Heart to Heart: Improving Outcomes and Decreasing Readmissions for Heart Failure Patients through an Integrated Pharmacist Home Visit Model

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BACKGROUND

- Average readmission rate is 24% nationally among patients hospitalized for heart failure
- At Virginia Mason Medical Center (VMMC), the readmission rate was 22% with medication issues cited as 3 out of 4 reasons for non-adherence with the discharge care plan, resulting in excessive readmissions
- Positive outcomes have been demonstrated with high strength of evidence for home-based programs that included pharmacist interventions

OBJECTIVE

To provide an in-home medication coaching program for patients with Heart Failure discharged from the hospital that identifies and resolves medication related problems in an effort to reduce readmissions.

METHODS

Patient Selection

- Must be followed in outpatient setting by a VMMC cardiologist
- Taking >5 chronic medications
- Discharged from hospital to home with a primary diagnosis of heart failure
- Reside in the surrounding tri-county area

Outcomes

- 30-day heart failure readmissions
- 30-day all-cause readmissions
- Patient rating on usefulness of the program
- Provider satisfaction (post service score only)
- Process metrics for the service
- Medication-related problems & acceptance of recommended interventions

Transition of Care Process

- VMMC CHF Triage nurses identify and introduce program to patients
- Kelley-Ross integrated with read/write access to EMR system
- Each patient received up to 3 home visits and 3 follow-up calls over a 3 month period

RESULTS

Patient Demographics

| Number of Patients | 50
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Average Age of Patients</td>
<td>71.1</td>
</tr>
<tr>
<td>Male vs. Female</td>
<td>48.4% vs. 51.6%</td>
</tr>
<tr>
<td>Average number of Chronic Medical Conditions per patient</td>
<td>7.8</td>
</tr>
<tr>
<td>Average Number of Medications per patient</td>
<td>14.6</td>
</tr>
<tr>
<td>Anticoagulants</td>
<td>77.4%</td>
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<tr>
<td>Hypoglycemics</td>
<td>35.6%</td>
</tr>
<tr>
<td>Opioids</td>
<td>27.4%</td>
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<tr>
<td>Recommended interventions for high-risk medications</td>
<td></td>
</tr>
<tr>
<td>Heart Failure (HFREF &amp; HFpEF)</td>
<td>100%</td>
</tr>
<tr>
<td>Diabetes</td>
<td>50%</td>
</tr>
<tr>
<td>Hypertension</td>
<td>86.9%</td>
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<tr>
<td>Depression/Anxiety</td>
<td>37.1%</td>
</tr>
<tr>
<td>Asthma/COPD</td>
<td>30.6%</td>
</tr>
<tr>
<td>Dementia</td>
<td>4.8%</td>
</tr>
<tr>
<td>Neurologic Disorder (Ex. Stroke, Multiple Sclerosis, Epilepsy, etc.)</td>
<td>9.7%</td>
</tr>
<tr>
<td>Post Myocardial Infarction</td>
<td>4.8%</td>
</tr>
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Process Metrics

| Average Distance from Kelley-Ross to Patient Home | 11.5 Miles (Std Dev ± 8.96) |
| Average Time to Patient contact from Referral | 1.23 Days (Std Dev ± 0.58) |
| Time to home visit from referral | 11.3 Days (Std Dev ± 7.3) |
| Average length of service with patient | 85.4 Days (Std Dev ± 32.3) |
| Average Number of Home Visits per patient | 2.34 (Std Dev ± 0.84) |

Satisfaction

- Patient Impression on Usefulness of the Service
  - Initial (pre-visit) score n = 50
  - Final (post-service) score n = 44

Interventions

Breakdown of Medication/Therapy related Problems

General Types of Interventions Provided

- Medication Modification
- Coordination of Care
- Patient Education
- Prevention and Harm Reduction

Acceptance of Interventions

- Acceptance
- Modified Acceptance
- Refusal
- No Response

IMPLICATIONS

Quadruple Aim

- Better Care: High patient satisfaction and positive patient experience. 100% of survey respondents would recommend this service to others (n = 22)
- Healthy People: Demonstrated improvement in patient outcomes and health
- Provider Work Life: High satisfaction for providers that improves their efficiency and experience working in healthcare
- Lower Cost: Cost analysis of the service reveals that total cost of care may be reduced, thus resulting in savings to insurers, employers, families, and individuals.

Challenges

- Identification of patient candidates during initial hospitalization continues to be the largest barrier to implementation of this system
- Scheduling patients post-discharge more difficult due to patient unavailability

Next Steps

- This program is now expanding to include patients moving from hospital to SNF to home
- Review payment models to continue to support this work, i.e. bundled payments, HRRP, pharmacist credentialing

Let’s go... Beyond The Poster.

kelley-ross.com/h2h

References