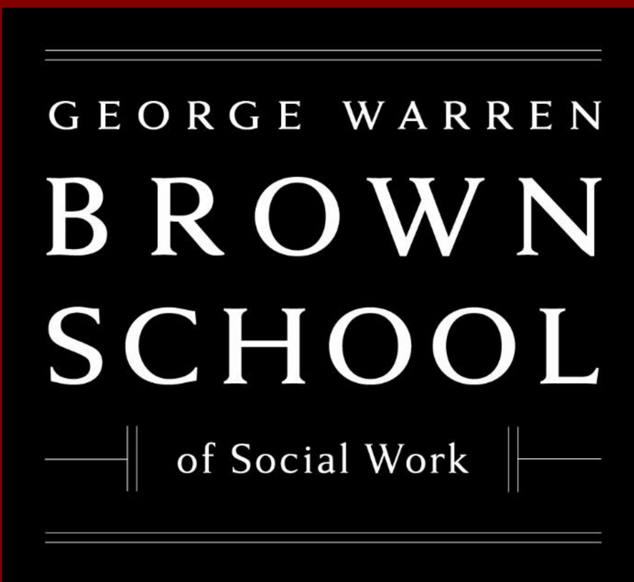


# PREDICTORS OF CARDIAC REHABILITATION INITIATION AMONG RURAL HEART FAILURE PATIENTS

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## Introduction

In 2014, the Centers for Medicare and Medicaid Services (CMS) approved systolic heart failure (HF) as a covered diagnosis for outpatient cardiac rehabilitation (CR). Unfortunately, the precipitating trial did not include individuals residing too far from data collection sites. The exclusion criterion put rural HF patients at a disadvantage from the outset.

## Purpose

The purpose of the study was to determine what individual characteristics were predictive of CR initiation among a rural HF cohort.

## Methods

A purposeful sample of hospitalized rural HF patients was selected for participation (n = 60). The sample was required to be purposeful in order to meet CMS guidelines for participation in CR:

- Stable HF;
- Ejection Fraction ≤ 35%;
- New York Heart Association class II – IV symptoms, despite optimal HF therapy for at least 6 weeks.

A forward logistic regression analysis was performed to detect significance among individual characteristics.

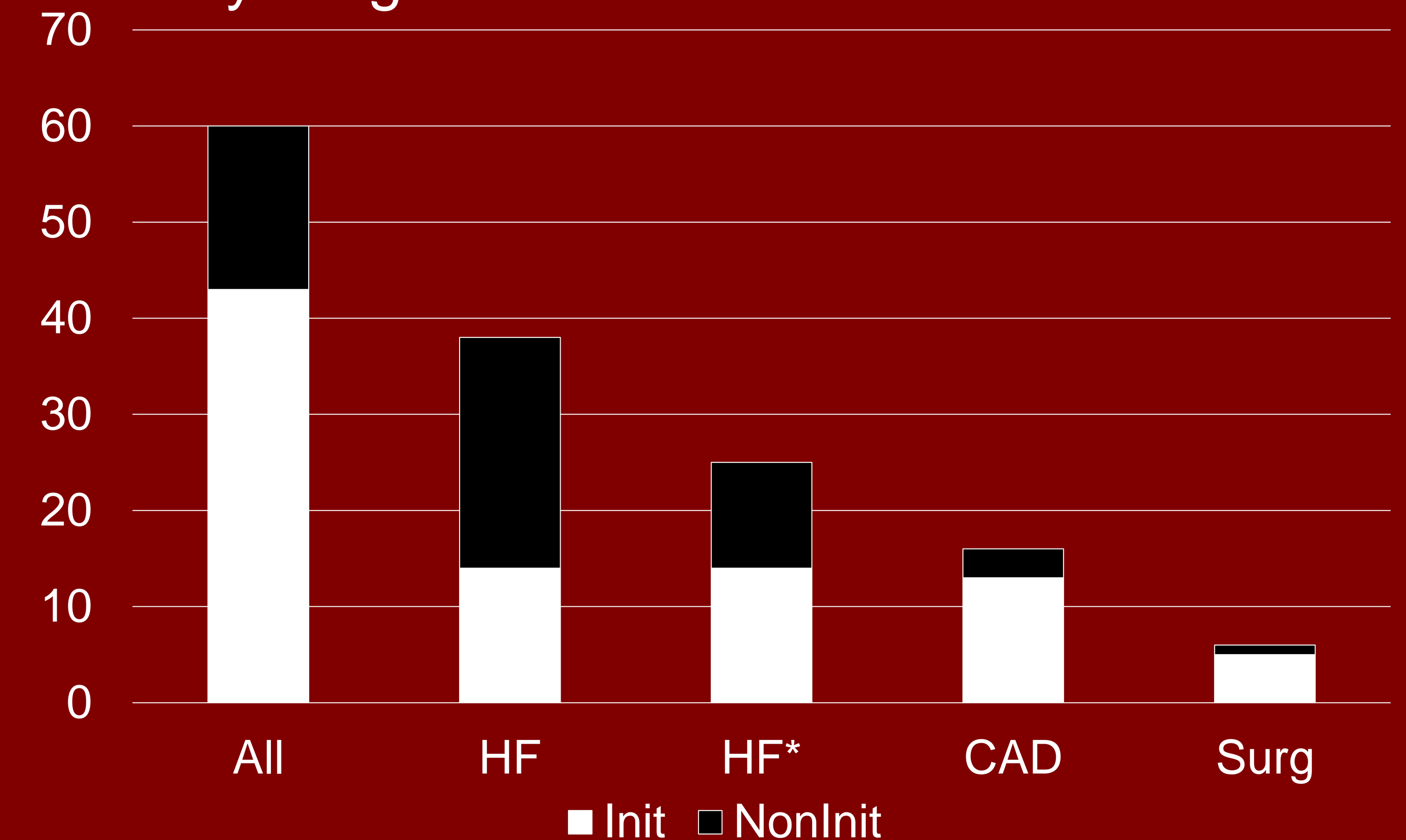
## Measures

- 5 – Item Demographic Instrument
    - Completed by participant
- 10 – Item Clinical Demographic Instrument
    - Completed by researcher

## Results

- Independent predictors of CR initiation
    - CR diagnosis ($p$ = .003)
    - Transportation ($p$ < .001)
    - Income ($p$ < .001)
    - Race ($p$ < .001)
    - Distance to CR ($p$ < .001)
    - Education ($p$ < .001)
- Combined predictors of CR initiation ($\chi^2=57.35$, $df=9$, $N=60$, $p<.001$)
    - Gender ($p$ = .05)
    - Income ($p$ < .001)
- Other notable findings
    - See Figure 1 for CR initiation/noninitiation by diagnosis
    - 25% of patients were illiterate
    - 27.9% below poverty line
    - 1 death during study (not included in analysis)

Figure 1: Participant Referral and Initiation of CR by Primary Diagnosis




*Note:* HF=heart failure; HF*=heart failure with refusals excluded; CAD=coronary artery disease; Surg=heart surgery; Init=initated; NonInit=non-initated.

## Conclusion

A multidisciplinary approach is encouraged to ameliorate possible barriers to CR among rural HF patients. Practitioners cannot change innate characteristics of individuals; however, practitioners have the ability to aid patients in other ways. Selection of the most appropriate diagnosis code and transportation assistance, may lead to greater CR uptake among rural HF patients. Rural HF patients deserve the same quality of care as their urban and suburban counterparts, as practitioners, it is our duty to ensure quality care for all.

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