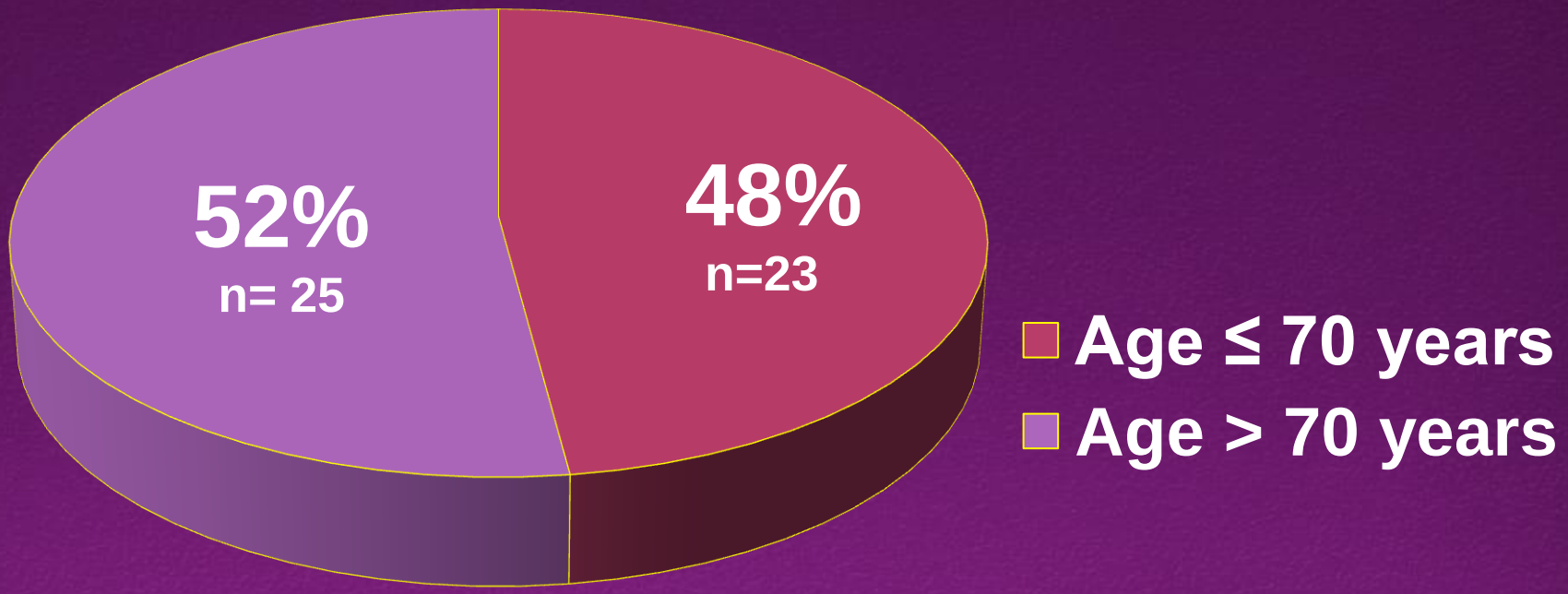
Results

- Total of 51 patients evaluated
- 3 removed due to lack of BNP level
- 22 patients with low risk
- 13 patients with moderate risk
- 13 patients with high risk

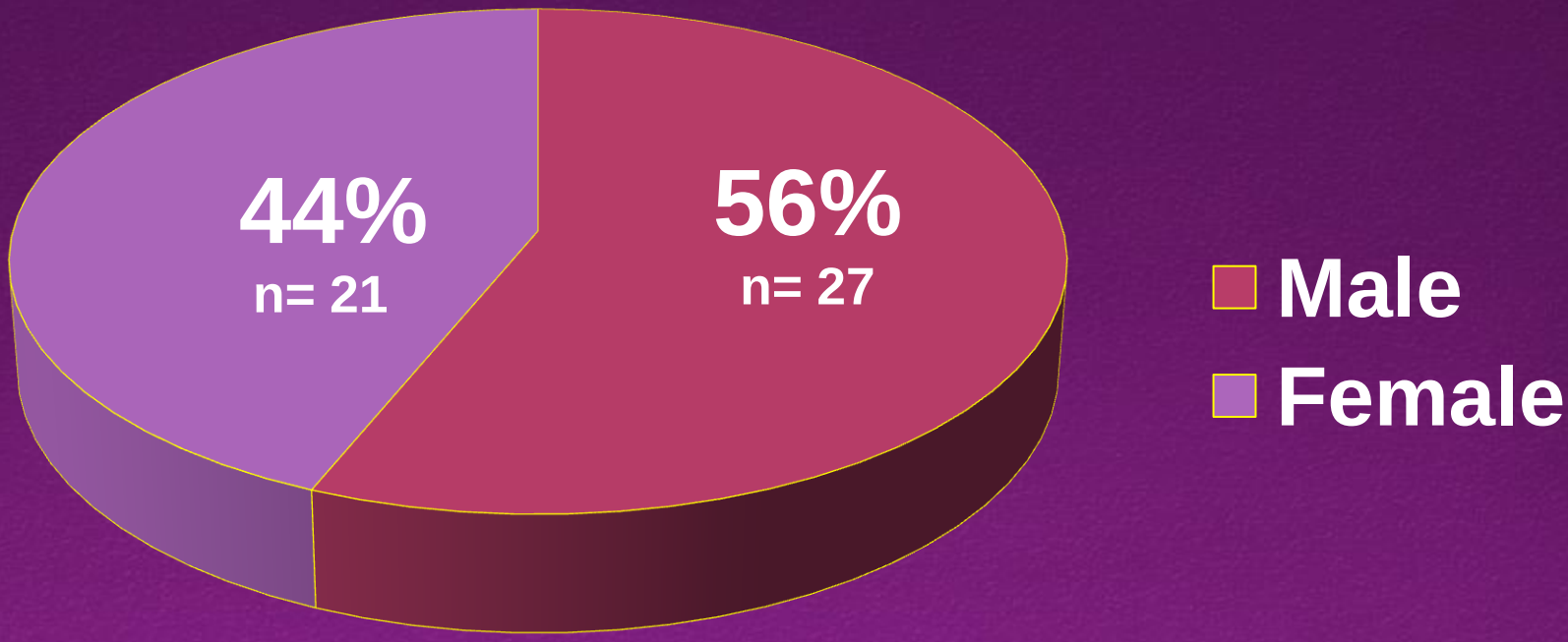
Results

- Readmission results
  - 8 patients identified in October as high risk for readmission
  - 2 of those patients were readmitted in November

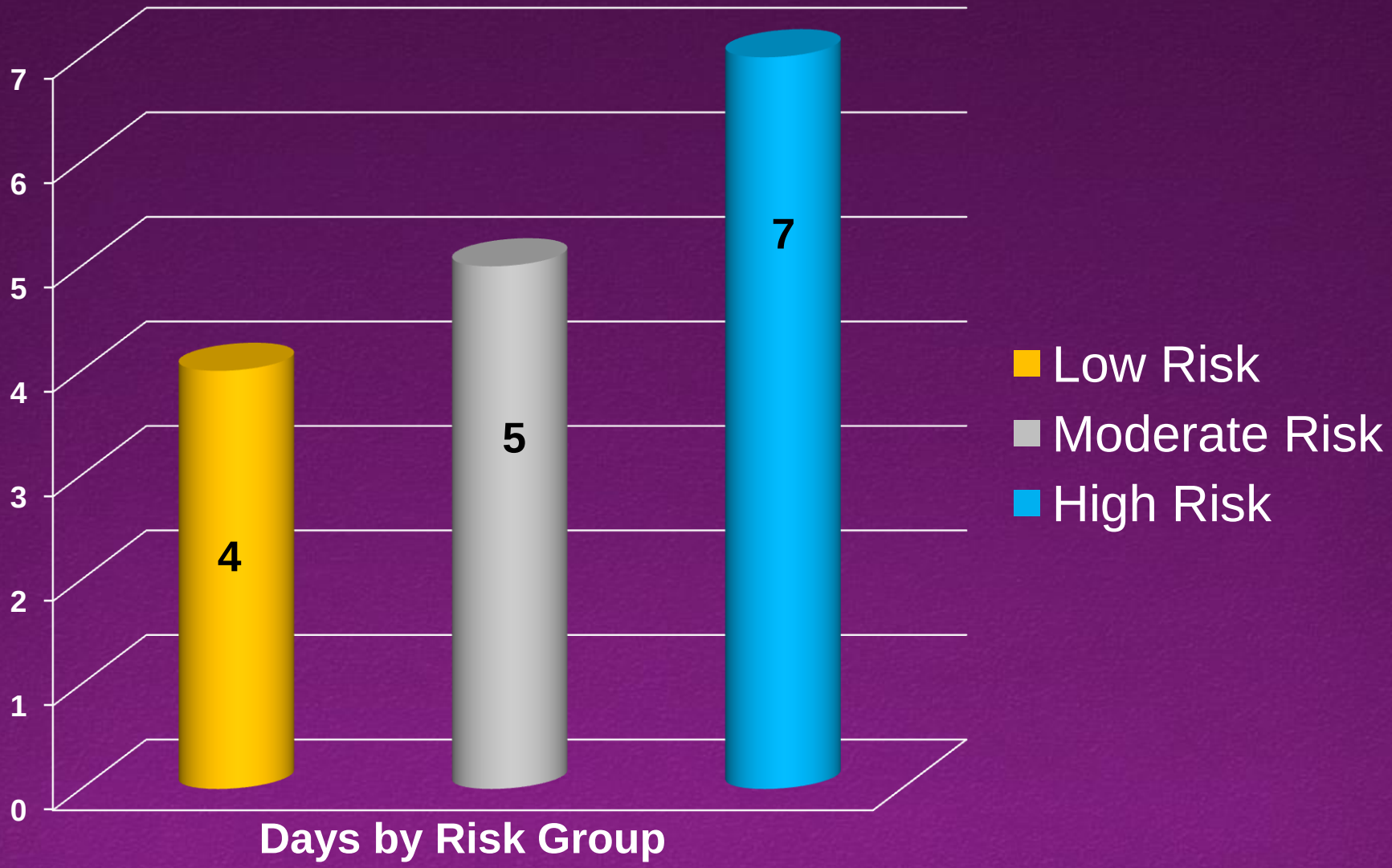
Age Demographics



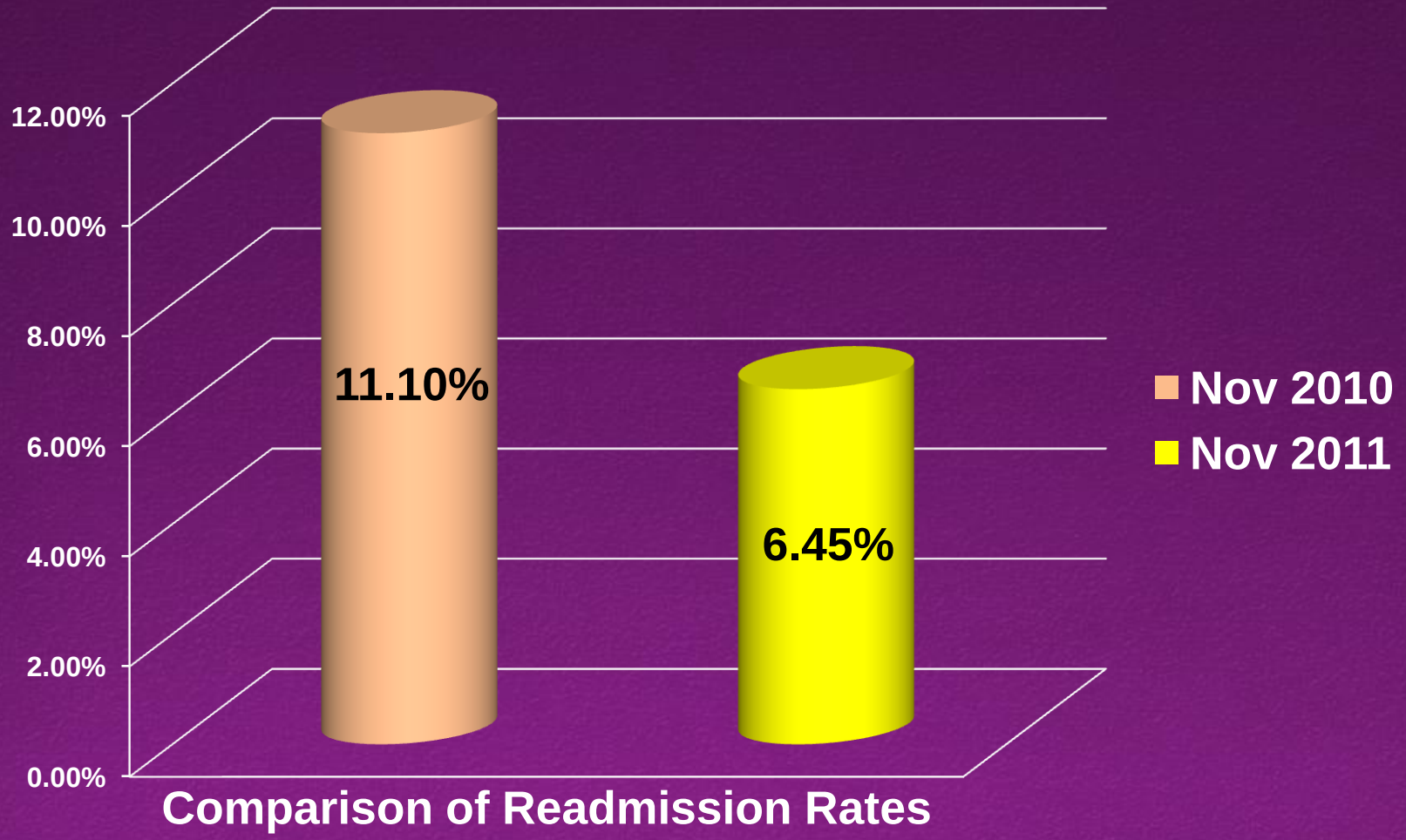
Gender Demographics



Median Length of Stay in Days



Plaza Medical Center Readmission Rates



Conclusions

- ESCAPE tool with modifications did identify 2 patients as high risk who were readmitted
- 6 other patients were identified as high risk but were not readmitted
- High risk group had the longest length of stay
- Tool can potentially be used for risk assessment
- Further study is needed to establish validity and reliability

Lessons Learned

- BNP levels are not always drawn on HF patients
- Including the BNP level as part of the ESCAPE tool is a strength but also a limitation
- Serial BNP levels are not recommended, admission and discharge BNP levels only

Lessons Learned

- Cognitive dysfunction is a common problem with HF patients
- Few clinicians document this finding on the inpatient medical record, only dementia is documented
- This became a limitation of the tool to accurately assess cognition

Lessons Learned

- One aspect of the tool evaluated the six minute walk test less than 300 feet
- Author was dependent on nurses' documentation of activity level
- This was a limitation to correctly asses the patient's ability to perform the walk test

Future Directions

- First step to enhance tool development is to establish validity and reliability of the modified ESCAPE risk tool
- Current risk models available all need further study

Future Directions

- Lack of social support described as living alone, homebound or lack of family support benefit from a smooth transition to home
- Early follow-up by the practitioner within 4-5 days of discharge is essential
- Use of the *virtual ward* described by Lewis (2010)
- Follow-up phone calls within 2-3 days of discharge

Future Directions

- Cognitive dysfunction is a complex problem and is prevalent in the HF population
- Cognitive dysfunction is underappreciated by healthcare clinicians
- Lack of documentation in the pilot study seems to confirm this
- Nurses must be aware to adjust education based on cognition and include the home caregiver

Future Directions

- Risk assessment for readmission is the first step
- Transitioning from hospital to home is critical
- Practitioners must see HF patients within 5-7 days post discharge
- Institute for Healthcare Improvement (2007) set forth a solid plan: enhanced admission assessment, enhanced teaching and learning, patient/family-centered handoff communication, and post acute care follow-up

Dissemination

- Share information with colleagues
- Poster/oral presentations
- Written articles
- Further study – planning the next step