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Implementation of a Patient-Reported Outcomes Measure for Patients with Advanced Heart Failure

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Background and Significance

Heart Failure (HF)

- Incidence and Prevalence [1,4,7,9]
- Economic Burden [7,14]
- Morbidity and Mortality [7,9,14]
- Clinical Outcomes and Quality of HF Care [3, 5,13-14, 16]
  - Guideline-directed medical therapy
  - Less emphasized goals of care [4,5,10]
  - Palliative care (PC) underutilized [2, 11,17]

Literature Review

- **Kansas City Cardiomyopathy Questionnaire (KCCQ)**
  - Internationally accepted HF-specific patient-reported outcomes measure (PROM) [3]
  - Quantifies health status and quality of life (QoL) [3,15]
  - Independently predicts adverse events [6,8,12,15]
  - Standardizes health history [8, 18]
  - Detects subtle changes in health status [8,12]
  - Evaluates responsiveness to therapy and facilitates clinical decision-making [8, 18]
  - Informs quality improvement and population health initiatives [8,18]

Problem

- QoL impaired in HF patients
- High morbidity/mortality
- PC underutilized
- Readmission rates and CMS penalties significant
- PROM not used in clinical care
- Detailed methods for clinical integration lacking

Purpose and Aims

- Improve QoL and quality of care for HF patients through the integration of the KCCQ as standard clinical practice in the advanced HF clinic
- Administer KCCQ as new standard of care
- Evaluate impact on patients' QoL and quality of care

Methods

- **Setting**: Hospital-affiliated advanced HF clinic
- **Participants**: Advanced HF patients
- **Intervention**: Implement KCCQ as new standard of care
- **Measures**:
  - Aggregate KCCQ summary and subdomain scores
  - 30-day readmission rates
  - Mortality rates
  - PC consultation rates
  - Method of administration

Results

- 573 office visits in HF clinic between November 2020 and February 2021
- 252 KCCQ-12 completed by 198 unique patients (43.97% adoption rate)
- Significant improvement in frequency of KCCQ-12 completions between first and last month of project ($p<0.0001$), 4-month linear trend significant ($p<0.0001$)
- 69% (n=175) of KCCQ completed via interview or pen and paper administration, 31% (n=77) via patient portal
- No significant changes noted in mean monthly aggregate scores for the summary score (health status), QOL score or other subdomain scores
- Palliative care consults rose from zero to seventeen consults per month
- No significant changes noted in readmission or mortality rates

Discussion

- Extensive collaboration with Information Services
- Many technological issues encountered
- Alternative administration workflows needed
- Adopting new process for collecting pertinent health history ongoing
- Monthly KCCQ completion rates significantly improved
- Mean KCCQ-12 scores did not change over time
- PC integrated as member of advanced HF multidisciplinary team
- Learning curve for clinical interpretation of KCCQ scores
- KCCQ completion by patient portal improved office efficiency

Implications for Practice

- Shift to patient-centered care model
- Align treatment plan with patients' goals of care
- Strengthen patient-provider relationship
- Risk stratification for morbidity and mortality
- Reduce 30-day readmission and mortality rates
- Changing KCCQ scores can prompt timely adjustments in clinical management, evaluate effectiveness of treatment
- Increase PC consultations for advanced HF patients
- Leverage health technology to improve quality of care
- Increase office and clinician efficiency

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