Early Learnings from a Heart Failure Daily Health Monitoring Program

Background
Daily weight monitoring may improve care plan compliance and health outcomes for those with heart failure (HF), whose weight gain can be related to fluid retention.1,4 This HF daily health monitoring program was designed to test an early alert process to ensure timely interaction between HF patients and their care team, improve condition related self-efficacy, and treatment adherence. In contrast to prior tele-monitoring programs administered by other health plans, this program was delivered to patients by their physician and care team. Easy to use 3G cellular-enabled weight scales collected accurate data from the patient and delivered real-time alerts to the care team.

Objective
To enroll patients in the HF daily health monitoring program; then measure program utilization, and frequency of daily weigh-ins, and delivery of interventions.

Methods

Study Design: Cross-sectional

Study Period: June 01, 2015 to October 31, 2016 (program ongoing)

Data Source: Web-based application programming interface; a real-time display of weight, alerts, and electronic health records of 219 patients from 7 primary care clinics, with Medicare Advantage health plan coverage from Humana Inc.

Eligible Program Participants:
- Age 65 and older
- Heart failure diagnosis stage D, C, or stage B with high probability of progressing
- ≥400 pounds
- No evidence of cancer, end stage renal disease, or hospice utilization
- Ability to comprehend and perform program instructions

Program Process:
- Program enrollment: Patients were invited to participate in the program by their physician during a regularly scheduled office visit, or invited into the clinic with other eligible patients for a group information/enrollment session.
- Patient materials: Upon enrollment patient participants were provided a packet of information about HF and the daily health monitoring program, and a 3G cellular enabled weight scale.

Weight alerts were generated from the program and used their scales routinely.

Program outcomes: The care team responded to alerts, the same day (i.e., within 4 hours), by phoning the patient at home, assessing the patient’s needs, and intervening into the clinic with other eligible patients for a group information/enrollment session.

Weight alerts were generated 2.0 times per patient per month.

Conclusions
- For patients with HF and other chronic conditions, daily health monitoring programs have the potential to facilitate patient participation and care plan compliance, and improve health outcomes.

Next Steps
- Future work will refine the care model and measure its impact on health and wellbeing, healthcare utilization and related costs.

Limitations
- This study included patients from select clinics and one health plan, and may not be generalizable to all populations.
- Results are descriptive observations of program utilization, and in no way reflect a temporal or causal relationship between measures.

References

Simmons J1, Oyadiran C2, Jacobs E3, McCormick J1, Malen M3, Benefield S1, Biesel A3, Cockrell A3, Colvin J1, Crimmin E1, Dowell M3, Tindall R3, Vana T1

1. Humana Inc. 2. Employed by Humana Inc. at the time of the program

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Results

Figure 1. Program Enrollment

219 patients enrolled in the program and received a scale.

Figure 2. Weigh-ins

Patients tested the scale with their care coach during their office visit.

On average, 76% of patients weighed themselves daily.

Figure 3. Weight Alerts

There were 2,106 total weight alerts during the study period.

Weight alerts were generated 2.0 times per patient per month.

Figure 4. Interventions

There were 2,399 interventions during the study period.

2.3 interventions were received per patient per month.

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The care team called the patient after receiving a weight alert.

Weight alerts allowed care coaches to assess patients’ needs and intervene in real-time.