‘It takes a village’

A Multidisciplinary Data Driven Approach in Reducing Potentially Avoidable Readmissions

The Novant Health Readmission Reduction Committee in collaboration with Analytics and Informatics Team and Service Line Leadership

Becker’s Healthcare Conference – April 2019

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Making healthcare remarkable

NOVANT HEALTH

Mission

Novant Health exists to improve the health of communities, one person at a time.

Vision

We, the Novant Health team, will deliver the most remarkable patient experience in every dimension, every time.

Safety • Quality
Authentic personalized relationships
Voice & choice • Easy for me
Affordability

Values

Diversity and Inclusion
Teamwork
Personal excellence
Courage
Compassion

Our people

We are an inclusive team of purpose-driven people inspired and united by our passion to care for each other, our patients and our communities.

Our promise

We are making your healthcare experience remarkable. We will bring you world-class clinicians, care and technology — when and where you need them. We are reinventing the healthcare experience to be simpler, more convenient and more affordable, so that you can focus on getting better and staying healthy.

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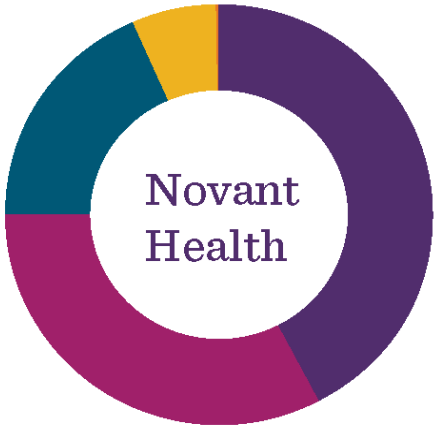
By the numbers



*Novant Health Medical Group

- **3,833** Medical staff providers
- **2,683** Beds
- **1,634** NHMG* physicians
- **566** NHMG* clinics
- **15** Medical centers

255,123
Flu shots given in 2018

20,385*
Babies born in 2018

x 1,000

544,825*
ER visits

140,643*
Total surgeries

10,334
E-visits

301,594
Appointments scheduled online in 2018

421
ER treatment rooms

649
Locations

136
Operating rooms

130,474*
Inpatients cared for in 2018

618,654
Prescriptions filled in 2018

- **15,192** Acute care
- **8,602** Medical Group
- **4,113** Corporate
- **758** Ambulatory services
- **51** Assisted living

57.8 M
Hand washings per year

20,650
Mobile app downloads

426
Patients enrolled in clinical trials

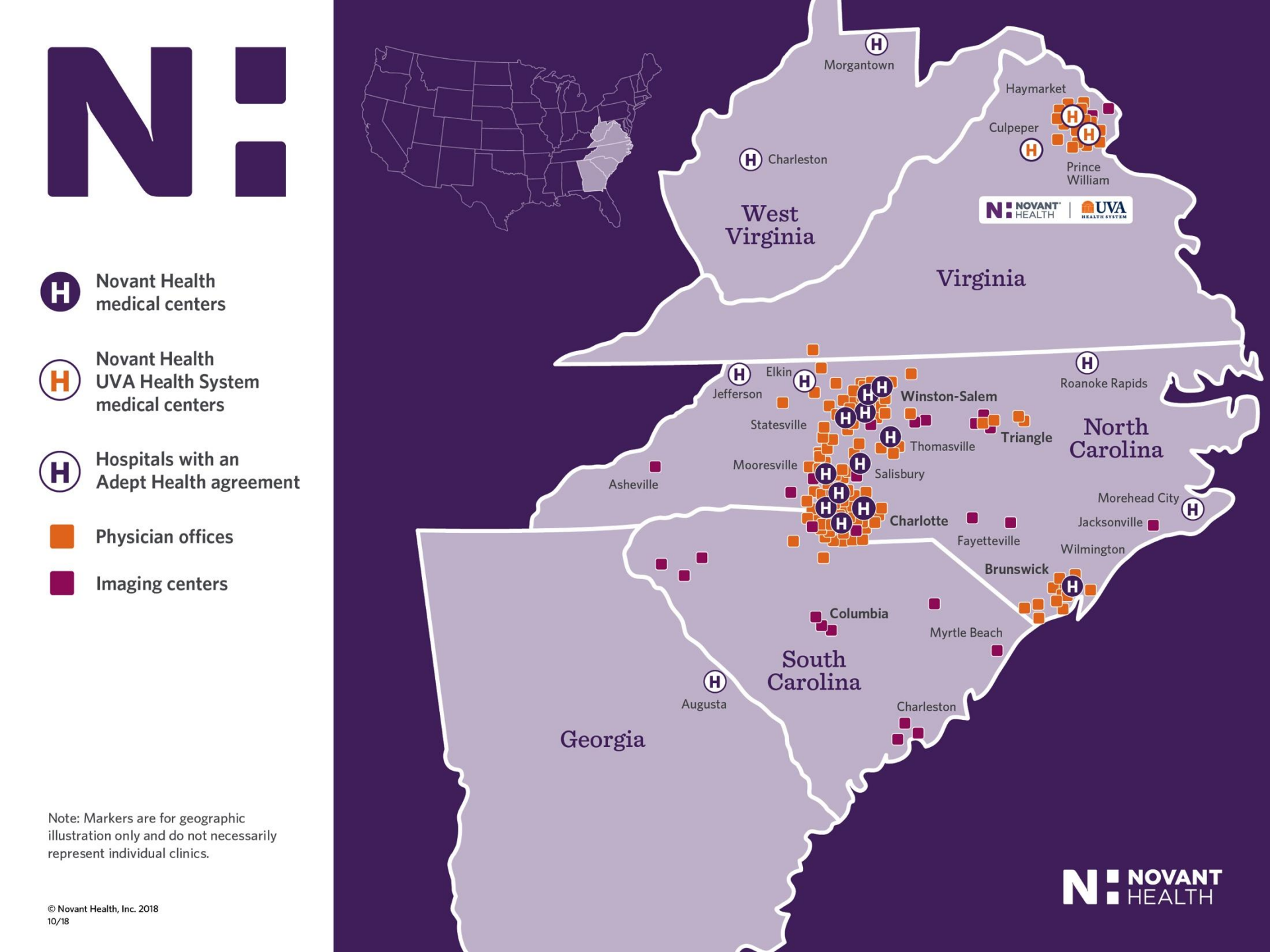
190 Cancer trials

236 Noncancer trials

5.06M
Encounters in 2018

909,753
MyChart users

Based on Novant Health data from January to December 2018
*Unaudited numbers, subject to change

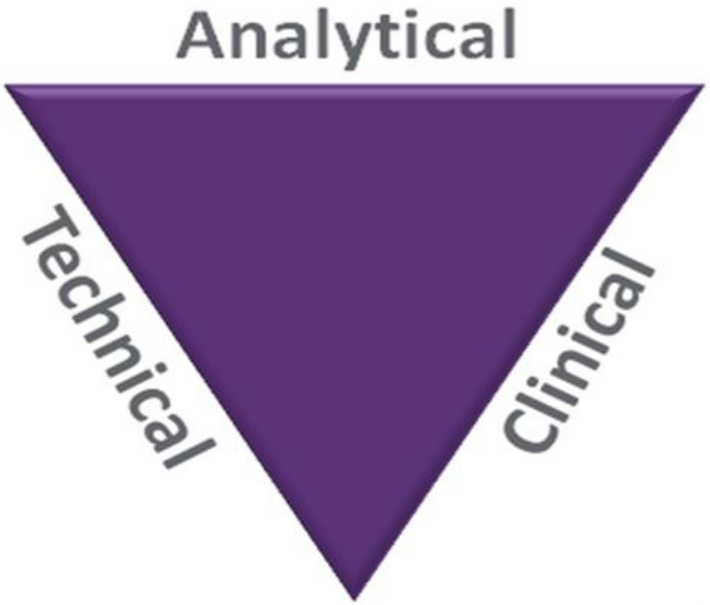


Key Objectives

- Identify the model used to support and promote high quality and cost effective care delivery across the continuum with respect to readmission reduction
- Discuss data aggregation processes and analysis utilized and the impact on reducing readmissions
- Discuss readmission reduction strategies and processes implemented across the health system
- Identify future strategies for sustaining decreased readmissions and advancement of value based care delivery

Novant Health Analytics and Informatics Team

- Scope and purpose: conduct analysis across the system and care continuum to drive improvement from financial, workflow, and a clinical perspective
- Consists of a mix of clinical and technical resources for mining and analysis of multiple data sources from across the enterprise
- Works closely with leaders, clinicians, technical resources across the enterprise in support of corporate goals, ongoing improvement and innovative opportunity



Novant Health Analytics and Informatics Team

- *Ability to aggregate system wide data across multiple sources*
- *Ability to deploy a variety of analytical tools to achieve insight*

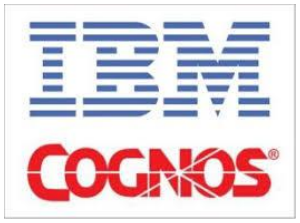
Data sources

- Novant Health Financial systems [Acute: Trendstar and Ambulatory: Kaufman Hall]
- Electronic Medical Record [Epic]
- Patient Satisfaction survey data [Press Ganey]

Designed and created targeted data marts to support integrated analysis

- *Readmission mart*

- SAS
- IBM Cognos
- Power BI
- Microsoft Excel



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Readmission Reduction Committee Goals

- Improve performance in Value-based Healthcare
- Increase collaboration and knowledge transfer of best practice guidelines within the organization through a multi-disciplinary team
- Improve communication and care coordination efforts among the patient's treatment team
- Create better engagement with patients and caregivers related to post-discharge planning

Readmission Reduction Committee

- Community Care
- Hips/knees
- AMI/HF/ CABG
- COPD/ Pneumonia
- Stroke
- Hospice/ Palliative care

- Pharmacy
- Infection Prevention
- Diversity & Inclusion
- CDI
- Post-Acute Care
- Care Connections

- Nursing Leaders
- Facility Leaders
- Physician Leaders
- Clinical Excellence
- Analytics & Informatics

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Readmission Committee Goals

Readmission Conditions	Novant Health Readmission Baseline 2014 Calendar Year	Novant Health Readmission LTG Target	Novant Health Precent Reduction from Baseline	CMS National Observed Readmission Rate July 1, 2012 through June 30, 2015
Acute Myocardial Infarction [AMI]	14.2%	9.9%	30%	16.6%
Coronary Artery Bypass Graft Surgery [CABG]	6.3%	5.0%	20%	14.2%
Heart Failure [HF]	20.5%	14.4%	30%	21.9%
Pneumonia [PN]	17.7%	12.4%	30%	17.2%
Chronic Obstructive Pulmonary Disease [COPD]	19.7%	13.8%	30%	20.0%
Elective Total Hip/Knee Replacements [THR/TKR]	3.7%	2.9%	20%	4.5%
Stroke [STK]	7.1%	5.7%	20%	12.5%

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Data Sources

Publicly Reported Data

- CMS Condition Specific Readmission Hospital Reduction Program [HRRP]

Novant Health Internal Data

- NH Condition Specific Readmission Reports
  [modeled from CMS methodology]
- Skilled Nursing Facility and Home Health Agency Utilization
- Post-Acute Performance and Network Utilization
- Electronic medical record patient encounter data
  [Acute and Ambulatory]

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Novant Health-
Analysis and Insight

Discharge Disposition

Overutilization of Skilled Nursing Facility

Underutilization of Hospice

Lapse in Days

0-7 days in surgical population

Varied by medical condition

Reason for Readmission

50% were related to the medical reason of the index

Complications from surgery

Readmission Facility [*Novant/Non-Novant*]

80% were Novant

Health Equity

2% - 5% difference in readmission rates based on race

Novant Health
Community Care

- Enhanced weekend coverage of Case Management
- Created a Preferred Post Acute Network
  - A partnership with selected SNF and Home Health Agencies that ensured Novant patients care was being driven by specific care pathways developed by Novant Health physicians
- Frequent follow-up visits to SNF patients by Novant Health Post-Acute Team
- Monthly Post Acute leadership meeting with SNFs and HHA to focus on readmission reduction
- Specialized post acute facilities (orthopedic, CHF, stroke)

Novant Health
Orthopedics

- Standardization of Pre-Operative Education
- Discharge planning is done ahead of procedure
- Patient Selection Criteria
  - develop and standardize patient selection criteria to maximize patient outcomes and minimize post-operative complications
  - mandatory pre-admission visits, majority onsite
- Surgical Optimization
  - optimize the health of patients who do not meet selection criteria, who are at risk of poor outcomes. Referral to another care provider team member within health system.
- Disease Specific Navigators
  - Centralized point of contact for patients through all phases of care

Novant Health
Hospital Based Medicine

- Implemented Pulmonary Navigator role
- Updated EMR Order sets and tracked order set usage
- Transitional Care Unit after Discharge
  - Follow-up with a Respiratory Therapist/Navigator with in 3 days after discharge
- Antibiotic Stewardship
  - Implemented best practice guidelines for first line antibiotic treatment

Novant Health
Heart and Vascular

- AMI patients receive a 48-hour phone call from Care Connections to review medications and verify 7-day f/u appointment made
- CABG patients follow up with a navigator one week after discharge
- Increase referrals to Cardiac Rehab
- Schedule follow-up appointment for Heart Failure patients within 3 days from discharge
- Redefine PMC heart failure team
  - Heart Failure Program Manager/RN
  - Heart Failure Medical Director
  - Heart Failure Navigator
  - Pharmacist support

Novant Health
Neurosciences

- Implemented a Stroke Bridge Clinic (SBC) – Bridges the gap between the hospital admission and the outpatient neurology visit.
  - Stroke/TIA patients discharged home or to rehab are scheduled to return within 7 days of discharge.
- Stroke Navigators call all patients at 7, 30 and 90 days after discharge.
  - Review signs/symptoms of stroke
  - Medication management
  - Ensure follow-up appointments are scheduled
  - Ask questions specific to their care and well-being
- Case management has partnered with a preferred network of SNF's to ensure our patients are admitted in a timely fashion.

Novant Health
Hospice/Palliative Care

System wide goal developed to integrate the Choices and Champions culture and tools in the daily workflows of team members who serve our patients across the care continuum.

- patients age 18 or older seen in a Novant Health Medical Group clinic; excluding Urgent Care, Express Care, and ambulatory surgical center clinics, have a documented “champion” decision-maker – 2016 baseline 1.1% -> Feb. 2019 94.8%

- Medicare patients admitted to a NH hospital have a documented Advance Care Planning (“ACP”) note in the medical record – 2016 baseline 3.7% -> Feb. 2019 71.9%

- Retrospective review of Index and Readmission records revealed opportunities to screen/refer medically appropriate patients to Hospice at time of discharge

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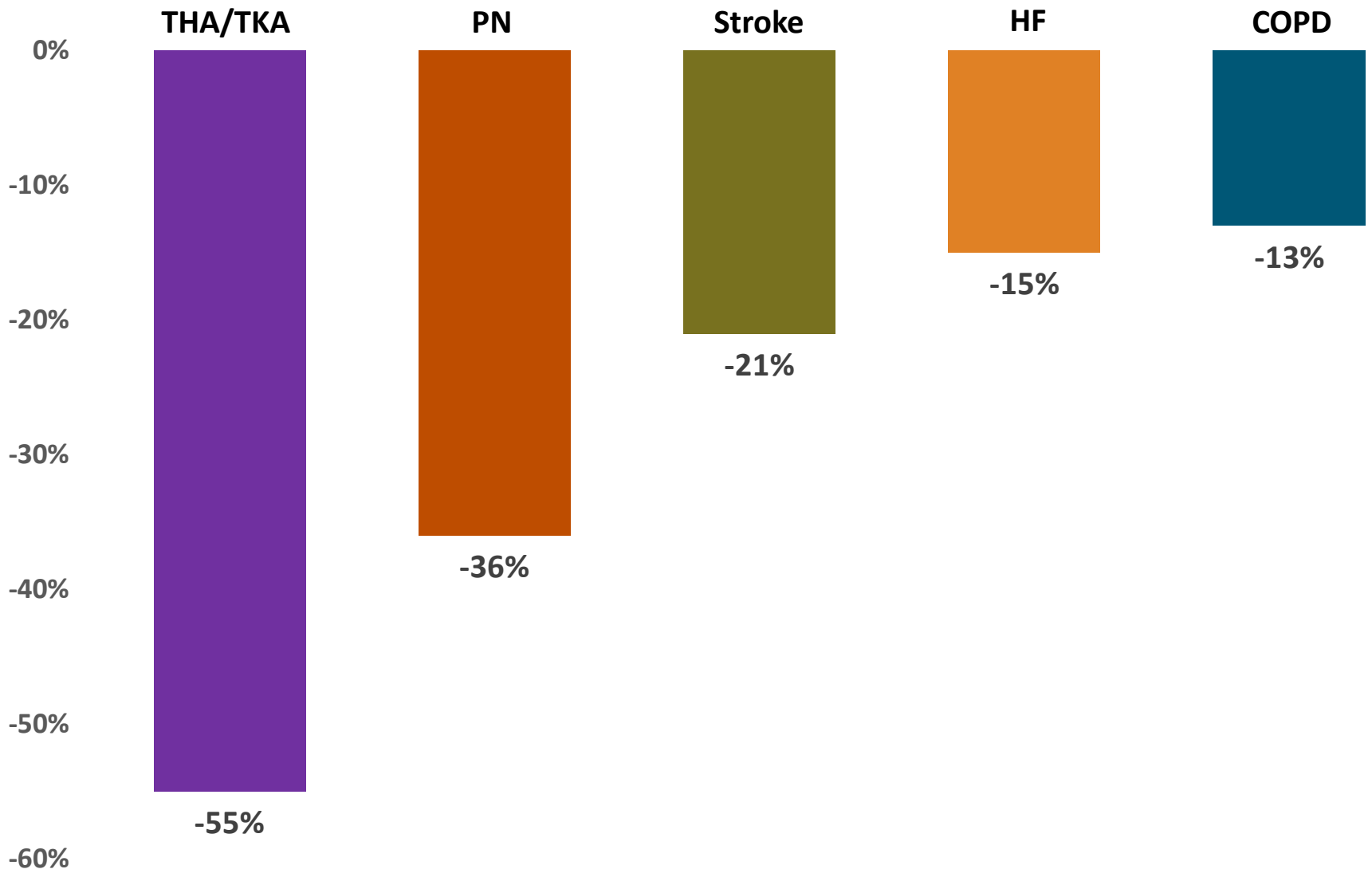
SNF Utilization improvement



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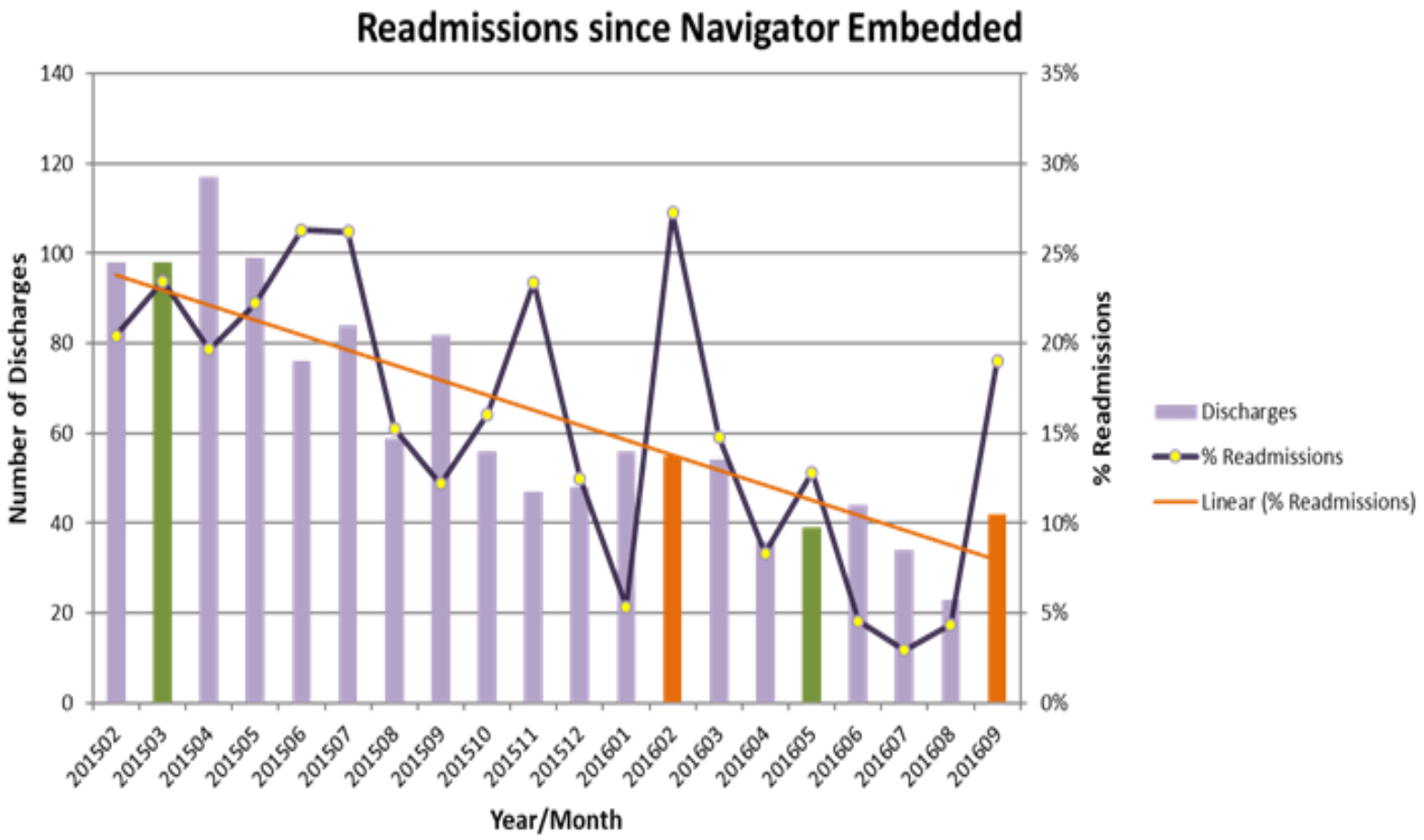
Hospital Based Medicine



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Novant Health
Hospital Based Medicine

Order set utilization for Pneumonia and COPD patients

	2016	2018
Pneumonia	26%	56%
COPD	24%	52%

Antibiotic Stewardship-

Pneumonia patients received appropriate antibiotics

	2016	2018
Pneumonia	80%	92%

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Novant Health
Hospice/Palliative Care

Documented "champion" decision-maker

1%	42%	95%
Baseline (Jul – Dec 2016)	December 2017	Current Performance

Advance Care Planning ("ACP") note in the medical record

5%	12%	72%
Baseline (Jul – Dec 2016)	December 2017	Current Performance

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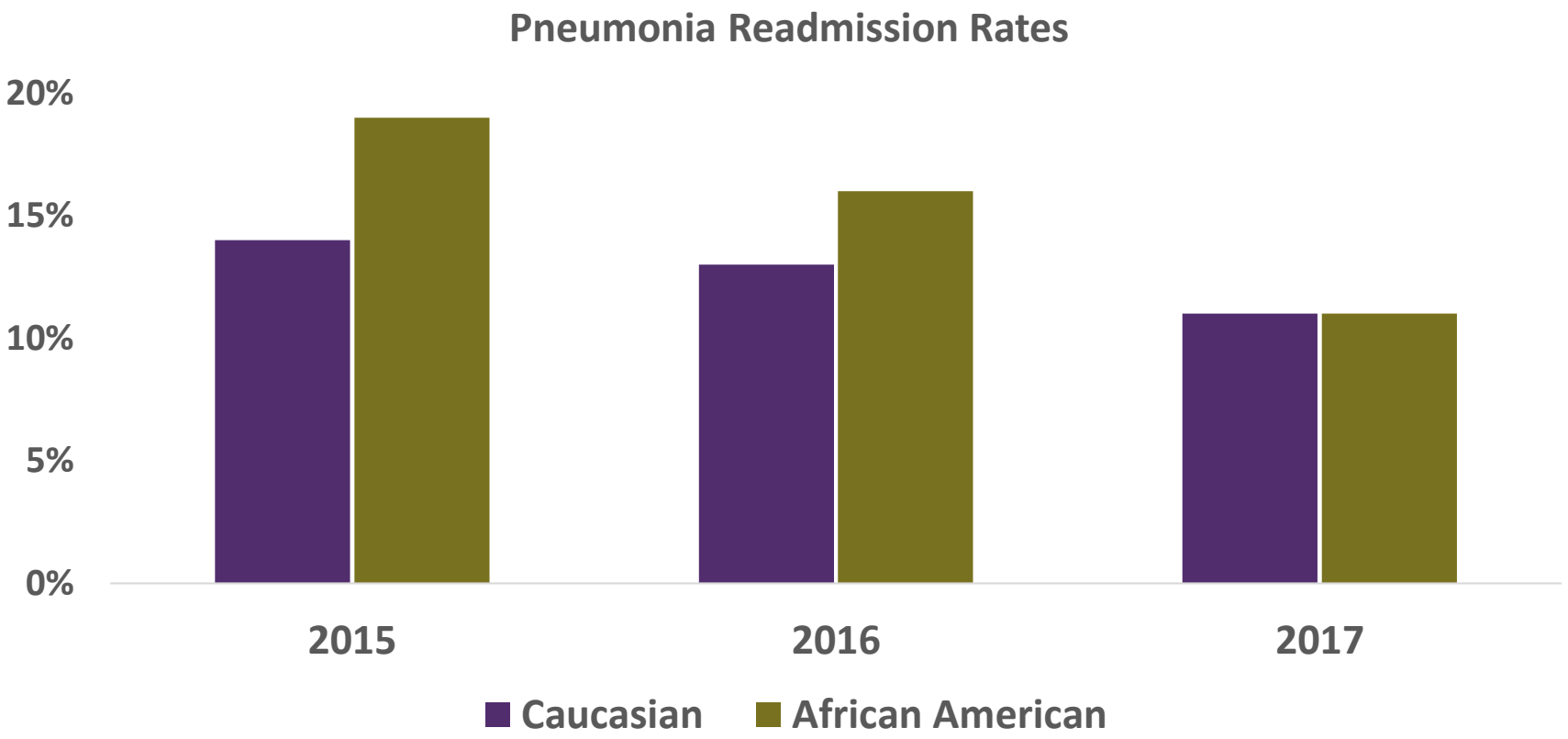
Health Equity



CMS Office of Minority Health

2018 Inaugural Health Equity Award Winner

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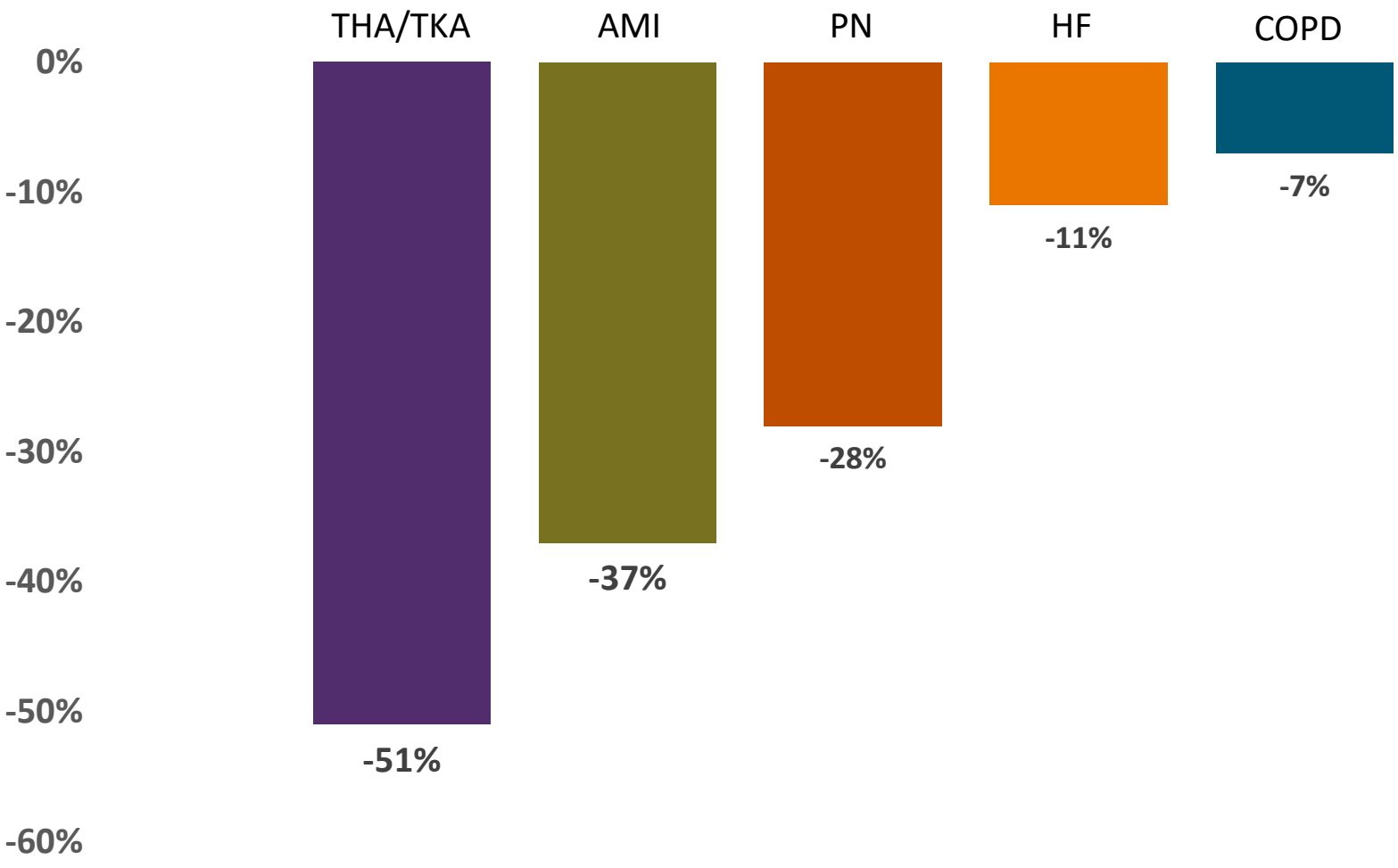
Percent reduction in Unplanned Readmission Rates
2014 - 2017



CABG and COPD readmission rates increased from Baseline

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Final Results

	Novant Health Performance Sept - Nov 2017	Novant Health Readmission LTG Target	CMS Readmission Rate
Acute Myocardial Infarction	8.5%	9.9%	16.0%
Coronary Artery Bypass Graft Surgery	2.6%	5.0%	13.6%
Heart Failure	19.4%	14.4%	21.6%
Pneumonia	17.3%	12.4%	17.0%
Chronic Obstructive Pulmonary Disease	25.6%	13.8%	19.8%
Elective Total Hip/Knee Replacements	0.8%	2.9%	4.3%
Stroke	7.5%	5.7%	12.2%

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Novant Health
Final Results

30-Day All Cause Readmissions*

Condition	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Target
Acute Myocardial Infarction [AMI]	6.1%	6.6%	7.2%	7.1%	7.4%	7.4%	7.9%	7.3%	7.2%	7.8%	7.9%	8.0%	12.5%
Coronary Artery Bypass Graft Surgery [CABG]	5.3%	6.4%	7.5%	7.7%	7.5%	7.4%	8.8%	7.0%	7.3%	6.9%	8.8%	9.2%	10.4%
Heart Failure [HF]	16.4%	15.7%	15.4%	16.1%	15.7%	15.3%	15.7%	15.3%	16.0%	16.0%	15.7%	15.9%	17.2%
Pneumonia [PN]	9.6%	10.3%	11.7%	12.4%	12.3%	12.2%	12.0%	11.9%	12.2%	12.0%	12.0%	12.4%	13.4%
Chronic Obstructive Pulmonary Disease [COPD]	17.4%	16.9%	17.6%	17.5%	17.4%	17.7%	17.6%	18.1%	17.6%	17.8%	17.6%	17.6%	15.7%
Elective Total Hip/Knee Replacements [THR/TKR]	1.5%	2.0%	2.0%	2.0%	2.0%	2.0%	2.4%	2.2%	2.4%	2.4%	2.4%	2.4%	3.3%
Stroke [STK]	7.4%	7.3%	7.2%	7.2%	7.1%	7.2%	6.8%	6.7%	6.6%	6.9%	6.8%	7.1%	9.5%
Hospital Wide (HWR)	11.2%	11.2%	11.3%	11.4%	11.4%	11.4%	11.5%	11.4%	11.5%	11.6%	11.5%	11.7%	12.2%

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Thank You!

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