Among Heart Failure Patients Minority Race is Related to Higher 30-Day Readmission

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Introduction

- African Americans and other racial minorities are generally undertreated for heart failure (HF)
- We recently reported that Door-to-Diuretic Time (D2D Time), or the time between presentation and first diuretic, is associated with double the odds for mortality among patients with HF

Aim

- Primary: To assess differences in D2D Time between racial minorities and non-racial minority
- Secondary: To assess differences in 30-day readmissions and 1-year all-cause mortality between racial minorities and non-racial minority

Methods

- Electronic medical records were screened for patients with HF presenting to ED based on ICD-10 code and positive Framingham HF Criteria
    - Exclusion: ventricular assist device, dialysis/ultrafiltration, not receiving IV diuretic
- In 1-month intervals, over 1-year, all-cause mortality and readmissions were recorded
- Minority was a binary variable (White/ Non-White)
- D2D Time was not normally distributed and log-transformed
- Statistics: Descriptive, Mood's median test, X^2, and logistic regression with 95% confidence interval

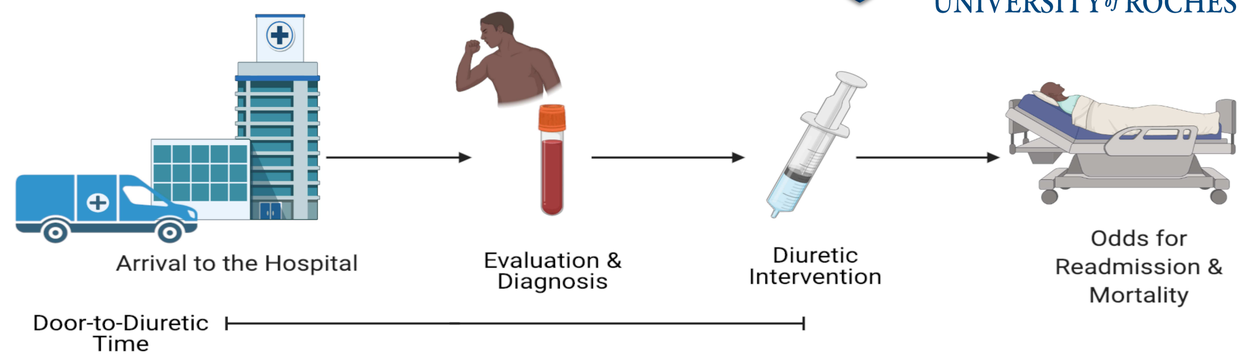

Figure 1. Depiction of Door-to-Diuretic Time.

Results

- Sample size, n=160 patients
    - Age 70±14.4 years
    - Male, n=83 (52%)
    - Minority, n=39 (24%)
    - Ischemic cardiomyopathy, n=85 (53%)
    - NYHA Class III-IV, n=134 (83%)
    - 32% (n=51) readmitted within 30-days
    - 30% (n=48) died within one year

Table 1. Median (Interquartile Range) of Door-to-Diuretic Time and Diuretic Dose across Minority and Non-Minority Samples.

	D2D Time (Minutes)	Diuretic Dose (Milligrams)
General Sample	252 (294)	40 (20)
Minority (n=39; 24%)	266 (379)	40 (20)
Non-Minority (n=121; 76%)	240 (276)	40 (20)

- Minorities had more readmissions (28% n=34/121 White; 45% n=18/39 X^2=4.1 p=0.04) but similar deaths as non-minorities (33% n=40/121 White; 23% n=9/39 X^2=4.1 p=0.22)
- Similarly, being a minority was a predictor of 30-day readmission (2.14 95%CI 1.06-4.78 p=0.05) but not death (OR=0.56 95%CI 0.22-1.43 p=0.22)

Conclusions

- While minorities did not have a delayed D2D Time, they had more 30-day readmissions
- More research is needed to identify reasons for the higher 30-day readmission rate among minority and marginalized populations