

Home is Where the Heart Should Be – Strategies for Avoiding Hospitalizations in Heart Failure

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Disclosures

Nothing to disclose.



Objectives

- Discuss strategies proven to decrease heart failure hospitalizations
- Review programs at Nebraska Medicine designed to decrease heart failure re-admissions



Strategies to decrease heart failure hospitalizations



Implement appropriate guideline directed medical therapy (GDMT) based on ejection fraction



Initiate GDMT in-hospital as able



Provide hospital follow up at discharge



Heart failure education



Remote monitoring strategies



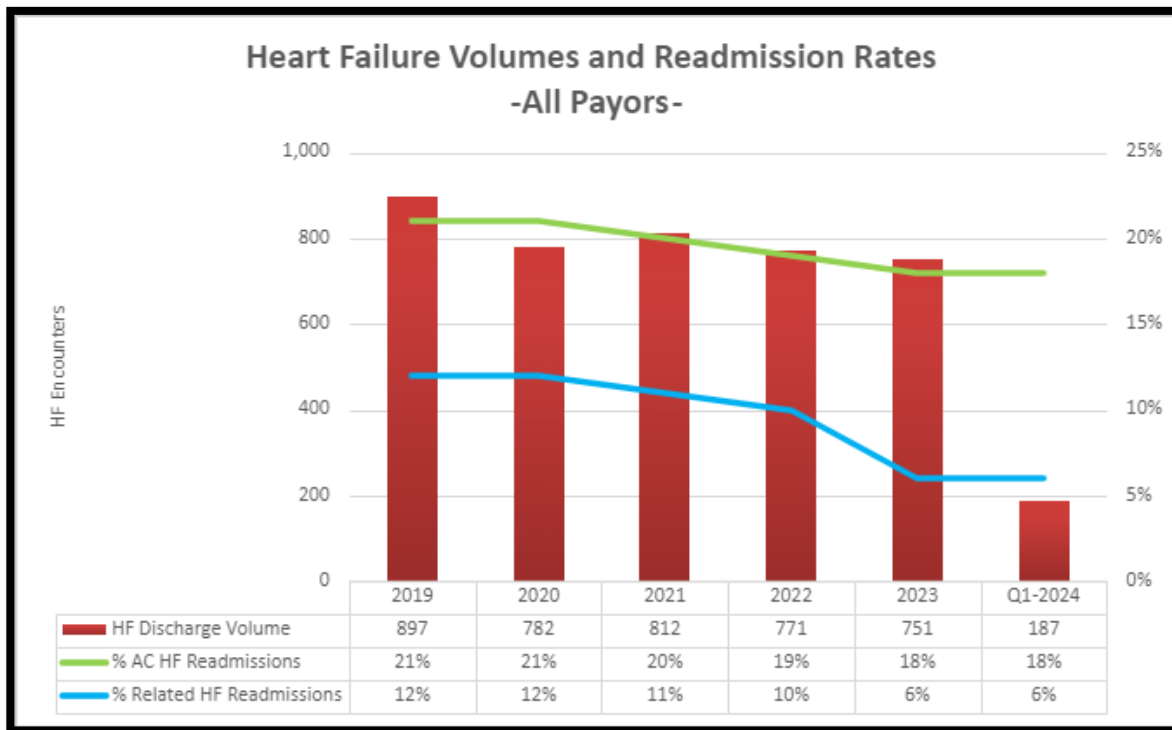
Timely referrals for heart failure specialty care



Utilize a multidisciplinary team



Heart Failure Volumes and Readmissions



Data Source: Vizient CDB/CRM report run 5/15/2024

Principal Diagnosis Codes: HF ICD-10

CMS.go	THE NEBRASKA MEDICAL CENTER	NATIONAL RATE
v Rate of readmission for heart failure patients	No Different Than the National Rate	21.9%



Nebraska Medicine Programs

Optimize Clinic

CardioMEMS™



Optimize clinic

Development of a multidisciplinary, APP managed, HF clinic providing:

- Medication initiation and titration for GDMT
- Education on HF, medications, diet, and activity
- Screening for medical co-morbidities and send appropriate referrals
- Include consultations with pharmacy and nutrition services
- Provide patients with pharmacy and financial assistance programs

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The role of a multidisciplinary heart failure clinic in optimization of guideline-directed medical therapy: HF-optimize



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Optimize Clinic Pathways

HF rEF- 6 Clinic Visits

Visit 1

- HF APP
- Pharmacist

Visit 2

- HF APP
- Dietician

Visit 3

- HF APP
- Pharmacist

Visit 4

- HF APP
- Dietician

Visit 5

- HF APP
- Cardiac Rehab (EF <35%)

Visit 6- Final Visit

- HF APP
- Dietician & Pharmacist

First Visit

- Screening Questionnaires
- 6-minute walk, labs & ECHO
- Co-morbidity Screens
- Provide HF ZONE Card
- Assess candidacy for CardioMEMs
- Initiative Food Journal
- Establish Dry Weight

All Visits

- HF Self-Management Education
- Medication Titration

Final Visit

- Screening Questionnaires
- 6-minute walk, labs, ECHO
- Summary of Care to Referring Provider/PCP

HF pEF- 3 Clinic Visits

Visit 1

- HF APP
- *Consider HFpEF phenotypes/appropriate referrals
- Pharmacist

Visit 2

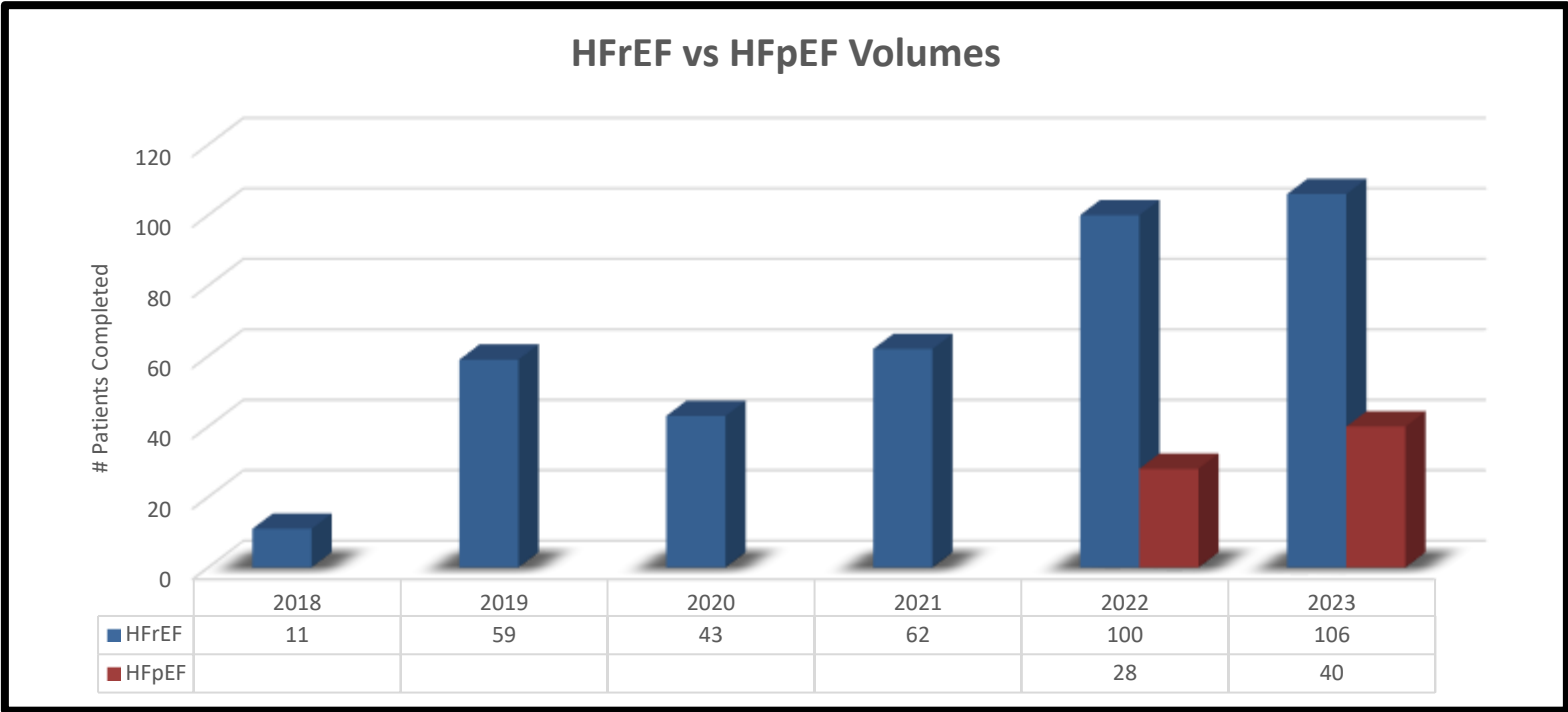
- HF APP
- Dietician

Visit 3- Final Visit

- HF APP
- Dietician & Pharmacist



Optimize Clinic Volumes



Optimize HFrEF

Total Patients Completed in 2023 = 106

Referral Source

- Family Medicine = 5 (4.7%)
- Internal Medicine = 17 (16%)
- Cardiology (excluding HF) = 63 (59.4%)
- HF = 16 (15.1%)
- Not recorded = 5 (4.7%)

Readmission Rate

- Readmission rate during Optimize: 2.8%
- 30-day HF readmission rate: 0.9%

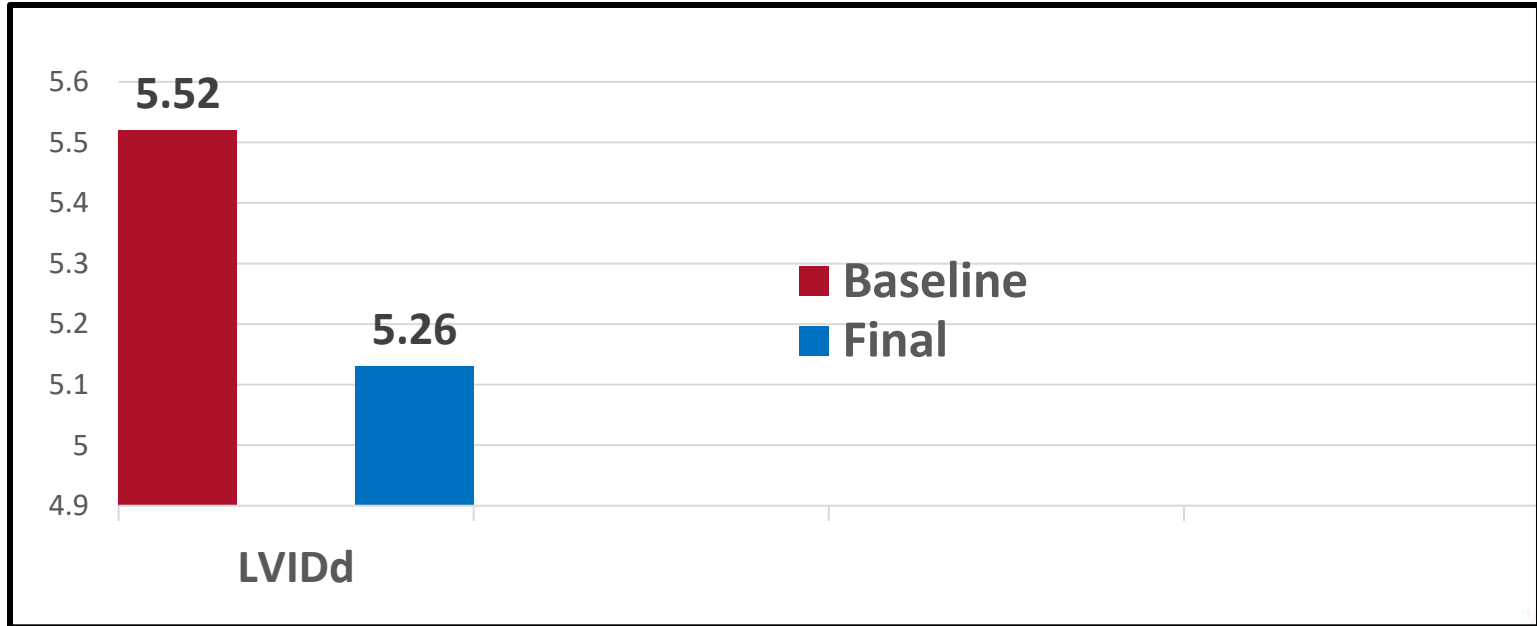


HF OPTIMIZE- HF rEF Pathway

LVIDd

Significant Improvement $p = <.001$

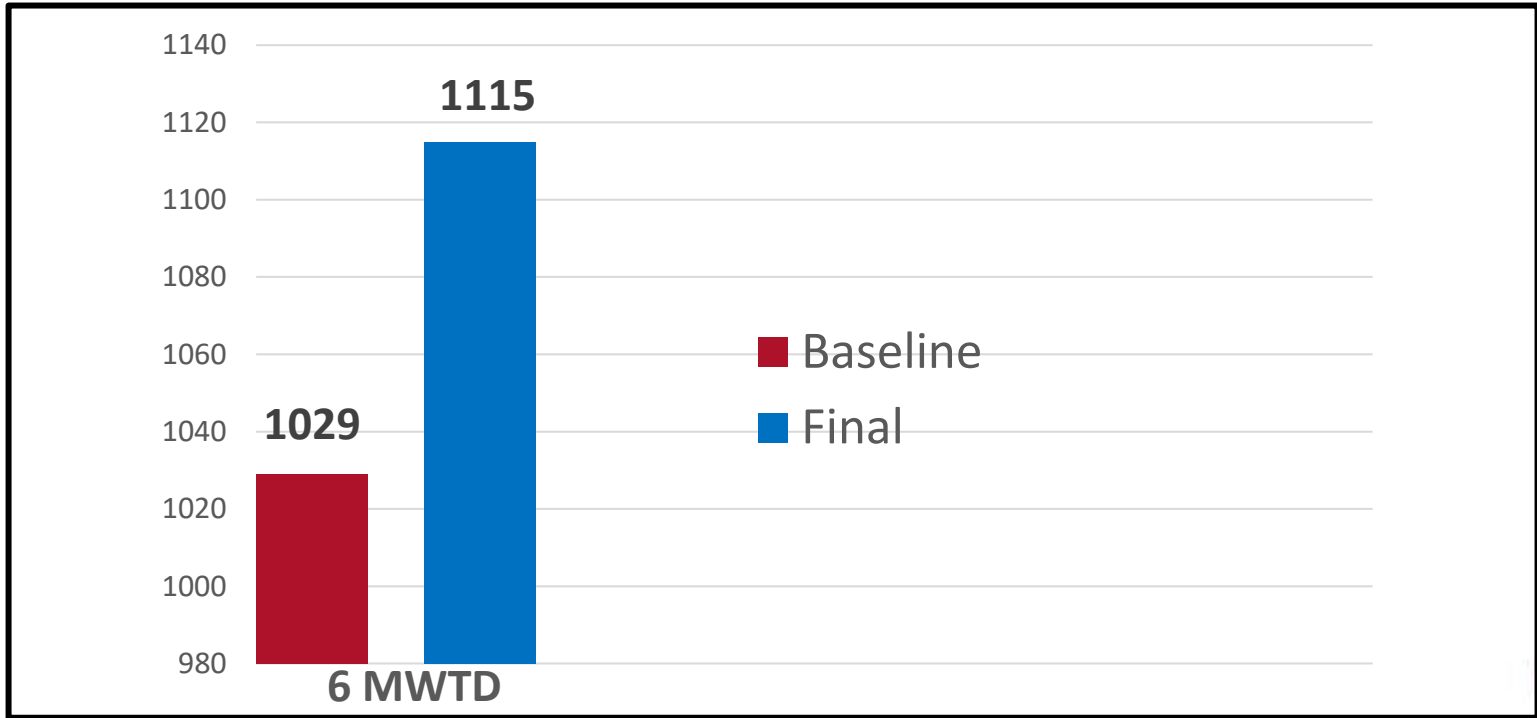
N=82



HFrEF 6MWTD

Significant Improvement $p = < .001$

N=60

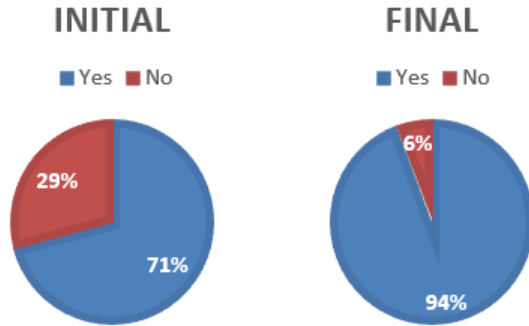


HFrEF Medication prescription

ARNI/ACE/ARB

Initial vs. Final (percent on med n=106)

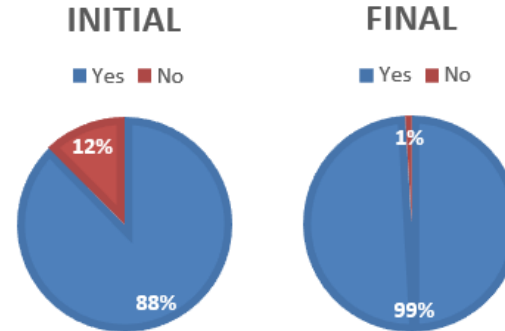
p=0.001



Beta Blocker

Initial vs. Final (percent on med n=106)

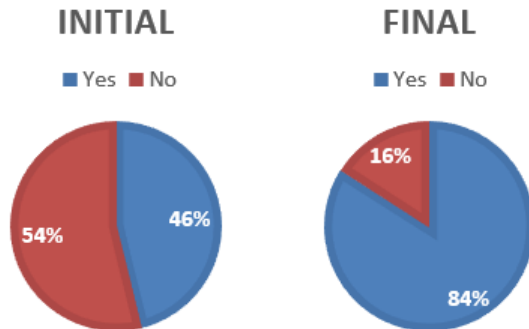
p=0.019



MRA

Initial vs. Final (percent on med n=106)

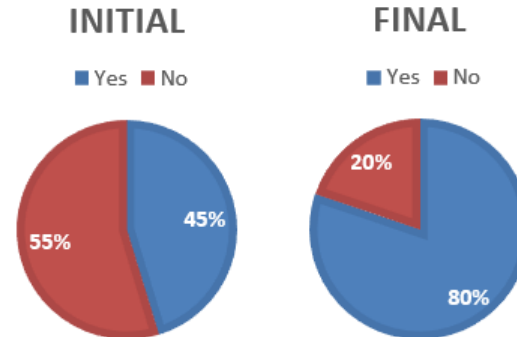
p=0.001



SGLT2i

Initial vs. Final (percent on med n=106)

p<0.001



Optimize HFpEF

Total Patients Completed in 2023 = 40

Referral Source

- Family Medicine = 1 (2.5%)
- Internal Medicine = 8 (20%)
- Cardiology (excluding HF) = 22 (55%)
- HF = 6 (15%)
- Not recorded = 3 (7.5%)

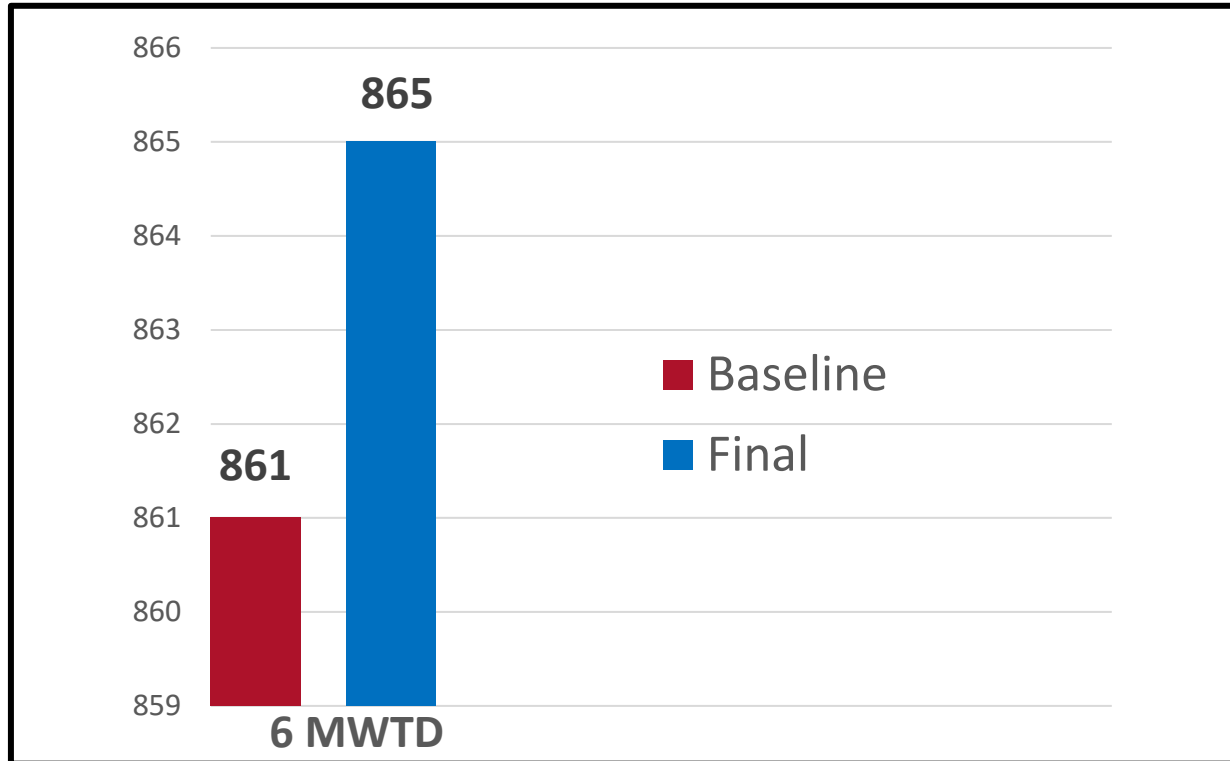
Readmission Rate

- Readmission rate during Optimize: 0%
- 30-day HF readmission rate: 7.5%



HFpEF 6MWTD

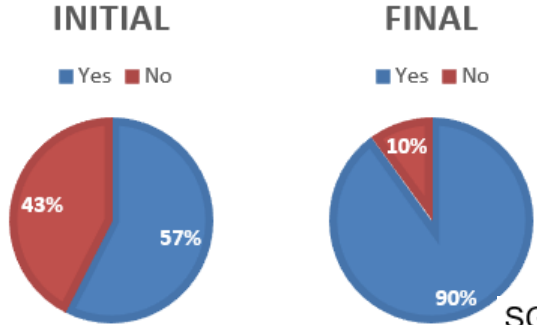
N = 22 p = 0.46



HFpEF Medication Prescription

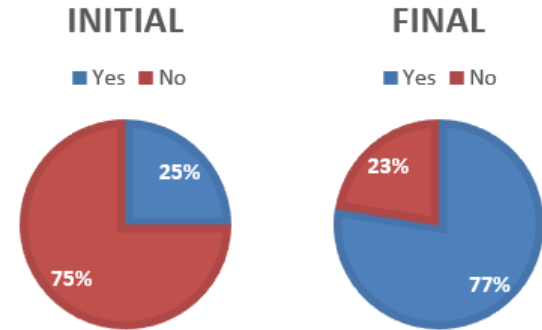
ARNI/ACE/ARB

Initial vs. Final (percent on med n=40)
p=0.014



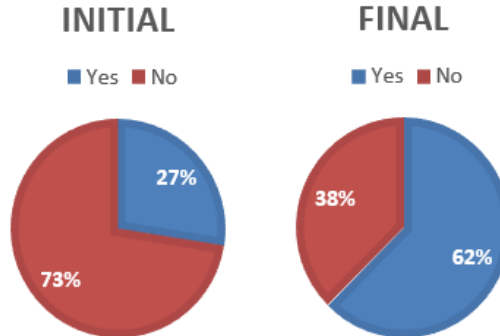
MRA

Initial vs. Final (percent on med n=40)
p=0.003



SGLT2i

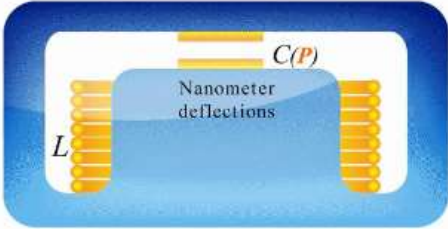
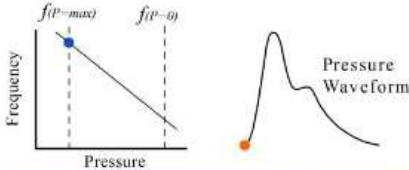
Initial vs. Final (percent on med n=40)
p=0.003






CardioMEMS™



$$f = \frac{1}{2\pi\sqrt{L C(P)}}$$

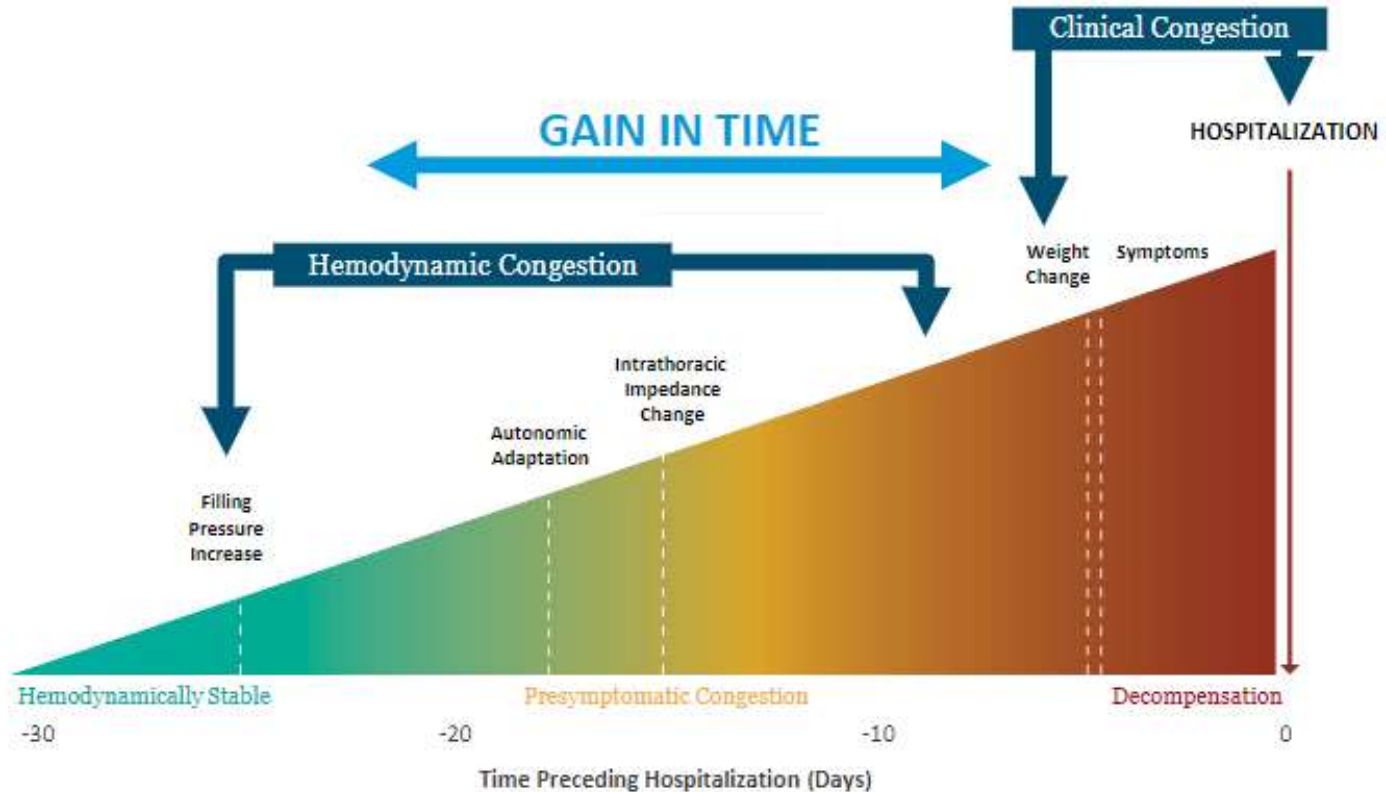


Monitoring at home

<p>PULMONARY ARTERY PRESSURE SENSOR</p>	
<p>PATIENT ELECTRONICS SYSTEM</p>	
<p>MERLIN.NET™ PCN</p>	



Proactive patient management



Patient Selection



Define inclusion and exclusion criteria for CardioMEMS™ HF System.

NYHA II or III, prior hospitalization and/or elevated BNP



Determine who will identify patients for CardioMEMS HF System.

Inpatient and outpatient settings



Create screening process to identify patients.

Inpatient and outpatient setting



Build process to order CardioMEMS HF System.

Identify stakeholders and locations responsible for order initiation, leverage EHR



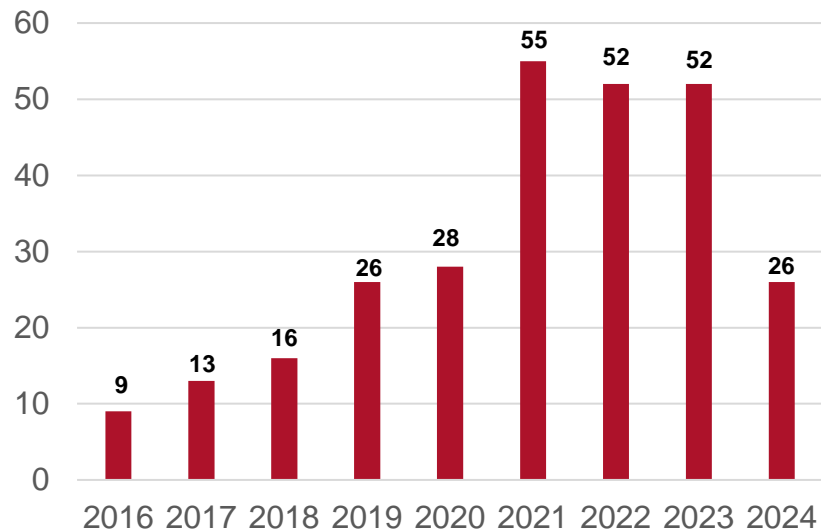
Patient management

- Set PA diastolic goal and threshold
- Daily readings sent along with patient reminders
- Determine who is reviewing pressures and when will be reviewed
- Adjust meds based on readings
- Ensure checking waveforms for accurate readings
- Document changes in electronic health record



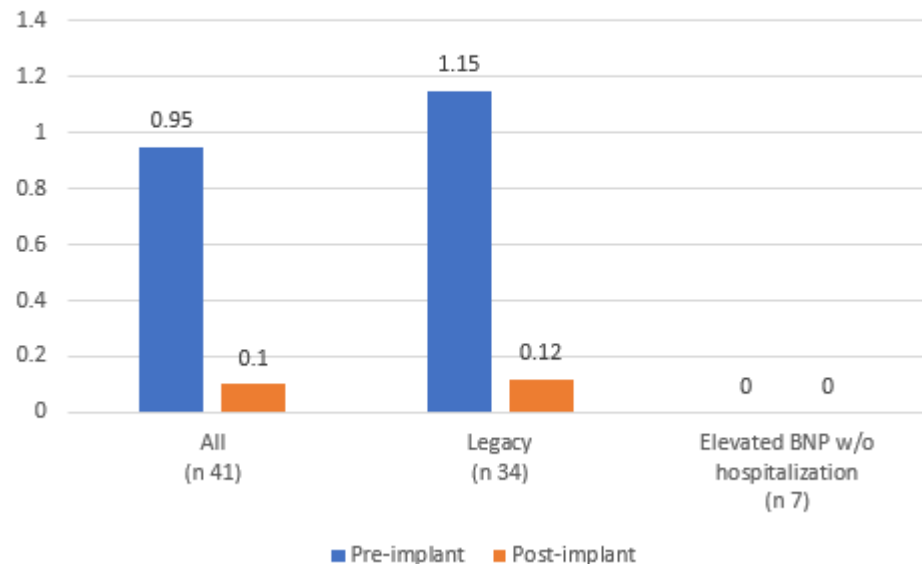
CardioMEMS at UNMC

CardioMEMS Implants



2022 CardioMEMS Implants

Average HF admissions 1 year pre and post implant





THANK YOU!

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