Reduced Hospitalizations During Nurse-Led Monitoring for Heart Failure: A Quality Improvement Initiative

Carly Brown, PharmD, Neil Maneck, Tanya Tucker, BSN, RN, Cynthia Broome, BSN, RN, Saurabh Chandra, MD, PhD, MBA, Donald Clark III, MD, MPH

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Presented by:
Carly Brown, PharmD
IMPACT Center for Pharmacy Transformation
University of Mississippi School of Pharmacy
cbb5542@umc.edu

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Disclosures

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Objectives

- Review the context and rationale for CHF remote patient monitoring
- Describe the design of a nurse-led CHF RPM program
- Examine hospital utilization outcomes associated with RPM participation
- Discuss implications and future directions for program expansion and integration

Background

- The University of Mississippi Medical Center (UMMC) is centrally located in the state
  - Only academic and tertiary referral medical center in the state
  - Serves a high-burden CHF population across Mississippi and the region

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Background

- CHF is a leading cause of hospitalization and readmission
  - 30-40% of patients with CHF have a history of hospitalization for CHF[1,2] with an estimated 42% readmission rate for CHF[3]
- Early decompensation is often detectable via weight and blood pressure changes.
- Remote patient monitoring (RPM) shows promise, but results are mixed[4].

Objective

- Evaluate the association between a structured CHF RPM program and hospital utilization
- Primary outcome: Change in hospital days per year (HDPY)

CHF RPM Program Overview

- Referrals placed at time of hospital discharge, during ambulatory visits, or during transitional care management (TCM) visits.
- Home telemonitoring kit:
  - Blood pressure cuff
  - Scale
- Mobile app or tablet with data plan as needed
- Nurse-led onboarding and education

CHF RPM Program Overview

- Telemonitoring kit
- Linked with Epic EHR
- Full tech support

- Routine team meetings
- Monthly data reviews

- Health education
- RN daily monitoring
- Safety alerts & protocols
- Patient engagement

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Clinical Monitoring and Care Delivery

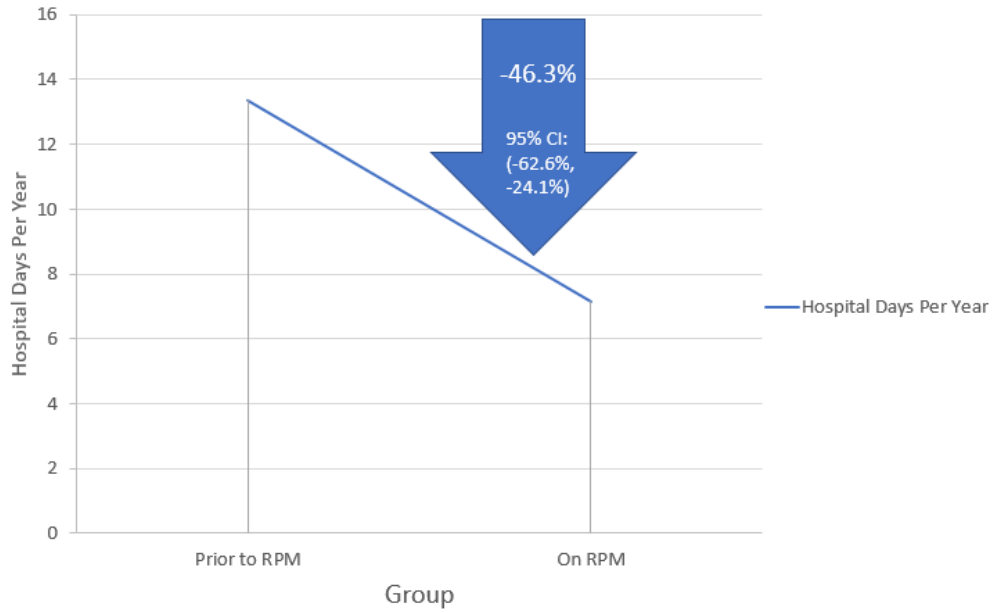
- Daily BP and weight transmitted in real time
- Nurses reviewed biometrics daily
- Monthly outreach calls
  - Symptom review
  - Biometric trend review
  - Medication adherence and barriers to participation
- Diuretic adjustments were coordinated with the cardiology team

Methods

- Retrospective chart review from January 2023 – July 2025
- 103 patients were enrolled with 83 completing onboarding
- Comparison:
  - 12 months prior to RPM enrollment
  - During RPM participation
- Outcome: Hospital days per year (HDPY)

Results

- Of the 83 patients that completed onboarding, HDPY decreased from 13.36 days to 7.17 days (p=0.028)
- Absolute reduction: 6.19 days
- Relative reduction: 46.3%



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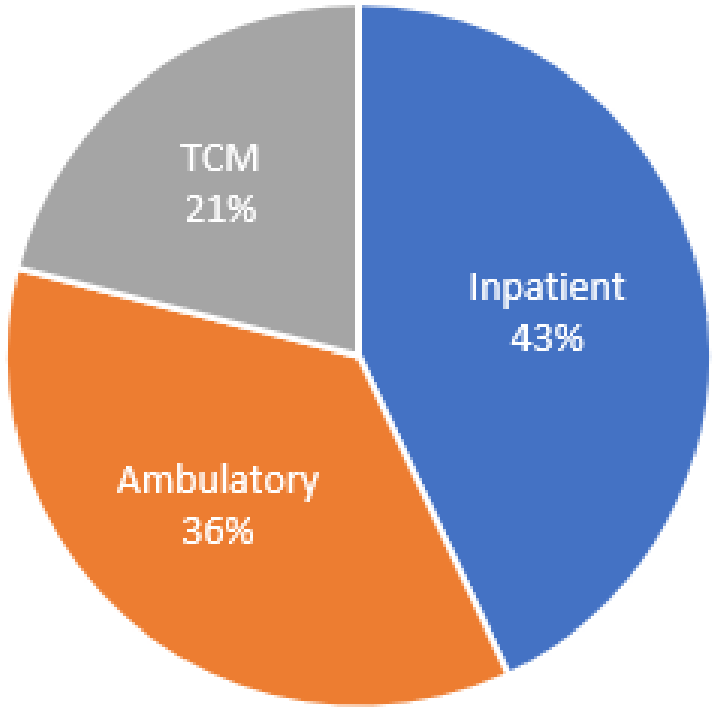
Program Characteristics

- Referral sources:
  - 43% inpatient discharge
  - 36% ambulatory visits
  - 21% TCM encounters
- Mean RPM follow-up: 341 days
- Median RPM follow-up: 220 days



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Discussion

- Nearly 50% fewer hospital days during RPM participation
- Likely drivers:
  - Real-time biometric review
  - Nurse-led education and outreach
  - Early intervention for weight changes
  - Guideline directed medication therapy (GDMT) reinforcement
- Demonstrates feasibility of team-based RPM

Limitations and Future Direction

- Single-center QI initiative
- No concurrent control group
- Potential selection bias
- Future focus:
  - Improve enrollment and retention
  - Integrate RPM into routine workflows for enrollment
  - Further explore AI opportunities for risk stratification

Conclusion

- An RPM program for CHF was associated with significantly fewer hospital days
- Structured, nurse-led RPM was a practical strategy to reduce hospital utilization at UMMC
- RPM may enhance care delivery for CHF at UMMC

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Questions

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