**Supplemental Figure 1.** Correlation Matrices of Study Participants’ Numeracy, Health literacy, and Cognition assessments

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**Supplemental 1 Figure Legend:** Correlation matrices demonstrating the relationship between numeracy (SNS), literacy (BHLS and sTOFHLA), and cognition (SPMSQ) of the study participants. The darker dots indicate greater numbers of participants who scored in that range, for each of the scales. Of note, the SPMSQ is the only scale that is in reverse direction. Top Row shows that the BHLS and the SNS are moderately correlated (rho=0.41) and that the SNS and the sTOFHLA are weakly correlated (rho=0.28). Middle Row shows that the SPMSQ and the SNS are weakly correlated (rho =-0.26) and the BHLS and the sTOFHLA are weakly correlated (rho = 0.39). Bottom Row shows that the SPMSQ and the BHLS are weakly correlated (-0.25) and the SPMSQ and the sTOFHLA are weakly correlated (rho=-0.35)

**Supplemental Figure 2.** Study Flow Diagram

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**Supplemental Figure 2 Legend:** ACS: Acute Coronary Syndrome; ADHF: Acute Decompensated Heart Failure

**Supplemental Table 1.** Characteristics of Study Participants Hospitalized for Acute Decompensated Heart Failure (ADHF) by Subjective Health Literacy



Continuous variables are summarized with the median and Inter Decile Range: median (IDR)

Categorical variables are summarized with the n and percentage: n (%)

N is the number of non–missing values

Income was considered a continuous variable but the numbers represent ordinal categories: 1=<$10,000, 2=$10,000–$14,999, 3=$15,000–$19,999, 4=$20,000–$24,999, 5=$25,000–$34,999, 6=$35,000–$49,999, 7=$50,000–$74,999, 8=$75,000–$99,999, 9=$100,000.

Educational attainment ranges from 1 year to 25 years.

For associations with categorical variables, the Pearson Chi-Square test was used

For associations with continuous variables, the Kruskal-Wallis test was used

**Supplemental Table 2.** Characteristics of Study Participants Hospitalized for Acute Decompensated Heart Failure (ADHF) by the 30-day Readmissions



N is the number of non–missing values

For associations with categorical variables, the Pearson Chi-Square test was used

For associations with continuous variables, the Wilcoxon test was used

**Supplemental Table 3.** The Effect of Numeracy, Health Literacy and Cognitive Impairment among those hospitalized for Acute Decompensated Heart Failure (ADHF) on 30-Day Readmissions in the Vanderbilt Inpatient Cohort Study (VICS) – **Expanded Table**



Poisson Model Estimates

Model 1adjusts for numeracy, health literacy, and cognition

Model 2adjusts for Model 1 variables and demographics

Model 3 adjusts for Model 2 variables and clinical and diagnostic characteristics

Model 4 adjusts for Model 4 variables and hospitalization characteristics