We described the site symptoms (KCCQ the mean relative difference in two statistically identical patients An adjusted median odds ratio (aMOR) was calculated to estimate frequency score) were used to capture a clinically relevant summary The KCCQ Kansas City Cardiomyopathy Questionnaire (KCCQ) a reliable PROM for heart failure patients health status (LVEF ≤ 40%) between December 2015 captures contemporary treatment patterns in patients with HFrEF composition and sensitive PROM for heart failure patients

**METHODS**

- **BACKGROUND**

  - A key goal of heart failure (HF) management is to optimize patients' health status (their symptoms, function, and quality of life)
  - Prior studies have described variation between healthcare systems and providers using HF-related morbidity and mortality
  - No studies to date have examined health status differences across outpatient practices

- **CHAMP-HF** is a multicenter, observational registry of US sites that captures contemporary treatment patterns in patients with HF/EF (LVEF ≥ 40%) between December 2015 – March 2017

- The primary outcome for this cross-sectional analysis was the Kansas City Cardiomyopathy Questionnaire (KCCQ) – a reliable and sensitive PROM for heart failure patients

- The KCCQ-OS (summary score) and KCCQ-SF (symptom frequency score) were used to capture a clinically relevant summary of all HF domains and symptom burden

- KCCQ-OS and KCCQ-SF scores range from 0 to 100 (higher scores reflect better health status) and a 5-point change in KCCQ-OS is clinically meaningful

- An adjusted median odds ratio (aMOR) was calculated to estimate the mean relative difference in two statistically identical patients having excellent health status (KCCQ-OS ≥ 75) or minimal/no symptoms (KCCQ-OS ≤ 25) at any two CHAMP-HF sites

- Hierarchical multivariable linear regression, with site as a random effect, was used to determine the mean difference KCCQ-OS and KCCQ-SF score for each site characteristic (Table 1 and 2)

- We described the site-specific proportion of patients exhibiting KCCQ-OS or KCCQ-SF scores ≥ 75

**RESULTS**

- The overall mean (±SD) KCCQ-OS was 64.2 (±24), with the following distributions of patient health status observed: poor (<25; n = 228, 8.5%), fair (25-49; n = 785, 22.5%), good (50-74; n = 1,101, 31.5%), and excellent (75-100; n = 276, 38.5%)

- The overall mean KCCQ-12-SF score was 88.9 (±25.6), with the following distributions of symptom frequency: daily (<40; n = 548, 15.7%), weekly (40-74; n = 1,186, 33.9%), monthly (75-99; n = 1,219, 34.9%), and minimal (100; n = 541, 15.8%)

- The mean difference in KCCQ-OS scores among the 15 sites with ≥100 patients was 3.3 (0.2, 6.4) and the aMOR was 1.70 (95% CI 1.54, 1.99; p < 0.001) indicating an average 70% higher odds of having excellent health status if the same patient was treated at one random site versus another

- For KCCQ-SF, the aMOR was 1.54 (95% CI 1.41, 1.76; p < 0.001) indicating an average 54% (95% CI 41%–67%) higher odds of having minimal/no symptoms if the same patient were treated at one random site versus another

- Compared to family practice, patients at HF (+6.5 points; 95% CI 0.5, 12.4; p = 0.033) and general cardiology (+6.5 points; 95% CI 1.4, 11.7; p = 0.012) sites had significantly better health status scores; patients enrolled at a suburban setting had better health status compared with those at an urban setting (+3.2; 95% CI 0.2, 6.1; p = 0.034)

- There was a wide range in the proportion of patients with excellent health status (0.77%; Figure 1) and monthly or fewer symptoms (8.42%; Figure 2)

**LIMITATIONS**

- CHAMP-HF was conducted in voluntary participating sites committed to clinical research and might therefore not be fully generalizable to the entire population of HF/EF patients

- Information on whether patients received care from other providers in regard to their heart failure management, or the duration and frequency of their care, was not recorded

**CONCLUSIONS**

- We found substantial site-level variability in patients having excellent health status or monthly-no symptoms

- Our study findings emphasize the potential of a PRO-based performance measure to incentivize practitioners to optimize the health status of their HF/EF patients in the outpatient setting, which can complement current cost-effecting efforts and increase the potential to achieve early post-discharge outcomes

**DISCLOSURES**

Doyle, J. Welch, and co-authors reported funding from the Duke Clinical Research Institute (DCRI) and Boston Scientific, and the Duke Heart Failure Center. No other conflicts of interest were declared. The results described in this manuscript do not necessarily represent the views of the United States Department of Veterans Affairs. The Duke Clinical Research Institute receives funding from the Research Services Department of the VA. The Veterans Affairs Health Services Research and Development Service supported the preparation of this manuscript. Dr. Javed Butler has served as a consultant for AstraZeneca, Bristol Myers Squibb, Endorex, and Zosano Pharma; Dr. Javed Butler has received research support from the National Institutes of Health and the European Society of Cardiology; Dr. Stacie Lytle has served as a consultant for Mylan, Daiichi-Sankyo, and AstraZeneca. Dr. Javed Butler also serves on the Board of Directors for the Duke Heart Failure Center and the Duke Clinical Research Institute. Dr. Adam D. DeVore receives research support from the American Heart Association and the National Institutes of Health. Dr. Nancy M. Albert reports consulting for Novartis and Boston Scientific and receiving honoraria from Novartis. Dr. Jennifer Z. Goepfert reports consulting for Boston Scientific, and receiving honoraria from Novartis. Dr. Nancy M. Albert reports consulting for Novartis and Boston Scientific and receiving honoraria from Novartis.