Introduction

- Heart failure is a chronic disease with significant healthcare burden. Reducing heart failure mortality and readmission are important metrics of high quality care.
- Compared to national average during 2017, we have noticed a very similar rate in heart failure mortality; however higher (25%) readmission rate was observed.
- This initiated a root cause analysis and initial quality improvement initiatives to address this problem.
- In February 2018, a reformed quality improvement team was organized to further improve the 30-day readmission rate compared to top decile performers with an initial aim of reducing and sustaining the rate from 20% to 12% by December 2019.
- This poster presents our approach and discusses steps identified to intervene in this process and testing the effectiveness of these interventions through multiple PDAs.

Methods

- Several QI methods have been used in this process.
- Readmission Data is reported by Crimson.
- Other measures are calculated with the assistance of I.S. / outpatient population.
- Microsoft Office Excel was used to analyze majority of data.
- Failure Mode Effects Analysis (FMEA) was used to identify barriers and create the key driver diagram.
- Multiple PDSA were used to test the suggested intervention for each barrier.
- Smaller teams were formed to focus on different areas based on key drivers including ED identification, inpatient stay, discharge, education and follow up.
- Weekly meetings were scheduled to discuss the progress and redirect the team’s effort as necessary.
- Computer based learning modules, infographics and grand rounds were used to inform and share the progress with providers and the institution at large.

Results

- During the initial phase of the CHF improvement project, two interventions were created: a disease specific order set and CHF computer based learning (CBL) module to inform providers.
- After the reformed readmission reduction committee was formed in February 2018, Failure Mode Effects Analysis (FMEA) was used to identify barriers and create the key driver diagram (Figure 2).
- Total of 13 PDSA were tested for interventions that are discussed in detail below.

C) Effective Discharge and education: The following interventions were designed to approach this key driver.
- 1) Improving CHF education: A 4 prong procedure was deployed to reform CHF education, using multimedia video and interactive tools. We are currently collecting data on effectiveness of these tools.
- 2) Development of Post Acute Care Transfer summary: This tool was developed and utilized to convey post acute care discharge instruction to accepting facilities.
- 3) Disease specific discharge order: This tool will work as last barrier to capture GDMT discharge medication.

D) Timely follow up:
- 1) Redesigning follow up appointment process: Including weekend discharges to reassure early follow up appointment availability. We communicated with all cardiology offices in the region to facilitate post discharge follow up.
- 2) We redesigned and achieved 3 day phone follow up call. We were able to achieve a 53% success rate in reach our patients through follow up calls.
- 3) Involvement of the current ACO system to improve population-based care and follow up. We actively incorporated an ACO system in our patient follow up process.

Discussion

- Many hospitals across the nation are dealing with high 30-Day readmission rates for CHF.
- We could successfully put together a multidisciplinary program to quickly identify heart failure patients, provide evidence based care and monitor GDMT, provide detailed education and reassure post discharge follow up.
- There are many barriers when dealing with heart failure readmissions requiring a multidisciplinary approach.
- Usage of disease specific order set will lead to more usage of evidence based medical therapy which was the hallmark of our findings so far.
- Disease specific CHF order set not only will increase GDMT use, but also promote multi disciplinary care and is expected to decrease avoidable readmissions.
- We are still exploring the areas of the role of education by heart failure experts and the importance of follow up calls.
- Development of readmission risk assessment tool will help us identify patients with higher readmission risk and enable our population health resources to intervene.

Conclusion

- CHF readmission reduction is a multifactorial outcome and requires a multidisciplinary team.
- Implementation of multi-level QI interventions appears to be an effective way to decrease 30-day readmission with no significant increase in length of stay.
- A disease specific order set showed the potential to decrease readmission rates (18.5% vs 16.5%) and appears to be a fundamental tool in orchestrating multidisciplinary care, promoting GDMT, and successful discharge.
- Despite all efforts there is still variation in maximal usage of GDMT. Amongst the GDMT medications, Spironolactone and Hydralazine/Isosorbide use remains low.
- Further time is required to evaluate effectiveness of each intervention.

References