Implementation of the Six Minute Walk Test Before Discharge to Reduce 30 Day Heart Failure Readmissions

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Disclosure Information

• There are no relevant financial relationships related to this presentation/program.
• There is no sponsorship/commercial support of this presentation/program.
• The content being presented will be fair, well-balanced and evidence-based.
• Learners must have signed the attendance roster at registration this morning and will need to complete the on-line evaluation after the conference to successfully complete this program and receive the contact hours certificate.
Background of Six Minute Walk Test (6MWT)

- **Was developed to evaluate functional capacity of patients**
- **Measures the distance a patient can walk in 6 minutes**
  - Goal = to walk as far as possible
  - Paced by patient
  - Symptoms are assessed before/after
- **Completed by Cardiac Rehab technicians**
  - Goal = complete 24 – 48 hours prior to discharge
- **6MWT results align discharge services and support for HF patients**
Significance

- Approximately 5.7 million adults in the U.S. have HF
  - “About half of people who develop HF will die within 5 years of diagnosis” (CDC, 2016)
- HF was a contributing cause for one in nine deaths (CDC, 2016)
- HF accounts for high-volume and frequent readmissions (TrendWatch, 2015)
  - HF accounted for 134,500 hospital readmissions for Medicare patients (AHRQ)
- The Hospital Readmission Reduction Program (HRRP) was established as part of the Affordable Care Act (ACA), requiring CMS to reduce payments to hospitals with excess 30 day readmissions (CMS, 2016)
Literature Review

• 6MWT results are an independent predictor of mortality and hospital readmission in HF patients (Ingle et al., 2014)

• A 6MWT less than or equal to 468 meters was associated with a higher risk of mortality or hospitalization (Wegrzynowska-Teodorczyk et al., 2013)

• Patients in the lowest quartile of 6MWT distance (87-419 m) had 4 times the rate of cardiovascular events as those in the highest quartile (544-837 m) (Beatty et al., 2012, p. 1096)
Literature Review

• 6MWT is a less complicated and less expensive test
  – Utilized to predict patients’ hospitalizations and mortality

• Readmission, cost, and mortality rates decreased when HF was managed by a multidisciplinary team (Rasmusson et al., 2006)

• 6MWT and HF Navigator program used to:
  – Identify patient needs upon discharge
  – Provide patient education on lifestyle changes
Patient Identification

**Population**: Patients admitted with a history of HF to inpatient cardiology unit

**Setting**: A 23 bed inpatient cardiology unit in a 500 bed Academic Medical Center

• **Indication for readiness for 6MWT**:  
  – Transition from IV diuretics to PO diuretics  
  – Patient will be discharged home

• **Exclusion from 6MWT**:  
  – Advanced Heart failure patients  
  – Electrophysiology patients  
  – Congenital patients  
  – Patient’s being discharged to SAR or LTACH
Discharge Trajectories

• 6MWT *less than* 330m = enrolled in the RN led Care Coordination Program (CCP)

• 6MWT *greater than* 330m = enrolled into Cardiac Rehab services
Role of HF Navigator

• Identify patients with HF
  – Classify patient as Standard or High Risk
  – Identify Key learners/contact information

• Begin HF education with patients
  – Page Doctors for appropriate consults
  – Establish patient-centered goals

• Conduct 30 day readmission interviews

• Work with Cardiac rehab on 6MWT
  – Refer appropriate patients to CCP
Care Coordination Program

• RN-led program
  – Provides ongoing support and guidance in self-management of HF
  – Utilizes diuretic protocol

• Team includes:
  – Social workers
  – Pharmacists

• Fosters long-term relationship and support with patients
## Results

<table>
<thead>
<tr>
<th>Reporting Period</th>
<th>Discharged from 3NW with principle diagnosis of HF &amp; Readmitted (Unplanned, All cause)</th>
<th>6MWT not completed</th>
<th>6MWT &lt;100m or AHF</th>
<th>6MWT 100-330m (Care Coordination Program)</th>
<th>6MWT &gt;330m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct 17 – Oct 31</td>
<td>2/11</td>
<td>0/5</td>
<td>1/2</td>
<td>1/2</td>
<td>0/2</td>
</tr>
<tr>
<td>Nov 1 – Nov 30</td>
<td>3/30</td>
<td>2/16</td>
<td>1/2</td>
<td>0/11</td>
<td>0/1</td>
</tr>
<tr>
<td>Dec 1 – Dec 26</td>
<td>5/27</td>
<td>3/17</td>
<td>2/2</td>
<td>0/8</td>
<td>0/0</td>
</tr>
<tr>
<td>Jan 1 – Jan 31</td>
<td>8/35 (22.9%)</td>
<td>7/25</td>
<td>1/2</td>
<td>0/6</td>
<td>0/2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18/103 (17.5%)</strong></td>
<td><strong>12/63 (19.0%)</strong></td>
<td><strong>5/8 (62.5%)</strong></td>
<td><strong>1/27 (3.7%)</strong></td>
<td><strong>0/5 (0%)</strong></td>
</tr>
</tbody>
</table>
Results

• A total of 153 6MWTs ordered (Oct 2016 – March 2017)

• 40 actively enrolled patients in CCP
Results

• Kaplan-Meier survival curves show a significant difference between patients with a 6MWT < 200m and patients with a 6MWT ≥ 200m

• Fewer admissions in ≥ 200m group

• Patients with a 6MWT < 200m were 3.4 times more likely to be readmitted within 30 days
Conclusion

- 6MWT distance < 200m was associated with an increased risk of 30 day hospital readmissions
- 6MWT could be used as a low-cost tool to determine readiness for discharge in HF population
- Preliminary results support that the 6MWT may reduce 30 day readmission rates if patient discharge care is coordinated appropriately
- Preliminary 3NW all cause readmission rates are on target to meet goal, however more data is still needed
Questions?

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References

AHRQ


