2022

STRONGER

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HOUSTON Methodist COORDINATED CARE

Spectrum Health

RUSH

Reducing Readmissions Using AI, Predictive Analytics and Interdisciplinary Teams

Houston Methodist Coordinated Care, Houston, TX

Varun Kumar, MD, Medical Director, Inpatient Services,
Zachary Menn, MD, MHA, MBA, Director, Value Based Care

Spectrum Health, Grand Rapids, MI

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Tricia L. Baird, MD, FAAFP, MBA, Vice President Care Coordination
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Rush University Medical Center, Chicago, IL

Julie Merz, BSE, Clinical Quality Manager
Tisha Suboc, MD, Advanced Heart Failure Physician

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Learning Objectives

- Describe how to identify readmission risk using robust predictive analytics.
- Review a balanced risk communication method for real-time handoff of complex acute patients to transition support.
- Discuss the importance of interdisciplinary team care plans to successful outcomes in readmission reduction programs.
- Describe a structured format for patient case review and tracking of program outcomes that can be used to develop data-driven strategic improvements.

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COORDINATED CARE

Houston Methodist Coordinated Care

- **Houston Methodist Coordinated Care** (HMCC) is an Accountable Care Organization (ACO) that started in 2017 as a Medicare Shared Savings Program - Track 3 (Now Enhanced Track) and now has 33,000 beneficiaries.
- In October of 2018, we began participating in the Center for Medicare and Medicaid Services (CMS) Bundled Payment for Care Improvement - Advanced (BPCI-A) program for Heart Failure at our tertiary academic medical center, Houston Methodist Hospital.
- This program included both employed and private cardiologists who had Heart Failure (HF) patients discharged from our hospital.
- On average we follow ~300 HF patients in our program each year.
- Wraparound services with comprehensive interdisciplinary team meetings.

HMCC Care Management Teams

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- Cross-trained inpatient team for value-based care discharge planning
- Early patient identification
- Patient and family education and advocacy
- Social determinants of health (SDOH) assessments
- Scheduling of post-discharge follow-up appointments with Cardiology and Primary Care prior to discharge
- HF Nurse Practitioner Clinic
- Weekly outpatient nursing outreach calls post-discharge
- Coordination with skilled nursing facilities and home health

Inpatient Case Management Team Training

Weekly Interdisciplinary Focus Groups

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- Data trends and transparency
- Patient identification strategy
- Readmission review
- Difficult case collaboration

PCP - Primary Care Physician

Readmissions Review

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Process Review

- Clinical Admission Review
- Outpatient Touchpoints
- Preventability

Risk Stratification

- Risk Profile
- Patient Engagement Challenges
- SDoH
- Goals of Care

Intervention

- Inpatient Interventions
- Post-Discharge Safety Net

CMS HF Bundle Readmission Rates Decrease Each Year

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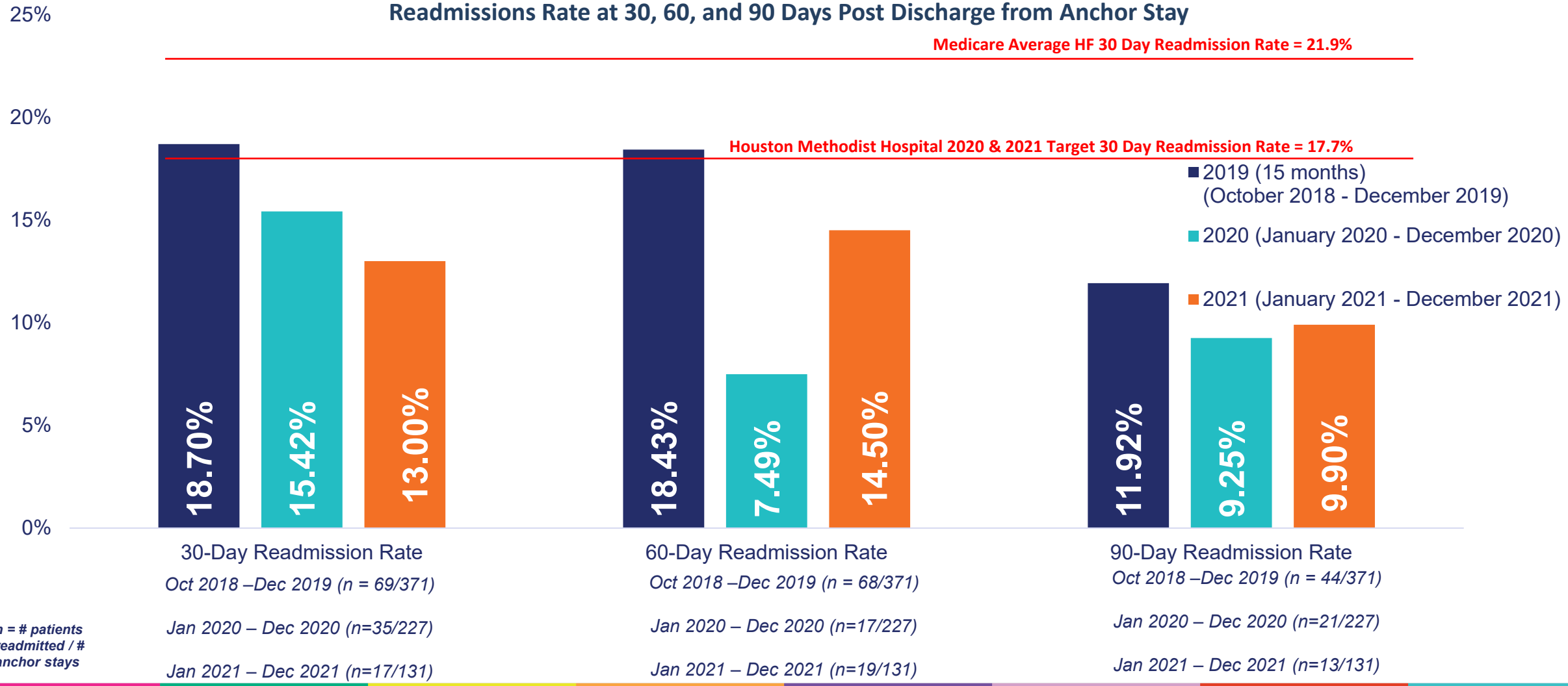

n = # patients readmitted / # anchor stays


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Readmission Reduction: Intelligent Targeting to Timely Intervention

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64,000+ Team Members

11,500+ Affiliated, Independent and Employed Physicians and Advanced Practice Providers

15,000+ Nurses

$100 Million Health Equity Funding (Over 10 years)

300+ Ambulatory/ Outpatient Locations

22 Hospital Facilities

5,000+ Licensed Beds

$100 Million Venture Capital Fund (Over 10 years)

1.2+ Million Priority Health Health Plan Members

7,000+ Employers Contracted by Priority Health

97%* Michigan Primary Care Doctors in Network

$13 Billion Enterprise

*According to the Michigan Department of Insurance and Financial Services 2019 Individual and Small Group network filing comparisons of primary care doctors who participate with insurance, excluding out-of-state and Upper Peninsula providers. Network varies by plan. Excludes hospitals in Michigan's Upper Peninsula; based on American Hospital Directory April 2019 data and Priority Health provider contracts. Coverage varies by plan.

Discharge Risk Prediction

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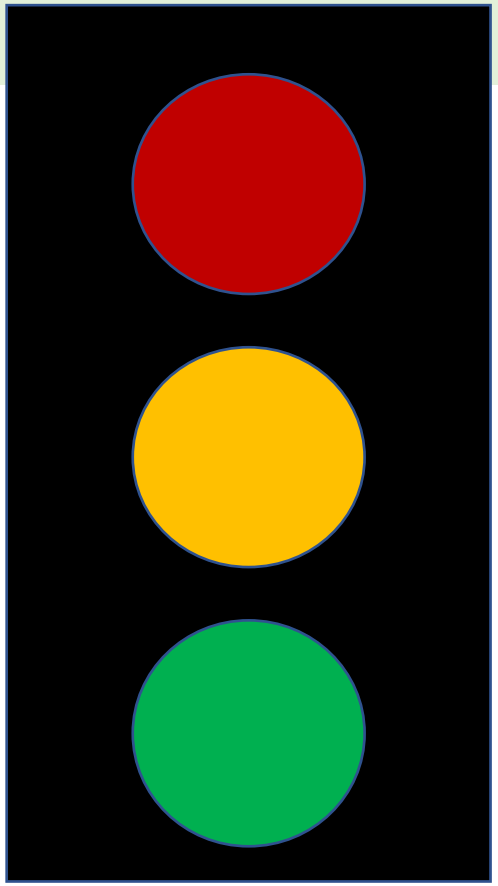
Transition Risk Predictive Tool		Readmission Rates
High Risk Inpatients – 18% of all discharges		23%
Rising Risk Inpatients – 22% of all discharges		17%
Low Risk Inpatients – 60% of all discharges		7%

Predictive Scores: C-Stat Comparison

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LACE+: **0.63 – 0.69**

EHR Readmission Model: **0.69 – 0.74**

Spectrum TOC Risk Preliminary Score

Hospital **Inpatient** Utilization:

0.86 - 0.91

Hospital **Emergency** Department Utilization:

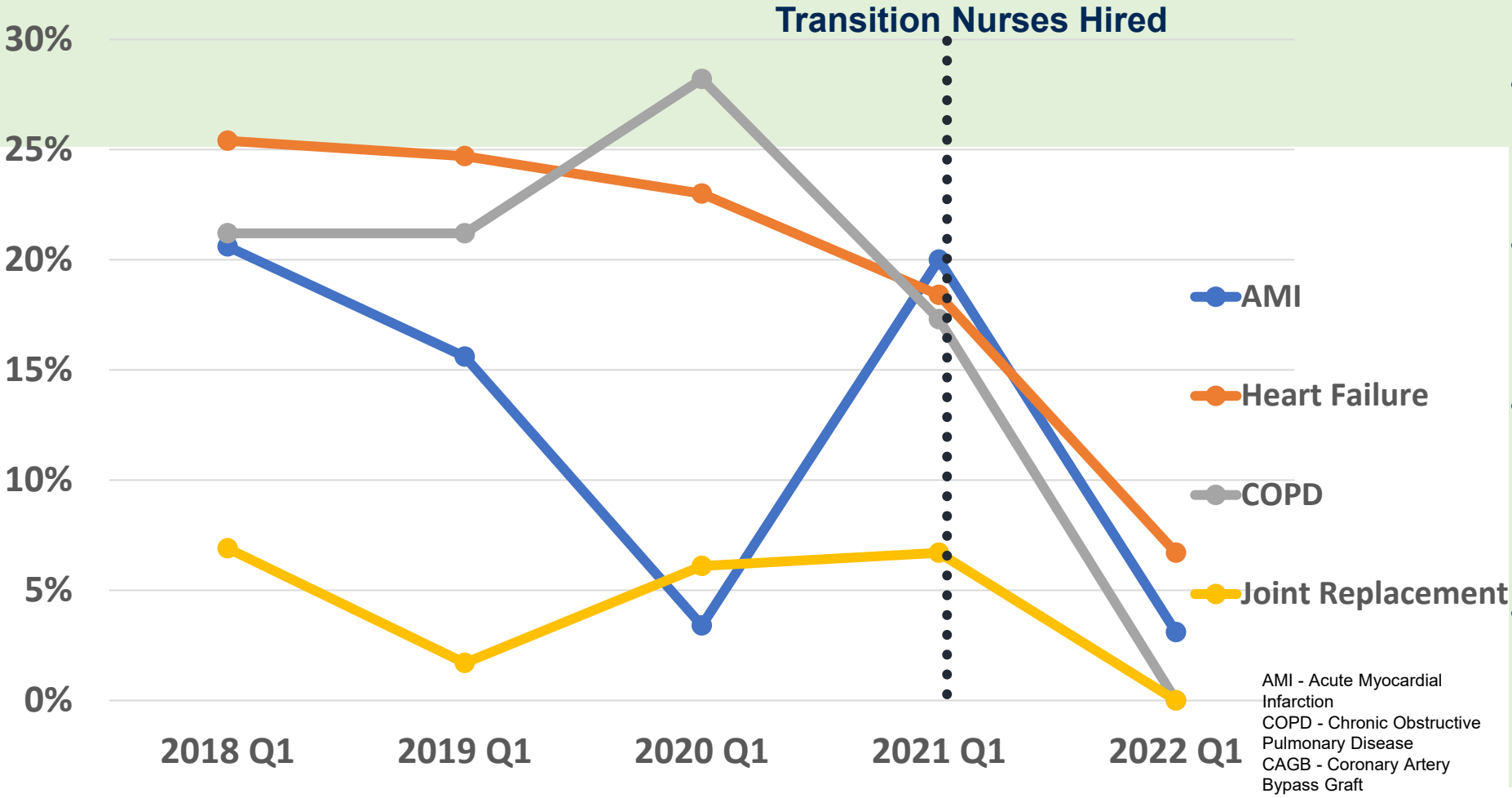
0.87 - 0.92

Hospital **Combined** Utilization:

0.80 - 0.85

LACE+ - Scoring tool for Risk assessment of death and readmission
Screening tool
EHR - Electronic Health Record
TOC - Transition of Care

Transitions of Care: Hospital Readmission Reduction Program



AMI - Acute Myocardial Infarction
COPD - Chronic Obstructive Pulmonary Disease
CAGB - Coronary Artery Bypass Graft

- The Transition Care team supports patient recovery in the month after discharge.
- Since February 2021, over **850** patients have graduated the program.
- Support team includes nurse care manager, social worker, and community health worker.
- CABG has always been a strong performer and pneumonia is currently suppressed (COVID).

Transitions of Care: Readmission Prevention in Value-Based Risk

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30-Day Transition Support for Patients at High Risk to Readmit

TARGET POPULATION:
High/Very High-Risk patients attributed to PH or ACO

15 Primary Care Offices Participating

PH – Priority Health

Graduates = **542**

23%

Baseline high risk readmission rate

7%

of program graduates had a readmission


RUSH

Rush University Medical Center (RUMC) at a Glance

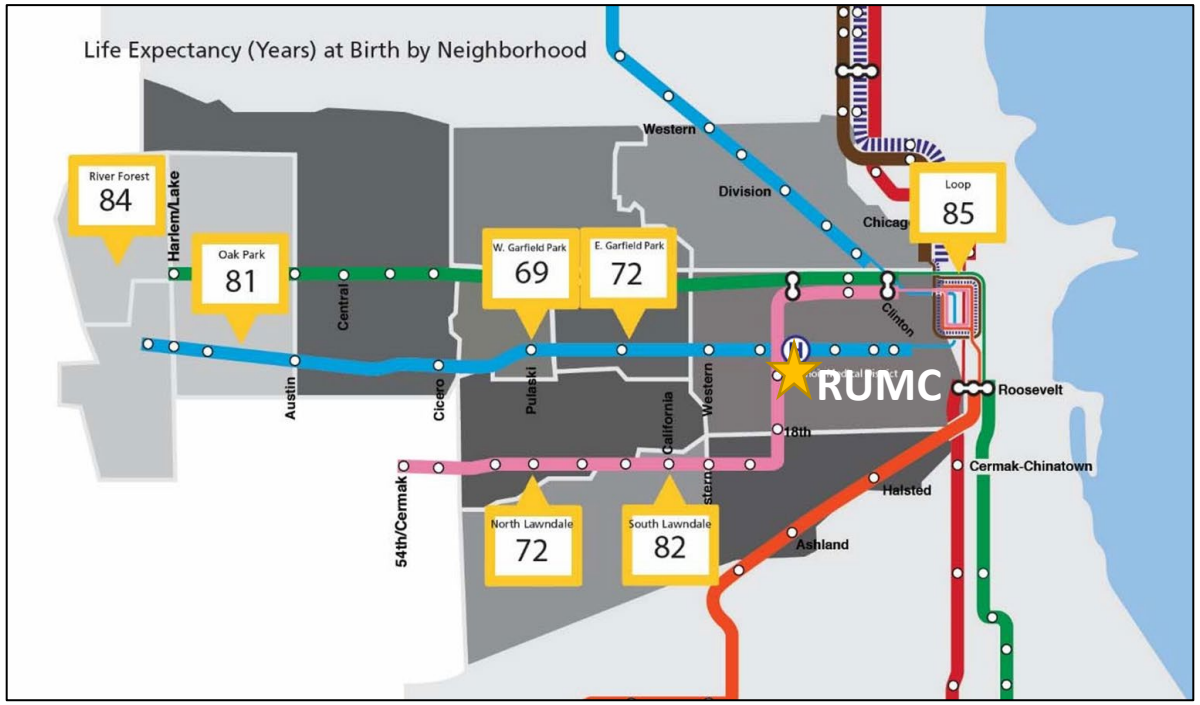
Academic Medical Center | Chicago, IL

3 HOSPITALS	1124 BEDS	937 PHYSICIANS
74,774 ED VISITS	1.1mil OUTPATIENT VISITS	33,676 ADMISSIONS

RUMC is **ranked #2** among 93 leading academic medical centers for quality of care by the health care services company Vizient.

RUMC is recognized as a CMS Services **5-star organization**

RUMC serves a diverse patient population in the West side of Chicago and is committed to measurably **reduce inequities** across our patients, people, communities and organization



Rush's medical and quality leaders decided to focus on reducing HF readmissions

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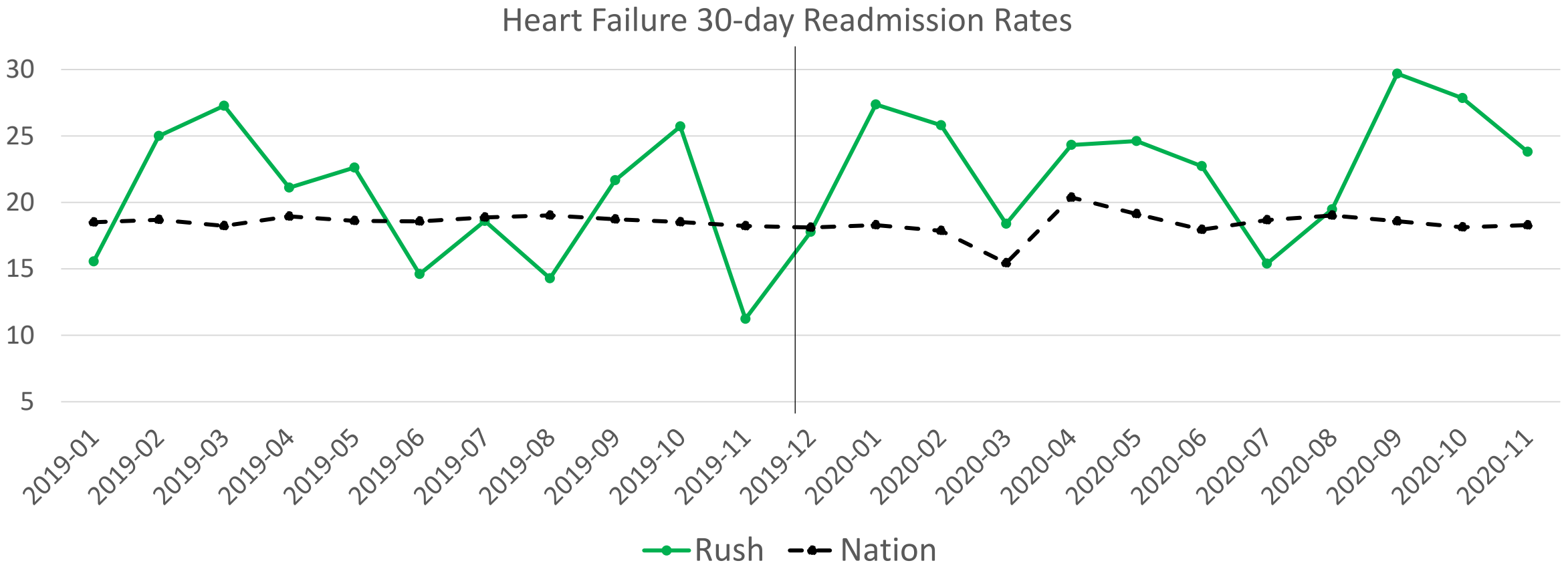
Due to the high cost, preventable nature of readmissions, and desire to better care for patients



Rush created a HFRS to evaluate readmission risk and allocate appropriate resources

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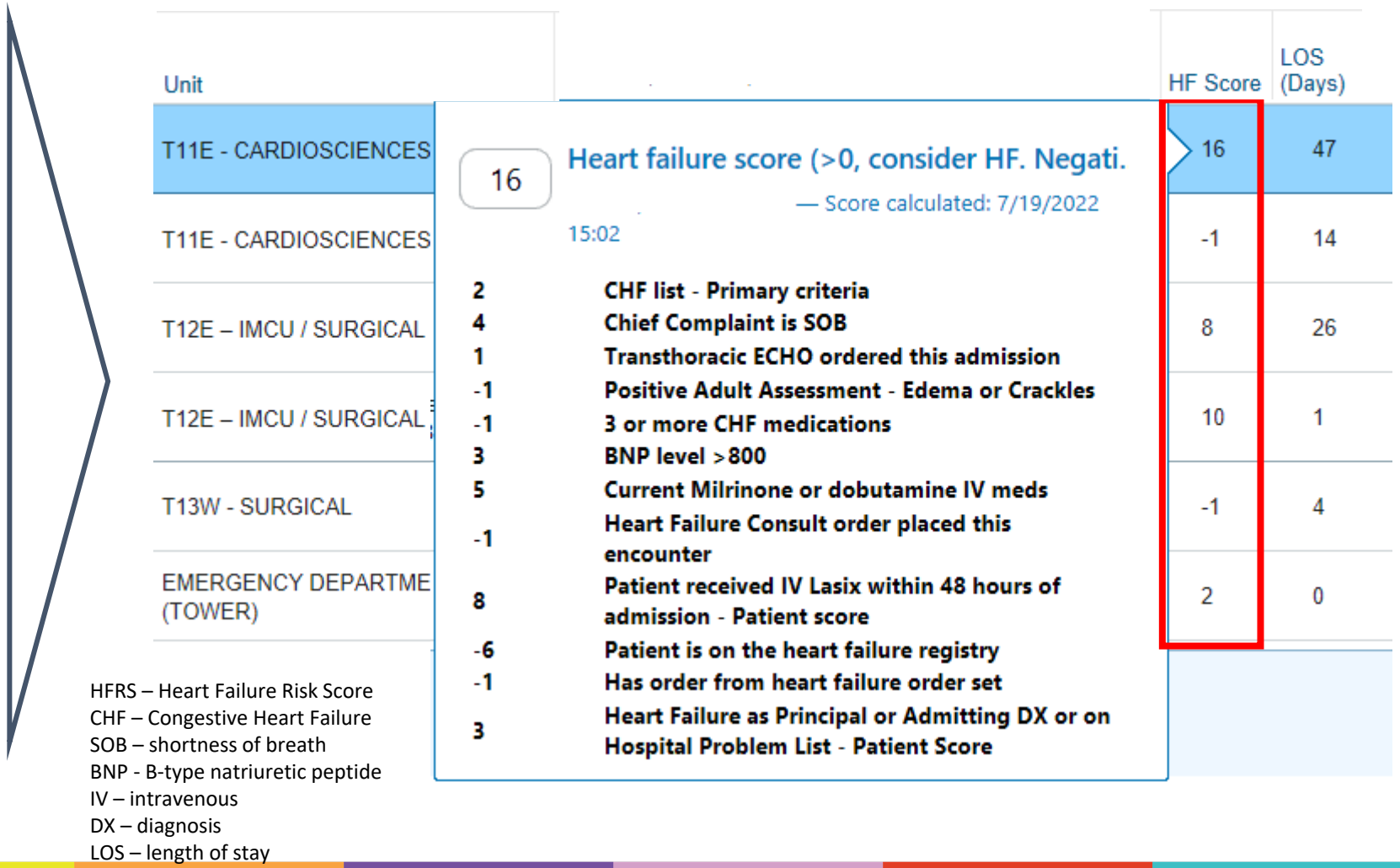
How do we **identify** HF patients across the Hospital and appropriately **allocate** limited resources?



HFRS – Heart Failure Risk Score
CHF – Congestive Heart Failure
SOB – shortness of breath
BNP - B-type natriuretic peptide
IV – intravenous
DX – diagnosis
LOS – length of stay

Each REACT position has specific responsibilities to provide best patient care

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Adv. HF Cardiologist	**Lead** REACT team and **partner** with Advanced Practice Providers (APPs)
APPs	**Educate** and **manage** patients in hospital and clinic
Pharmacist	**Optimize** guideline directed medical therapy (GDMT)
HF RN Care Manager	**Identify** high risk patients, **manage** patient transition post-discharge, and **bridge** care of patient between multi-disciplinary team
HF Social Worker	**Document** and **remove** SDOH barriers while the patient is in house

REACT:
Readmission Engagement and Care Transition

Since implementing REACT program, HF readmissions consistently and steadily decreased

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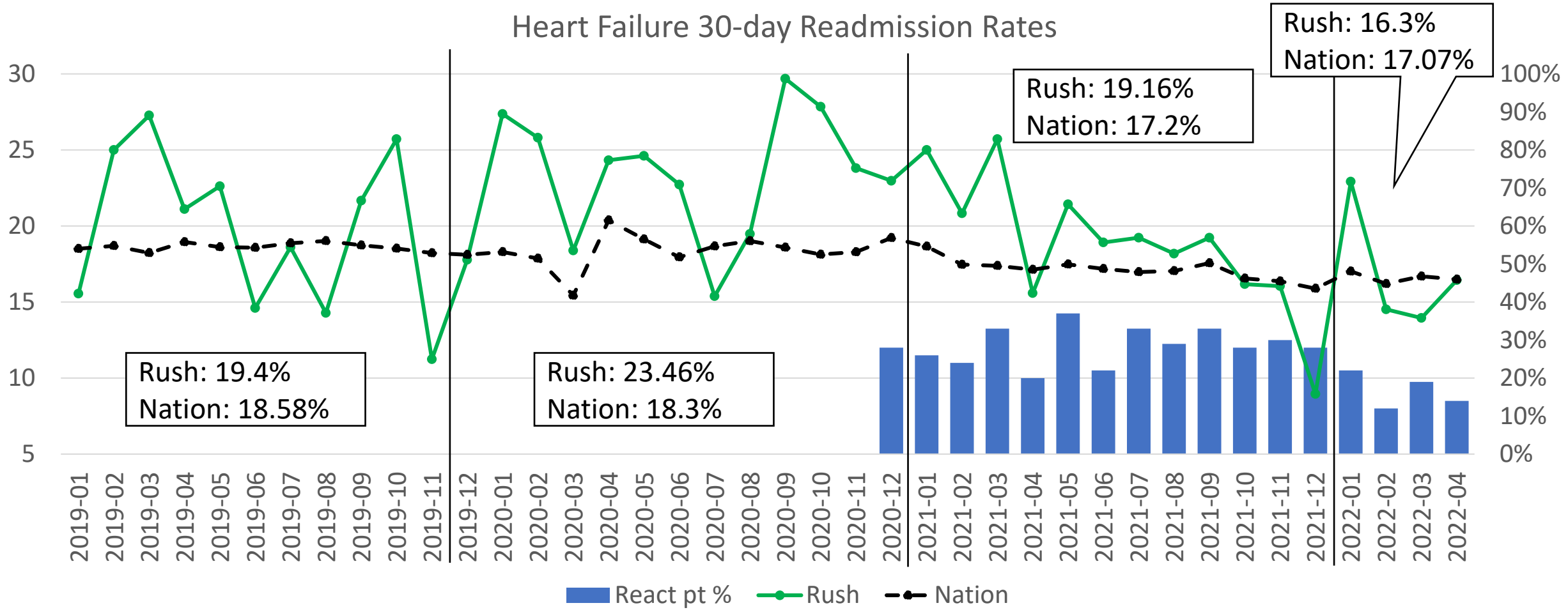

Panel Discussion

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Lessons Learned

- Identification of HF patient early in their stay is key to success and harder than expected.
- Reviewing previous admissions (even non-HF admissions) is important when attempting to reduce readmissions.
- Whenever possible leverage technology to its ultimate potential.
- Building relationships with patients and mitigating barriers key to success of program
- The process owner should be the team accountable for the patient outcomes.
- Ensuring patient is on GDMT while in the hospital is key to preventing HF readmissions.
- There needs to be a process to adjust workflows to meet the needs of the program.
  - Structure changes to fall under AHF – APP vs. physician lead
  - HFRS adjustments and validation

Key Takeaways

- Weekly interdisciplinary case reviews facilitate rapid productive care model iteration.
- Combine patient-facing frontline staff, clinical leadership, and operational/executive leadership.
- Risk stratification adds value when combined with robust inpatient and outpatient intervention.
- Multi-disciplinary approach is required for successful patient care (including across the emergency department, hospital, and outpatient clinic).
- Keep the team focused on the goal by clearly defining the challenge and desired outcome.
- A system should be implemented to allocated limited resources to the highest need patients.

Questions?

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