
2024 VIZIENT CONNECTIONS SUMMIT
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# Cancer and Cardiovascular Service Line Executives
# Peer to Peer Session

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# Thank you to the Cancer Service Line Strategic Network Advisory Committee

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Purple font indicates peer-to-peer meeting planning committee member

# Thank you to the Cardiovascular Service Line Strategic Network Advisory Committee

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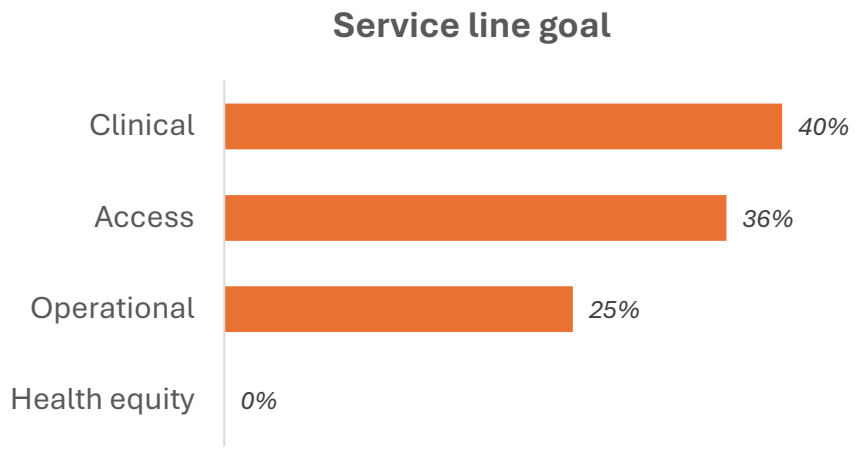
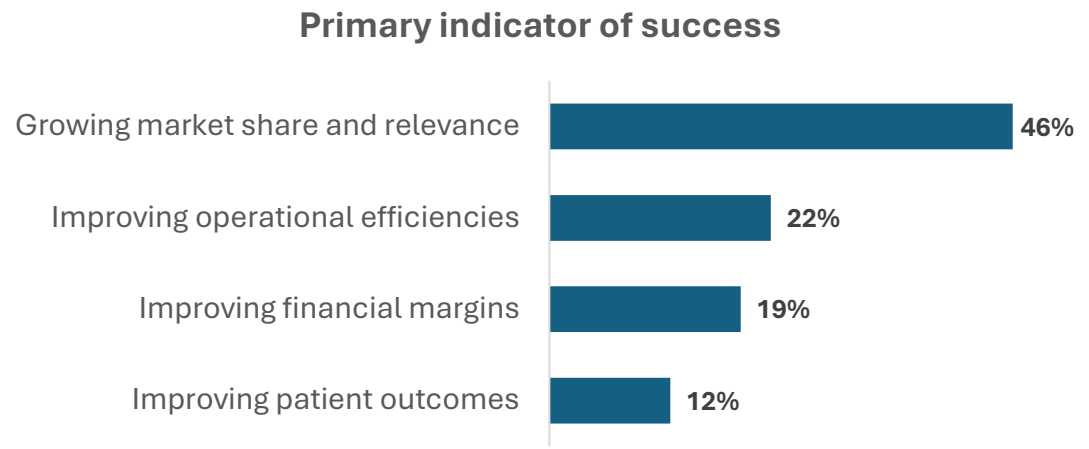
*Cancer and cardiovascular service line executives face ongoing pressures to meet patient demand and grow programs in competitive markets.*

# Context: Why focus on access and capacity for our Service Line Executives meeting?

## What is *success* for your service lines?

In our 2023 survey, most respondents indicated the ***goal*** for their service lines is *clinical* (enhancing management of patients with related conditions) or *access* (including coordinating care across the continuum). The primary ***measure of success*** for service lines is *market share and relevance*.




Source: Vizient Service Line Structure Survey, Feb 2023

How do you grow?

Are you constrained in growth?

*We heard: it's not for lack of demand; it's hard to get patients in for care.*

# What did we hear from our 2024 network surveys?

**95%** of survey respondents have challenges with facility (inpatient) access

**Facility access challenges are:**

Cancer: throughput issue
- LOS and ED bottlenecks

CV: a space and volume issue
- Rising demand for procedural space
- Increasing patient days

**96%** of survey respondents have challenges with clinic access

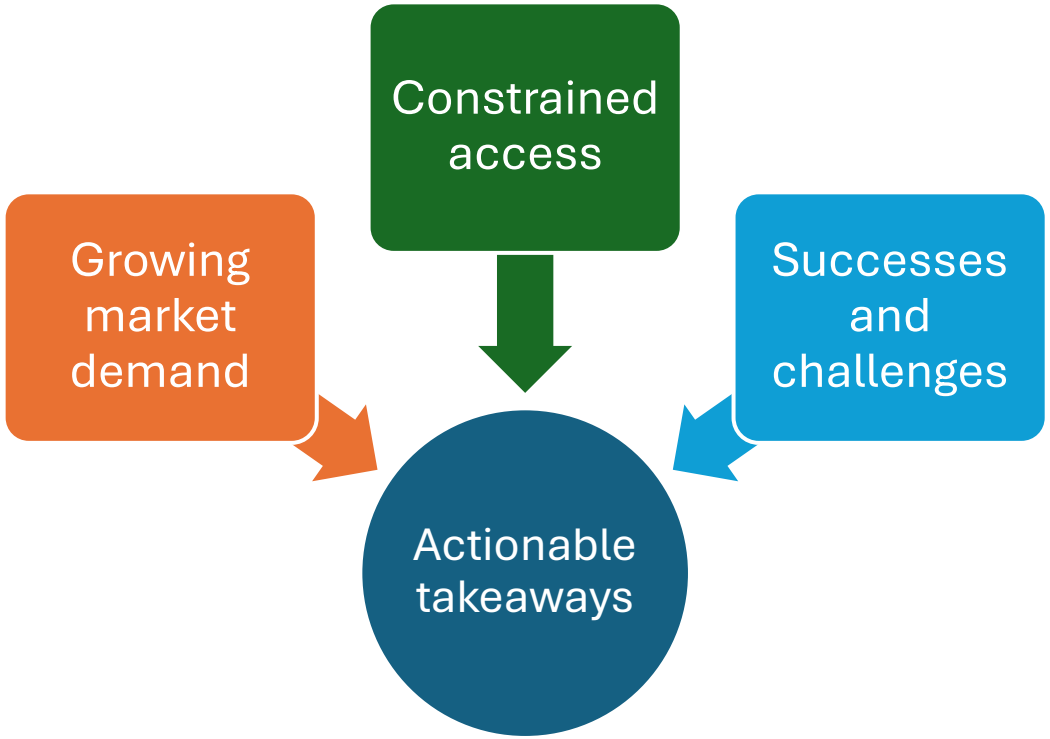
**Clinic access challenges are:**

Workforce
- Providers & APPs
- Clinical staff including nurses and techs

Space
- Exam rooms
- Infusion chairs/procedural space

Source: Vizient Service Line Strategic Network Survey, May 2024

# Connecting the dots: A preview of today's session




- Market demand for cancer and CV services continues to grow.
- Key areas of focus to improve: inpatient, emergency department, procedural, clinics.
- Hear from your peers who have had success. Share your ongoing challenges.
- ***Take action at your organization.*** Meet the demand in your market.

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# Today's agenda (8 a.m. – noon)

- Setting the Stage: 2024 Cancer and Cardiovascular Landscapes
- Creating Integrated Service Lines: Aligning Teams for Success
- Optimize Length of Stay: Create Inpatient Capacity and Enable Growth
- *Break*
- Rapid Access Clinics: Reduce ED Patient Returns and Improve Efficiency
- Unlocking Capacity: Optimizing Sites for Ambulatory Surgery
- Roundtable Discussion: Access, Capacity and Throughput
- *Wrap up and Closing*

# Icebreakers & Engagement

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# Overall Learning Objectives

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- Identify key trends that will impact future utilization of cancer and cardiovascular services.
- Explain the benefits of integrated service lines.
- Describe successful models shown to improve operational efficiency in cancer and cardiovascular service lines.
- Discuss strategies to increase capacity in specific locations within your system to meet future patient demand.

# Setting the Stage: 2024 Cancer and Cardiovascular Landscapes

## Growing Demand and Program Integration

**Joshua Aaker, PhD,** Senior Consulting Director, Intelligence, Sg2

**Chad Giese, MBA**, Principal, Intelligence, Sg2

**Setu Shah, MPH**, Consultant, Intelligence, Sg2

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# Silver Tsunami is Here

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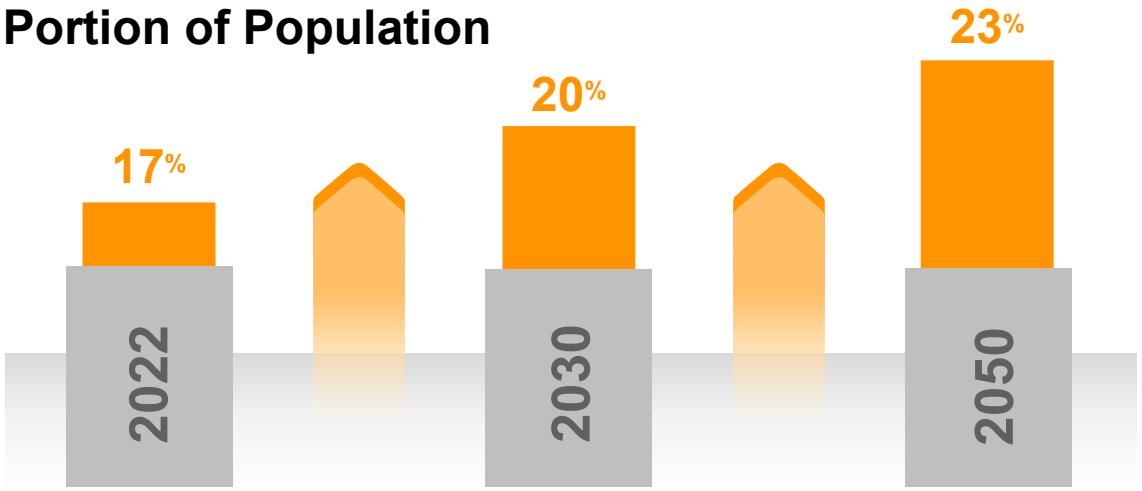
**4.1 million Americans will turn 65 this year.**

—US Census Bureau

**Rate of cancer among <50 increased 13% from 2000 to 2019**

—American Cancer Society

## Americans 65 and Older as Portion of Population




## Cancer Survivors in US

**18M** → **26M**

2022 — 2040

73% will be 65+

REFLECTION

**Sources:** US Census Bureau. 2023 National Population Projections Tables: Main Series. Accessed May 2024; 1. Abbott B. Cancer is striking more young people, and doctors are alarmed and baffled. WSJ. January 11, 2024. Accessed July 2024; 1. "Silver Tsunami" of Cancer Survivors. NCI. July 8, 2016. Accessed July 2024; Claritas Pop-Facts®, 2024; Sg2 Analysis, 2024.

# The Tide Has Turned: Growth in Chronic Care Populations Demands Decisions Now

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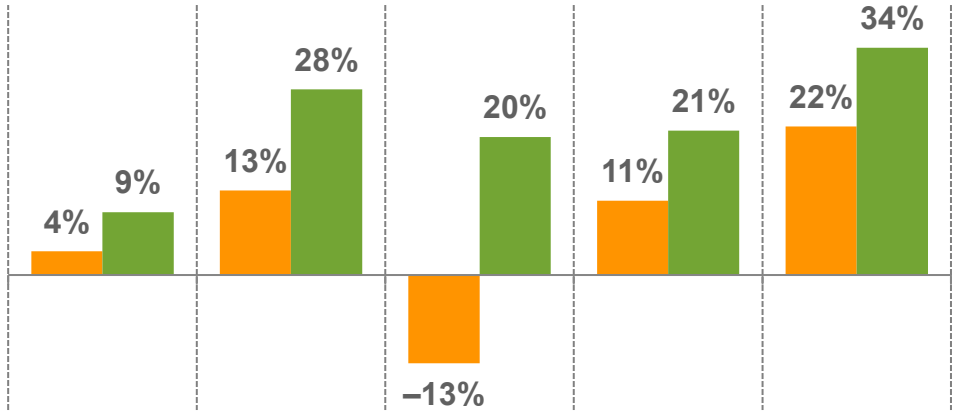
## Inpatient and Outpatient Chronic Disease CARE Family Volumes




| | Hypertension | Diabetes Mellitus | COPD | ESRD | Advanced Liver Disease |
|---|---|---|---|---|---|
| 2024 IP Volume | 164K | 809K | 539K | 218K | 236K |
| 2024 OP Volume | 105M | 115M | 51M | 159M | 4.8M |

COPD = chronic obstructive pulmonary disease; ESRD = end-stage renal disease.

## CONGESTIVE HEART FAILURE (CHF)

**IP +12%** DAYS **+19%** ALOS **+6%**

**OP +33%**

More Americans are dying from CHF today than 25 years ago. Mortality rate for those under 45 years of age increased from 1.76 in 1999 to 3.05 in 2021.

## CHRONIC CARE DRIVES OUTPATIENT CANCER GROWTH

**Outpatient: +17 %**

| +12% | +15% | +10% |
|---|---|---|
| E&M visits | Advanced Imaging | Rehab |

**Sources:** Sayed A et al. JAMA Cardiol. April 24, 2024. Impact of Change®, 2024; HCUP National Inpatient Sample (NIS). Healthcare Cost and Utilization Project (HCUP) 2019. Agency for Healthcare Research and Quality, Rockville, MD; Proprietary Sg2 All-Payer Claims Data Set, 2022; The following 2022 CMS Limited Data Sets (LDS): Carrier, Denominator, Home Health Agency, Hospice, Outpatient, Skilled Nursing Facility; Claritas Pop-Facts®, 2024; Sg2 Analysis, 2024.

# Key Trends Disrupting Comprehensive Care Delivery

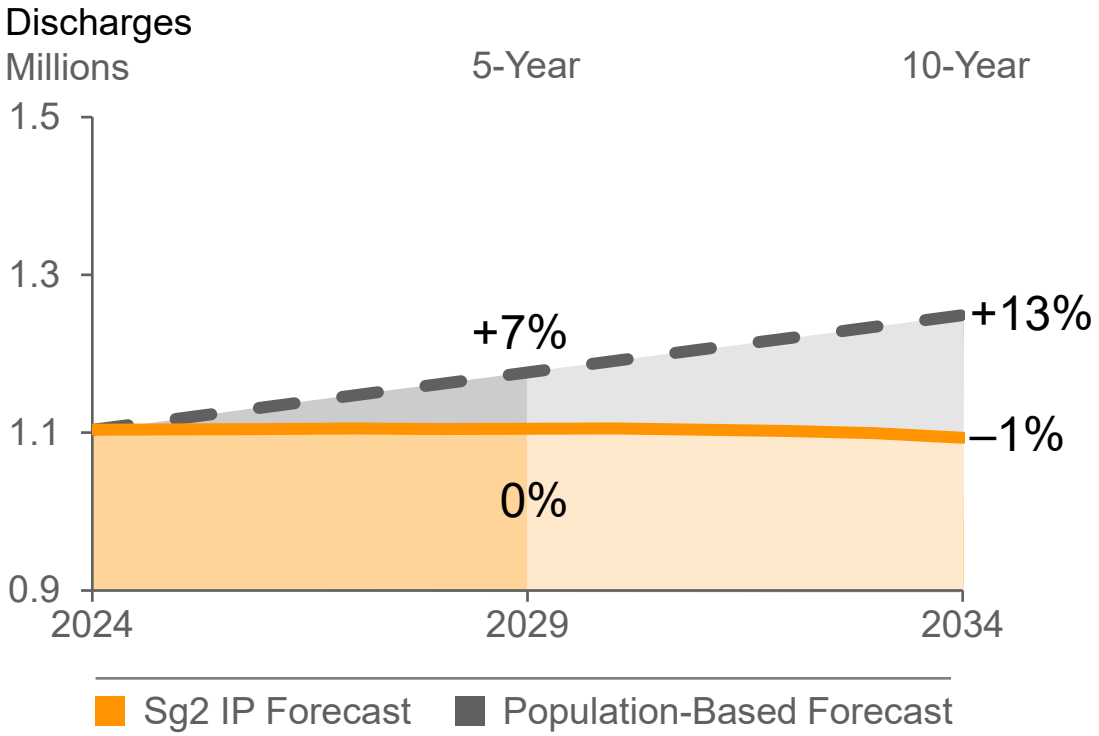
- Clinical Trials: One in five patients (22%) participate in cancer **clinical research studies.**
- VBC: **>$600M OCM net losses** for Medicare.
- Channel Management: 56% of patients **did not choose their oncologist.**
- Pharmacy: 5%–20% increases in pharmacy budgets due to **drug shortages.**
- Specialty Access: 89 days—**average wait time** to see specialist.
- Screening: Nearly two-thirds (65%) say that they definitely would or probably would want **AI to be used for their skin cancer screening.**

OCM = Oncology Care Model; VBC = value-based care.

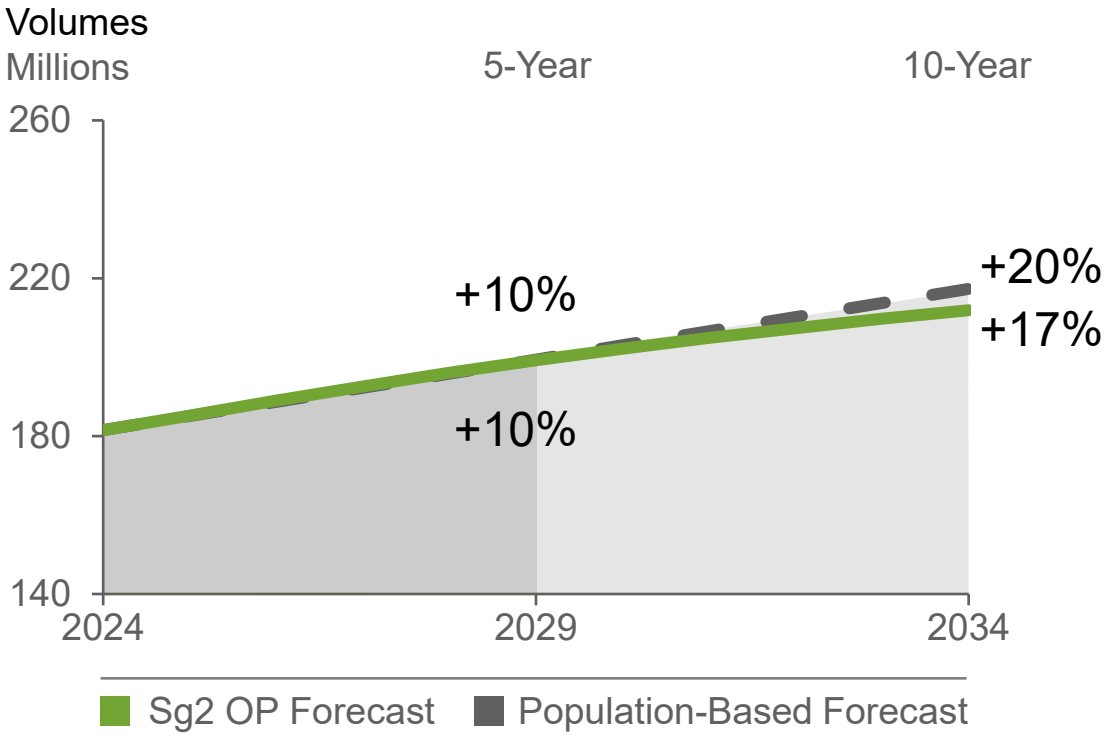
**Sources:** Fred Hutch Cancer Center. One in five people with cancer participate in medical research studies [press release]. April 2, 2024; Trombley M et al. Evaluation of the Oncology Care Model. CMS. 2024 Bogdan B et al. The experience report—cancer patient issue. Accenture. March 15, 2022; National Comprehensive Cancer Network. NCN Best Practices Committee—new information and survey results from June 2024. June 26, 2024; Drug shortages in community oncology: ensuring access to chemotherapy. Pharmacy Times. June 17, 2024; Shariff A. Citrus oncology: revolutionizing cancer care by addressing side effects. Association of Cancer Care Centers. June 13, 2024; Tyson A et al. 60% of Americans would be uncomfortable with provider relying on AI in their own health care. Pew Research Center. February 22, 2023.

# High-Acuity Surgical and Complex Care Contribute to IP Volumes; Target Therapies, Minimally Invasive Procedures Drive OP Growth

**Inpatient Cancer Forecast**
US Market, 2024–2034



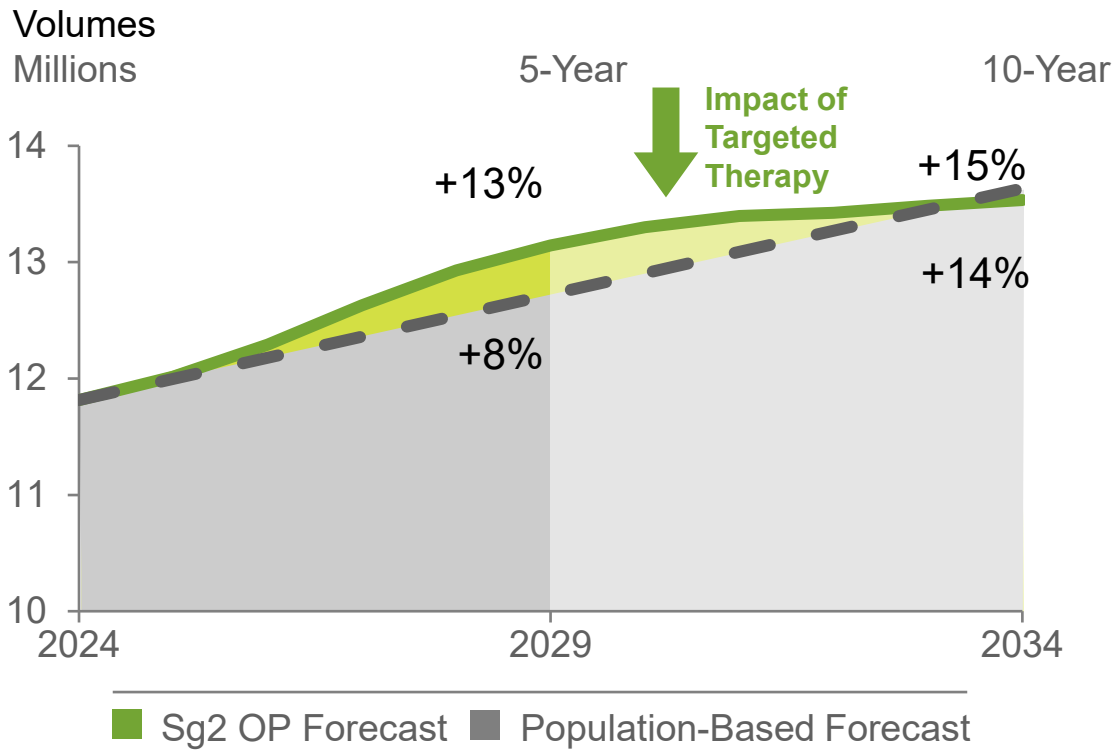

**Outpatient Cancer Forecast**
US Market, 2024–2034




**Note:** Analysis excludes 0–17 age group. 0% indicates the forecast is flat (less than ±1%).
**Sources:** Impact of Change®, 2024; HCUP National Inpatient Sample (NIS). Healthcare Cost and Utilization Project (HCUP) 2019. Agency for Healthcare Research and Quality, Rockville, MD; Proprietary Sg2 All-Payer Claims Data Set, 2022; The following 2022 CMS Limited Data Sets (LDS): Carrier, Denominator, Home Health Agency, Hospice, Outpatient, Skilled Nursing Facility; Claritas Pop-Facts®, 2024; Sg2 Analysis, 2024.

# Combination and Targeted Therapies Influence Infusion Clinical Pathways

**Oncology Chemotherapy Forecast**
US Market, 2024–2034




**The ratio of monotherapy trials continues to decrease, while the number of combination studies is on the rise.**

222 FDA-approved oncology therapies → 84% (186) are targeted therapies

>120 OAMs used in clinical practice represent > 1/3 of cancer medications in pipeline

| | Darzalex IV | Darzalex Faspro Injection |
|---|---|---|
| 2020 | 95% | 5% |
| 2024 | 7% | 93% |

**Note:** Analysis excludes 0–17 age group and includes the cancer service line. OAM = oral anticancer medication.
**Sources:** OncoKB. FDA-approved oncology therapies. Memorial Sloan Kettering Cancer Center. Accessed June 2024; Saez-Ibanez AR et al. Immuno-oncology clinical trials take a turn beyond PD1/PDL1 inhibitors. Nature. April 20, 2023; Pharmacy Quality Alliance. Recommendations to Improve the Quality of Oral Anticancer Mediation Use. 2023; IQVIA's SMART – US Edition. Accessed June 28, 2024. https://smart.imshealth.com/UI/default.aspx; Impact of Change®, 2024; Proprietary Sg2 All-Payer Claims Data Set, 2022; The following 2022 CMS Limited Data Sets (LDS): Carrier, Denominator, Home Health Agency, Hospice, Outpatient, Skilled Nursing Facility; Claritas Pop-Facts®, 2024; Sg2 Analysis, 2024.

# Case Study | Expanding Advanced Therapy Access Requires Coordinated and Comprehensive Approach

## MUNSON HEALTHCARE, COWELL FAMILY CANCER CENTER TRAVERSE CITY, MI

**GOAL:** Offer bispecific therapy close to home

**PROCESS:**

- Develop comprehensive program
  - — Policy development—create patient and staff education documents
  - — Toxicity management—create clinician tools, like a toxicity scoring and charting tool
  - — Electronic order set that segregates treatment options
  - — Monitoring system to safely transition patients from IP to OP care
- Communicate and roll out in main ED and regional hospital EDs

**RESULTS:** 133 referrals in region through program

**FUTURE:** Expand to hospitals outside the hub and PCP clinics within system

> "The epitome of our innovation is equity.
>
> Working together across departments to manage these patients is what allowed us to move forward with this innovation."
>
> —**Courtney VanHouzen,** PharmD, Oncology Pharmacy Resident, Munson Healthcare, Cowell Family Cancer Center

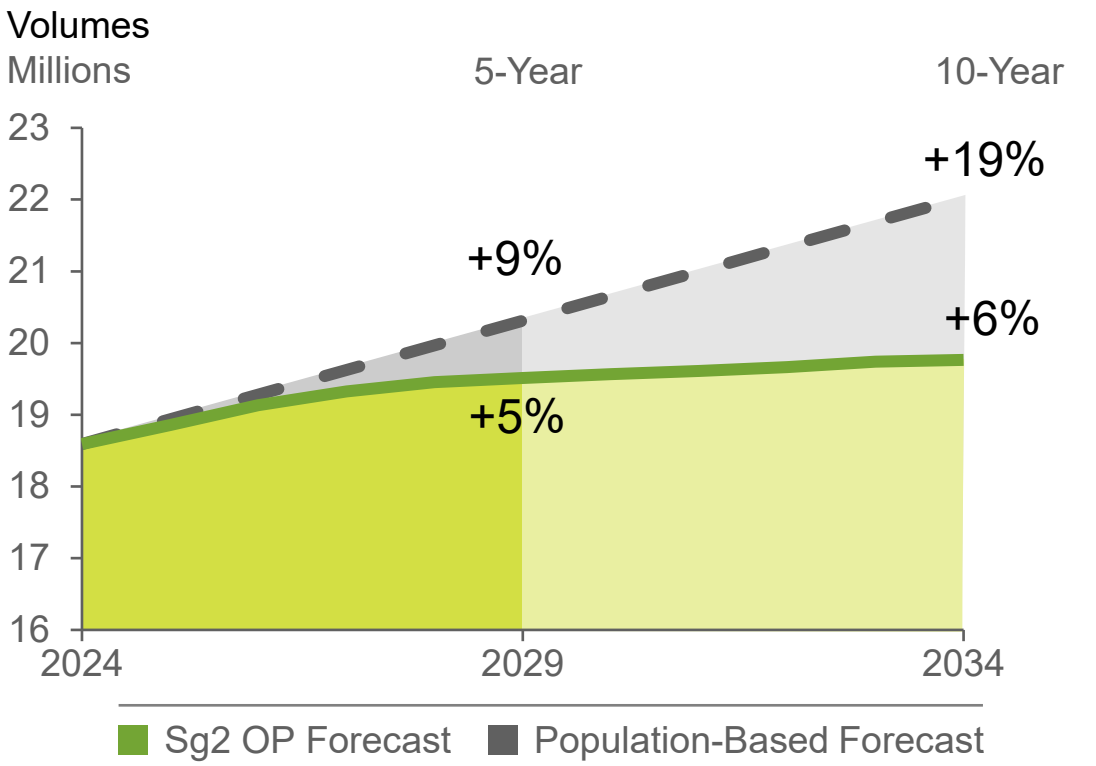
REFLECTION

PCP = primary care physician.

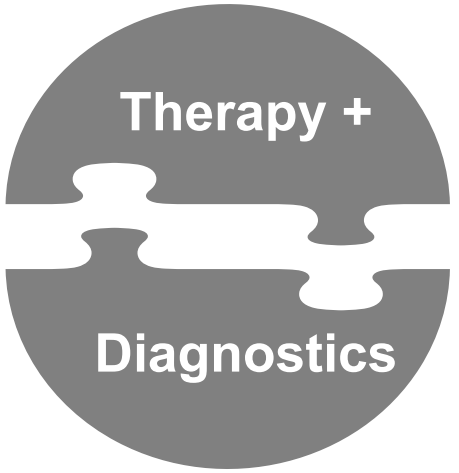
**Sources:** Association of Cancer Care Centers. Munson Healthcare. Accessed June 2024; Association of Cancer Care Centers. Implementation of a bispecific T-cell engager therapy program at a community cancer center [blog]. May 15, 2024.

# Clinical Precision, Technological Progression and Remerging Indications Direct Future Growth Opportunity for Radiation Therapy

**Outpatient Radiation Therapy Forecast**
US Market, 2024–2034




| Modality | IMRT | SRS/SBRT | RPT |
|---|---|---|---|
| 2024 Distribution | 49% | 3% | 0.4% |
| 5-Year Forecast | 7% | 9% | 10% |




(IORT, IGRT, ART, theranostics)

**5%–15%**
Underutilization of RT services for eligible patients

Management of nonmalignant conditions represents up to **30%** of patient volume.

Note: Analysis excludes 0–17 age group and includes the cancer service line. Radiation therapy forecast is based on fractions. ART = adaptive radiation therapy; IGRT = image-guided radiation therapy; IMRT = intensity-modulated radiation therapy; IORT = intraoperative radiation therapy; RPT = radiopharmaceutical therapy; RT = radiation therapy; SBRT = stereotactic body radiation therapy; SRS = stereotactic radiosurgery.
**Sources:** https://www.astro.org/getmedia/cdbdf346-2401-4dfc-9af1-2394e3562f59/2024-ASTROnews-Spring-(Digital).pdf; Impact of Change®, 2024; Proprietary Sg2 All-Payer Claims Data Set, 2022; The following 2022 CMS Limited Data Sets (LDS): Carrier, Denominator, Home Health Agency, Hospice, Outpatient, Skilled Nursing Facility; Claritas Pop-Facts®, 2024; Sg2 Analysis, 2024.

# Demand for Inpatient Discharges and Outpatient Volumes Expected to Grow Due to Rising Patient Acuity, Population

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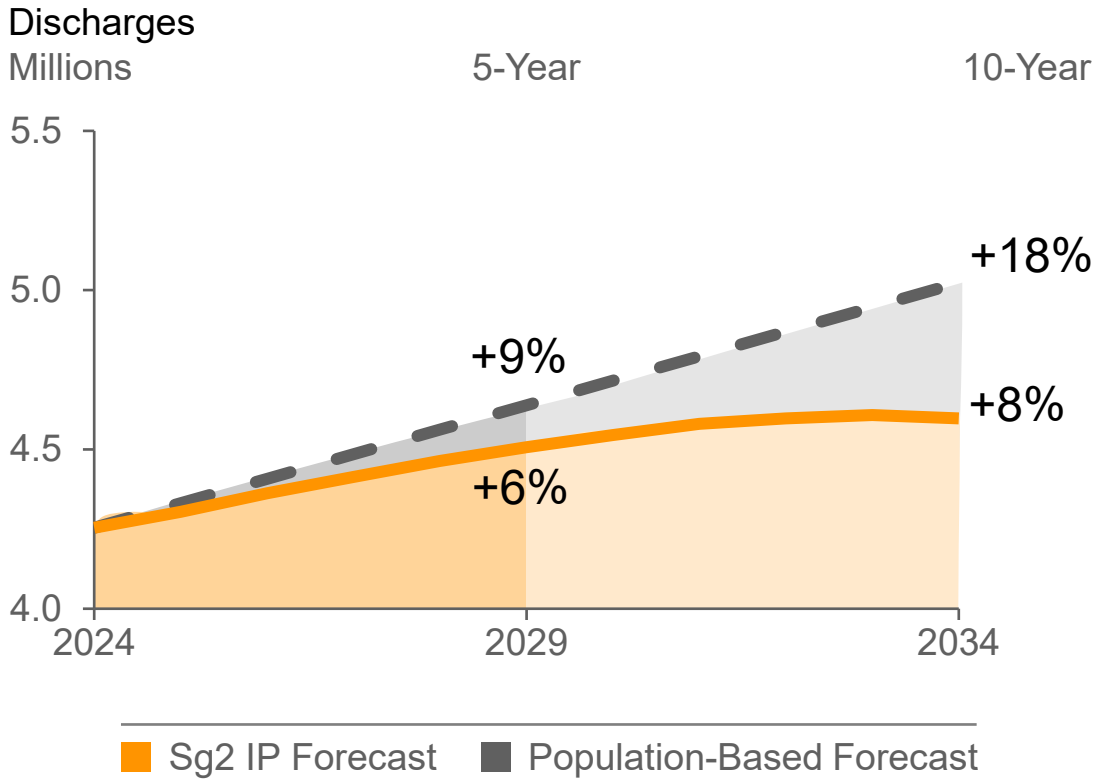
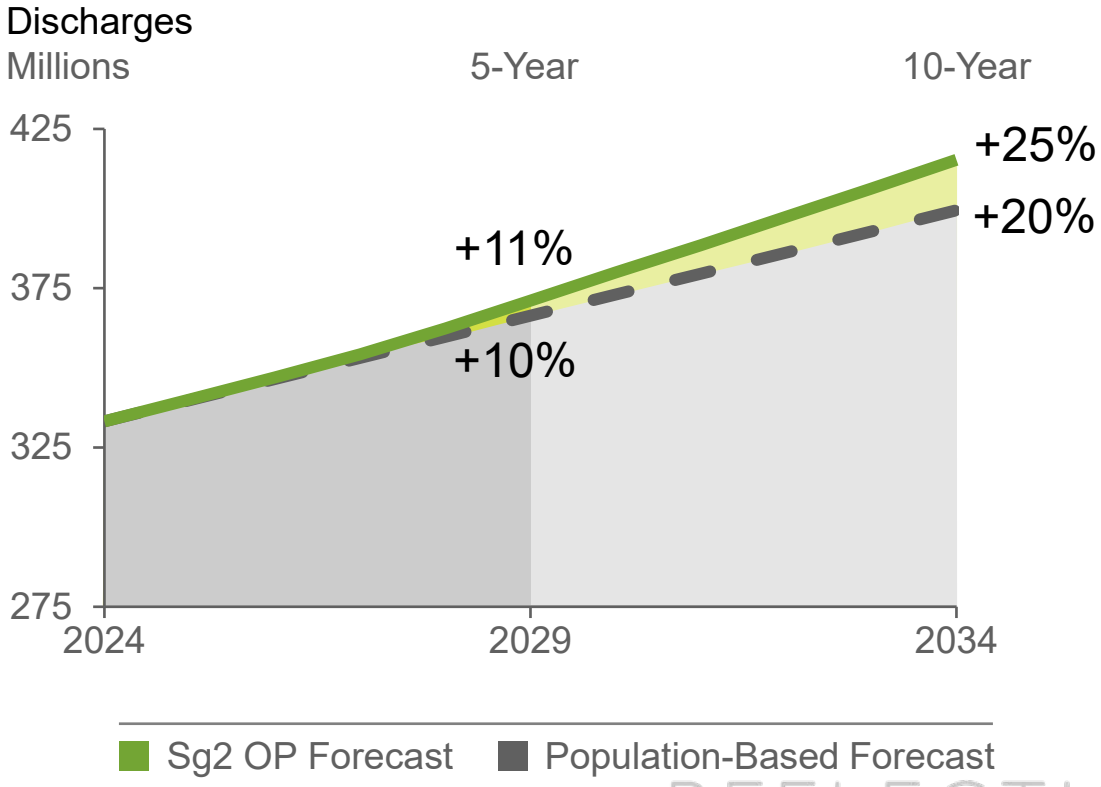
**Inpatient Cardiovascular Forecast**
US Market, 2024–2034




**Outpatient Cardiovascular Forecast**
US Market, 2024–2034




**Note**: Analysis excludes 0–17 age group. CARE = Clinical Alignment and Resource Effectiveness; eco & consum = economy and consumerism; epi/soc = epidemiology/sociocultural changes; innov & tech = innovation and technology; pop = population; SoC = System of CARE.
**Sources**: Impact of Change®, 2024; HCUP National Inpatient Sample (NIS). Healthcare Cost and Utilization Project (HCUP) 2019. Agency for Healthcare Research and Quality, Rockville, MD; Proprietary Sg2 All-Payer Claims Data Set, 2022; The following 2022 CMS Limited Data Sets (LDS): Carrier, Denominator, Home Health Agency, Hospice, Outpatient, Skilled Nursing Facility; Claritas Pop-Facts®, 2024; Sg2 Analysis, 2024.

# Demand Is Increasing Across the CV System of CARE; How Will You Decide to Meet It?

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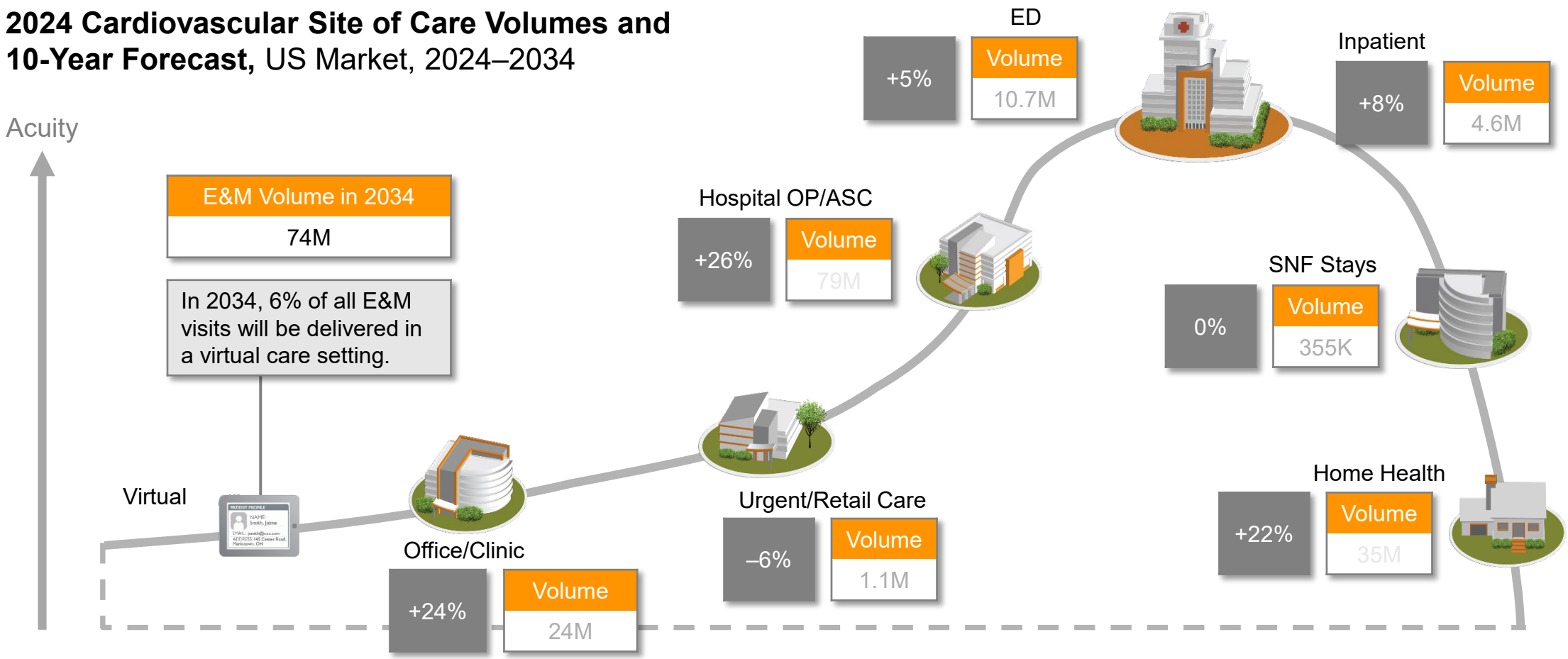
**2024 Cardiovascular Site of Care Volumes and 10-Year Forecast,** US Market, 2024–2034




Note: ED forecast defined as urgent and emergent visits. E&M Visits defined as procedures visits—evaluation and management, established patient visits—in person, established patient visits—virtual, new patient visits—in person, new patient visits—virtual. Home Health defined as procedures home nurse visits and home visits other. Analysis excludes 0–17 age group. SNF = skilled nursing facility.

**Sources**: Impact of Change®, 2024; HCUP National Inpatient Sample (NIS). Healthcare Cost and Utilization Project (HCUP) 2019. Agency for Healthcare Research and Quality, Rockville, MD; Proprietary Sg2 All-Payer Claims Data Set, 2022; The following 2022 CMS Limited Data Sets (LDS): Carrier, Denominator, Home Health Agency, Hospice, Outpatient, Skilled Nursing Facility; Claritas Pop-Facts®, 2024; Sg2 Analysis, 2024.

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# The Hospital Remains Central for the CV System of CARE—Capacity Is Constrained

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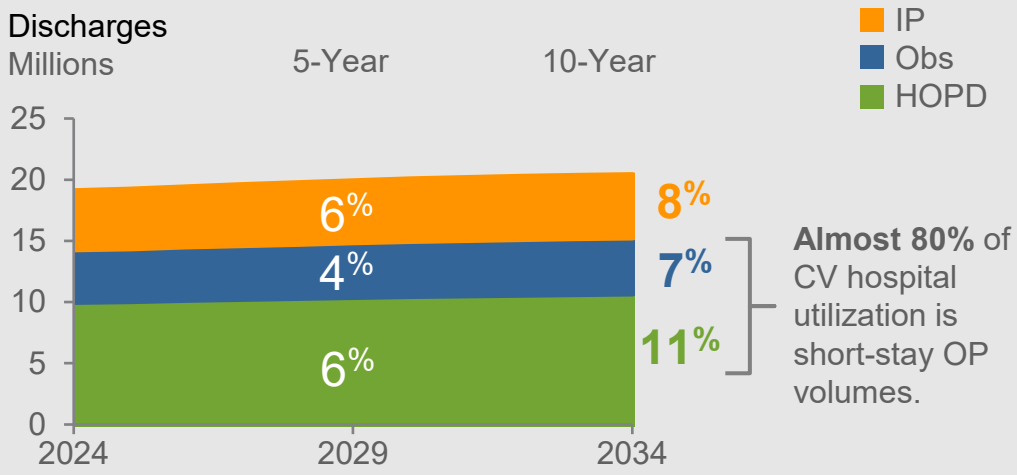
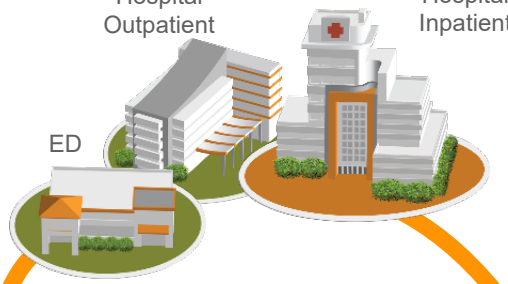
**Hospital Cardiovascular Forecast: 9%**
US Market, 2024–2034




**Almost 80%** of CV hospital utilization is short-stay OP volumes.

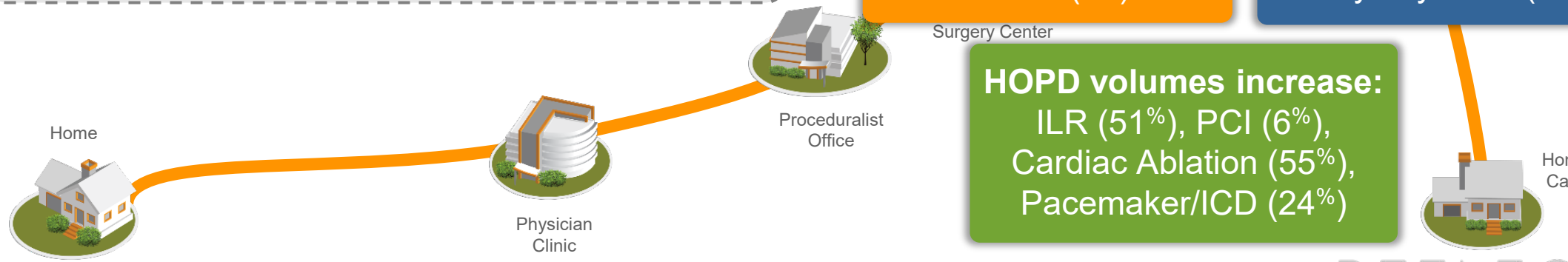



ALOS: **+1%**
Bed Days: **+9%**

**IP growth driven by:** CHF (12%), MI (3%), Valve Surgery (89%), CABG (4%)

**Observation visits rise:** Cardiomyopathy (18%), VTE (15%), CHF (20%), Dysrhythmia (20%)

**HOPD volumes increase:** ILR (51%), PCI (6%), Cardiac Ablation (55%), Pacemaker/ICD (24%)




**Note:** Analysis excludes 0–17 age group. Hospital forecast includes the following: IP discharges; visits—observation in HOPD; HOPD procedures—major/minor and select diagnostics in the HOPD including diagnostic catheterization, CV stress testing, EP studies and implantable loop recorders. MI = myocardial infarction; obs = observation; valve surgery = transcatheter valve procedure and surgical valve procedure; VTE = venous thromboembolism.

**Sources:** Impact of Change®, 2024; HCUP National Inpatient Sample (NIS). Healthcare Cost and Utilization Project (HCUP) 2019. Agency for Healthcare Research and Quality, Rockville, MD; Proprietary Sg2 All-Payer Claims Data Set, 2022; The following 2022 CMS Limited Data Sets (LDS): Carrier, Denominator, Home Health Agency, Hospice, Outpatient, Skilled Nursing Facility; Claritas Pop-Facts®, 2024; Sg2 Analysis, 2024.

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# Case Study | Distributed Care Can Leverage Centralized Programs

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## MASS GENERAL BRIGHAM, BOSTON

**Time**: Oct 2021–June 2022 | **Study sites**: AMC and two community-based teaching hospitals

**GOAL:** Getting to GDMT for CHF patients yields better outcomes but can be difficult and resource-intensive.

**SOLUTION:** Assembled a **virtual care team** with a centralized **physician**, study staff and local **pharmacist** who placed **progress notes in the EHR (ie, asynchronous)**.

**RESULTS:**

- **Nearly doubled β-blocker prescriptions** and **nearly tripled MRA prescriptions** in patients not previously on these treatments at hospital admission.
- 20% absolute improvement in net in-hospital optimization (ie, new initiations/intensifications).

REFLECTION

AMC = academic medical center; MRA = mineralocorticoid receptor antagonists.
**Source**: Bhatt AS et al. J Am Coll Cardiol. 2023;81:1680-1693; Sg2 analysis 2024.

# Case Study | AFib Clinic Models Are Varied Yet Yield Results

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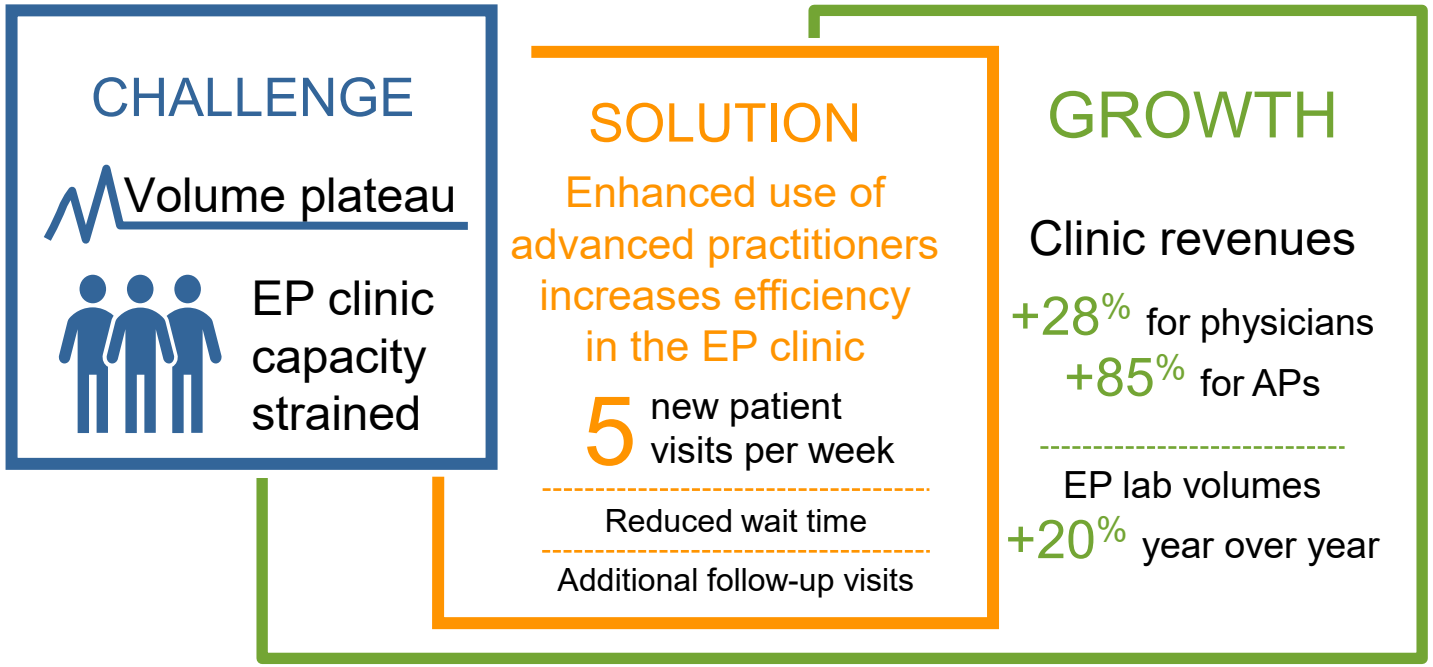
## MCLEOD HEALTH, FLORENCE, SC




### East Carolina University Brody SOM Greenville, NC and Cone Health, Greensboro, NC

A nurse practitioner–led AFib clinic helped reduce the number of patients with ≥1 hospitalization by 78% and the number of patients with ≥1 ER visit by 79%. ~23% of patients avoided at least one ER visit.

### OhioHealth, Columbus, OH

Dedicated AFib clinic reduced diagnosis-to-ablation time by almost 60% compared to an electrophysiology clinic—faster if they were referred to an AFib clinic first.

REFLECTION

AP = advanced practitioner; SOM = school of medicine.

**Sources:** Sg2 Interviews With McLeod Health, 2017 and 2018; Robinson A et al. Heart Rhythm O2. 2022;3(6Part A):639–646; Meyer DB et al. J Am Assoc Nurse Pract. 2022;34:1139–1148; Sg2 analysis 2024.

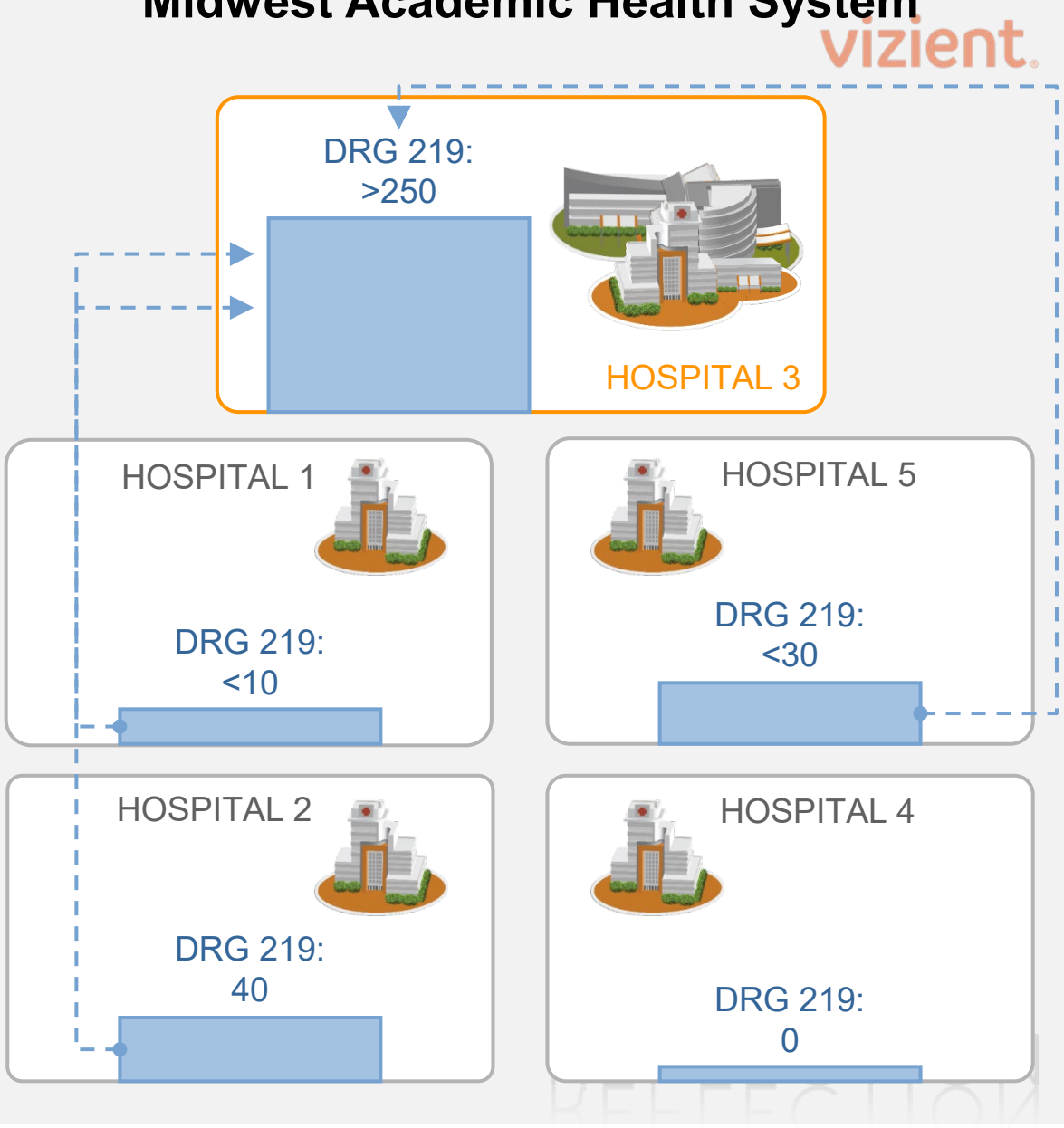
# Quality and Cost Data Inform Service Distribution

## Volume to Outcomes Comparison, National Benchmarks, DRG 219

| Hospital Volume Category | Mortality Rate | ALOS | Related Readmits | Transfers In | ICU Usage |
|---|---|---|---|---|---|
| <10 | 8.0% | 10.5 | 2.0% | 6% | 89% |
| 10–24 | 6.2% | 10.3 | 2.6% | 10% | 96% |
| 25–49 | 6.6% | 11.3 | 2.5% | 13% | 92% |
| 50–74 | 4.2% | 10.9 | 2.7% | 12% | 89% |
| 75–124 | 4.7% | 10.9 | 3.1% | 21% | 87% |
| 125–174 | 3.6% | 10.9 | 2.6% | 22% | 85% |
| 175–249 | 3.5% | 10.6 | 2.2% | 18% | 93% |
| 250+ | 2.0% | 10.5 | 3.0% | 19% | 95% |

Change as volume decreases

**Note:** DRG 219 = cardiac valve and other major cardiothoracic procedures without cardiac catheterization with major complication or comorbidity. Analysis based on 2023 annual data.
**Source:** Vizient® Clinical Data Base/Resource Manager™. Irving, TX: Vizient, Inc.; 2024. https://www.vizientinc.com

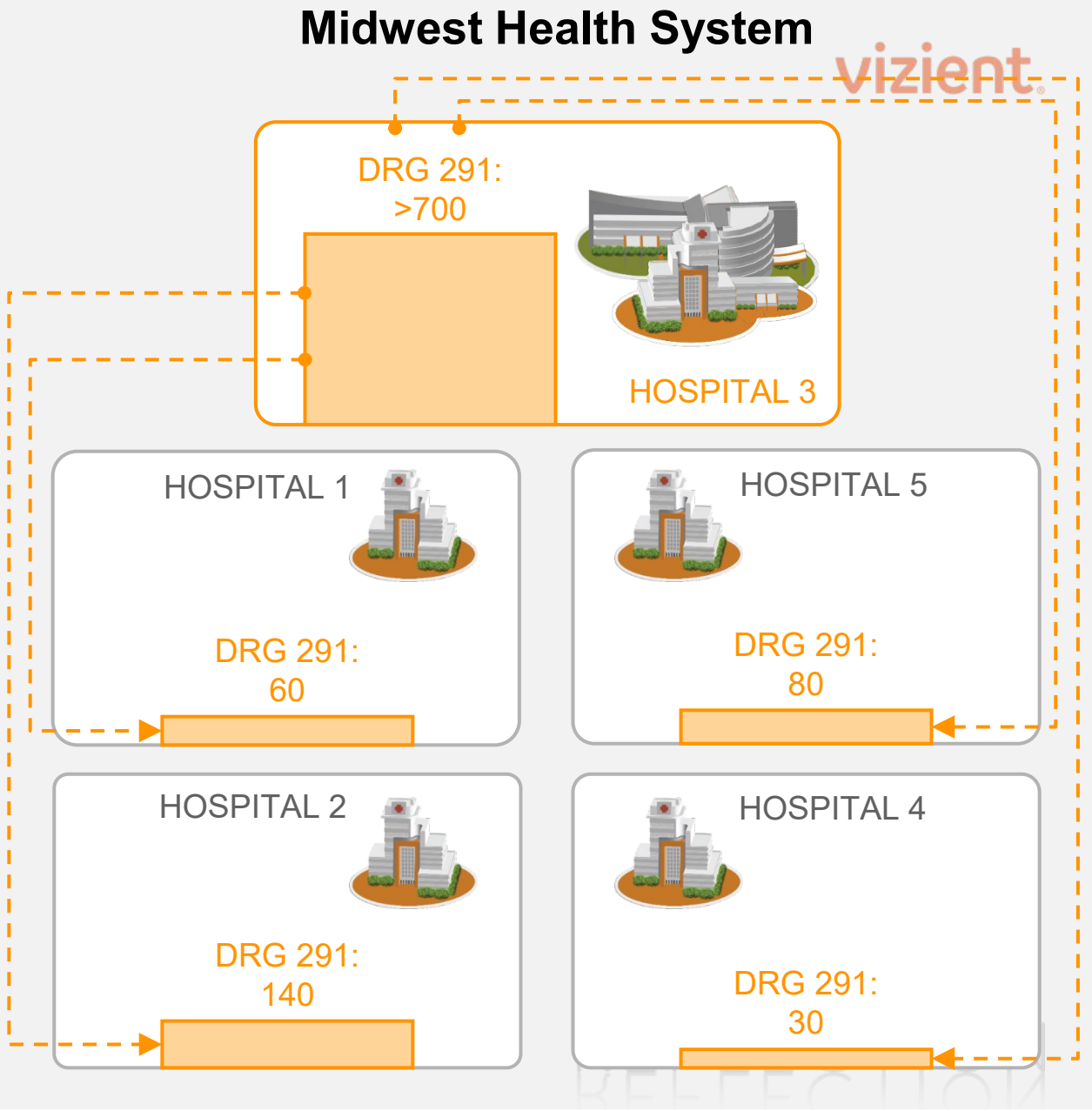


# Quality and Cost Data Inform Service Distribution

**Volume to Outcomes Comparison, National Benchmarks, DRG 291**

| Hospital Volume Category | Mortality Rate | ALOS | Related Readmits |
|---|---|---|---|
| <10 | N/A | N/A | N/A |
| 10–24 | 2.1% | 4.1 | 7.1% |
| 25–49 | 1.9% | 4.1 | 6.3% |
| 50–74 | 2.0% | 4.3 | 7.6% |
| 75–124 | 2.1% | 4.7 | 7.8% |
| 125–174 | 2.1% | 4.9 | 9.3% |
| 175–249 | 2.3% | 5.2 | 9.5% |
| 250-499 | 2.3% | 5.5 | 10.7% |
| 500-749 | 2.1% | 5.6 | 10.8% |
| 750-999 | 2.2% | 6.1 | 11.0% |
| 1,000+ | 2.1% | 4.1 | 7.1% |

Change as volume decreases




**Note:** DRG 291 = Heart failure and shock with MCC with major complication or comorbidity. Analysis based on 2023 annual data.
**Source:** Vizient® Clinical Data Base/Resource Manager™. Irving, TX: Vizient, Inc.; 2024. https://www.vizientinc.com

# Cancer: Complex Surgical and Medical Admissions Contribute to IP Utilization; Volume/Quality Drives Care Delivery

**Inpatient Distribution and 10-Year Forecast by Subspecialty,** US Market, Adults, 2024–2034

| | % Medical vs Surgical | | 10-Year Forecast |
|---|---|---|---|
| Overall | 52% SURGICAL | 48% MEDICAL | –1% |
| Breast | 75% SURGICAL | 25% MEDICAL | –4% |
| Hematologic | 16% SURGICAL | 84% MEDICAL | 0% |
| Lung | 51% SURGICAL | 49% MEDICAL | +4% |

**Volume to Outcomes Comparison, National Benchmarks, Lung Cancer IP Surgeries**

| Hospital Volume Category | Observed Mortality Rate | Mortality O/E Index | Total Cases |
|---|---|---|---|
| **<15** | 1.20% | 0.70 | 913 |
| **15-29** | 0.72% | 0.57 | 1,397 |
| **30-59** | 0.82% | 0.81 | 2,683 |
| **60-119** | 0.83% | 0.85 | 6,268 |
| **120+** | 0.44% | 0.46 | 5,224 |

**Note:** Analysis excludes 0–17 age group. 0% indicates the forecast is flat (less than ±1%). National benchmarks based on 2022 annual data.
**Sources:** Impact of Change®, 2024; HCUP National Inpatient Sample (NIS). Healthcare Cost and Utilization Project (HCUP) 2019. Agency for Healthcare Research and Quality, Rockville, MD; Proprietary Sg2 All-Payer Claims Data Set, 2022; The following 2022 CMS Limited Data Sets (LDS): Carrier, Denominator, Home Health Agency, Hospice, Outpatient, Skilled Nursing Facility; Claritas Pop-Facts®, 2024; Vizient Clinical Data Base. Irving, TX: Vizient, Inc.; 2024. https://www.vizientinc.com; Sg2 Analysis, 2024.

# Key Takeaways:
# Growing Demand Requires Decisions

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Growing population, epidemiological forecasts and increasing acuity will require thoughtful decision-making from leaders.

Data-driven decisions help guide planning, alleviate capacity and open access. Scalable partnerships will be critical for expanding access and services.

Think broadly about your decisions—innovation, research, multidisciplinary care and care redesign will be critical in designing your future strategies.

REFLECTION

# Questions?


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## Contact:

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UC DAVIS HEALTH

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# Creating Integrated Service Lines: Aligning Teams for Success

**Haydee Garcia, DNP, ACNP-BC**, Executive Director, Heart and Vascular Center, UC Davis Health, Sacramento, Calif.

**Kelsey Ingriselli, MHA**, Program Manager, Integrated Service Lines, UC Davis Health, Sacramento, Calif.

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# Journey to Creating Heart and Vascular Center ("HVC")

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## Prove value of creating an HVC with early actions

- Map patient care continuum with points of leakage + friction
- Define what departments and teams are "in" or "out" of scope
- Review of volumes + identify high $ opportunities / gaps

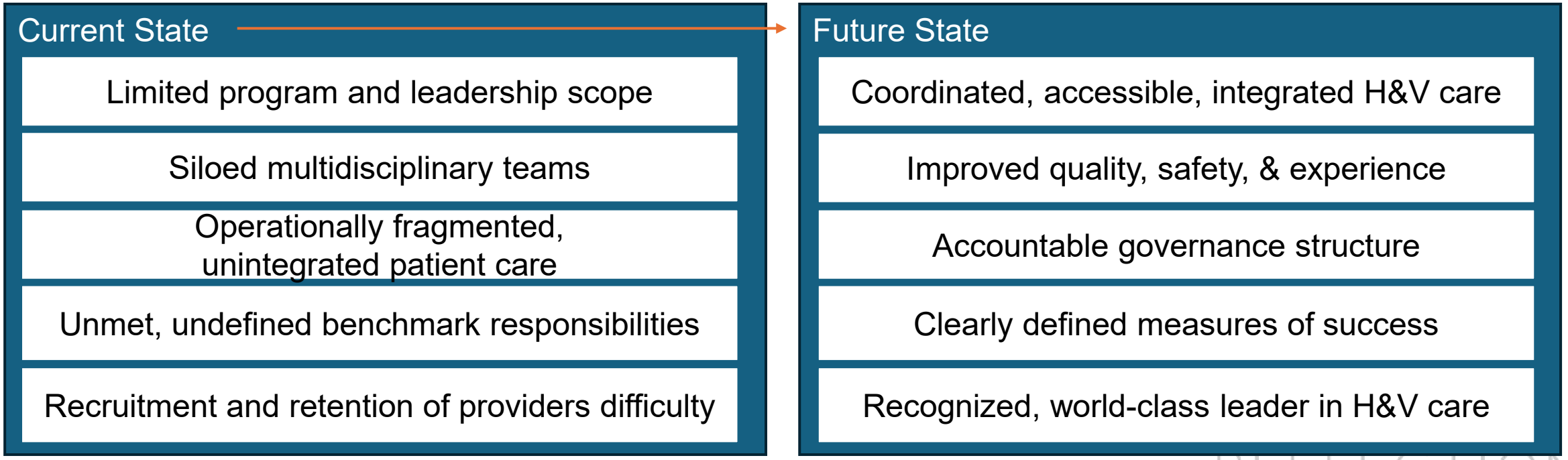
## Demonstrate ability to evolve within existing structure

- Focus tactics and strategies with clear data outcomes
- Define KPIs (Utilization, Turnaround Time, Volume, Access)
- Celebrate recognitions + achievements + awards

Abbreviations: KPI = Key performance indicator

# Identifying the Need

- UC Davis C-Suite Leadership recognized the need to create an integrated Heart and Vascular Center structure.




Abbreviations: H&V = Heart and vascular

# What is an Integrated Service Line?

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- An Integrated Service Line ("ISL") is the organization of **multidisciplinary clinical programs into an integrated care continuum around a population or disease state**.
- Service lines reach beyond the transitional departmental structure in that the **accountability and responsibility** for optimizing clinical services, non-clinical operations, and capital and operational budgets reside with service line leadership (may be matrixed with clinical departments and operations).

# Why build an Integrated Service Line?

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- A service line structure is intended to provide a more **integrated and focused patient experience** while contributing to clinical efficiencies, clinical research, performance improvement, and expansion and integration of clinical areas with high market demand.

# Moving from Current to Future State - Partnership

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- Integrated Service Lines (“ISL”) team partnered with clinical and administrative heart and vascular leaders to outline their mission and vision for the Heart and Vascular Center (“HVC”) at UC Davis Health.

> *Align and cohesively focus on patient needs (experience, quality & safety outcomes, access, care transitions), create timely and appropriate care along the continuum, minimize system outflow, foster operational efficiencies, and advance and promote research and education.*

- To achieve these outcomes, the ISL & HVC leadership team designed a committee governance structure to achieve vision.

# Committee Governance Structure

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## Executive Committee

Chair: Chief Clinical Officer

Executives & C-Suite Level Leadership from Following Areas: Medical Group, Ambulatory Care, Strategy, Hospital Administration, Medicine, Finance, Integrated Service Lines, School of Medicine Divisions, Heart and Vascular Leadership

## Activation Oversight Committee

Leadership: HVC Executive Director, Medical Director, Surgical Director

Facilitation: Integrated Service Lines

Partners: Patient Experience, Change Management, Finance, Strategy

### Activation Priority Areas

- Best Practices / Scorecard
- Periop / OR / Procedural
- Finance
- Physical Space
- Culture/Experience
- HVC Governance / Structure
- Physician Recruitment & Retention
- Ambulatory
- External Site Programs
- Communications

### Workgroups

- Operational Analytics KPI Scorecard + Quality / Safety Standards
- Regulatory/ Certification
- OR Workflow / Efficiency / Utilization
- NORA Workflow / Efficiency / Utilization
- Funds Flow
- Virtual Profit & Loss (P&L) Statement
- Patient Journey Map
- Culture
- Change Management
- SOM, Education, Residency, Research
- Clinical Access
- Transitions of care
- UCDH Volume Retention

Note: Vertical order of Workgroups does not indicate prioritization

Abbreviations: NORA = Non-operating room anesthesia; OR = Operating room; SOM = School of medicine; UCDH = UC Davis Health

# A Phased Approach

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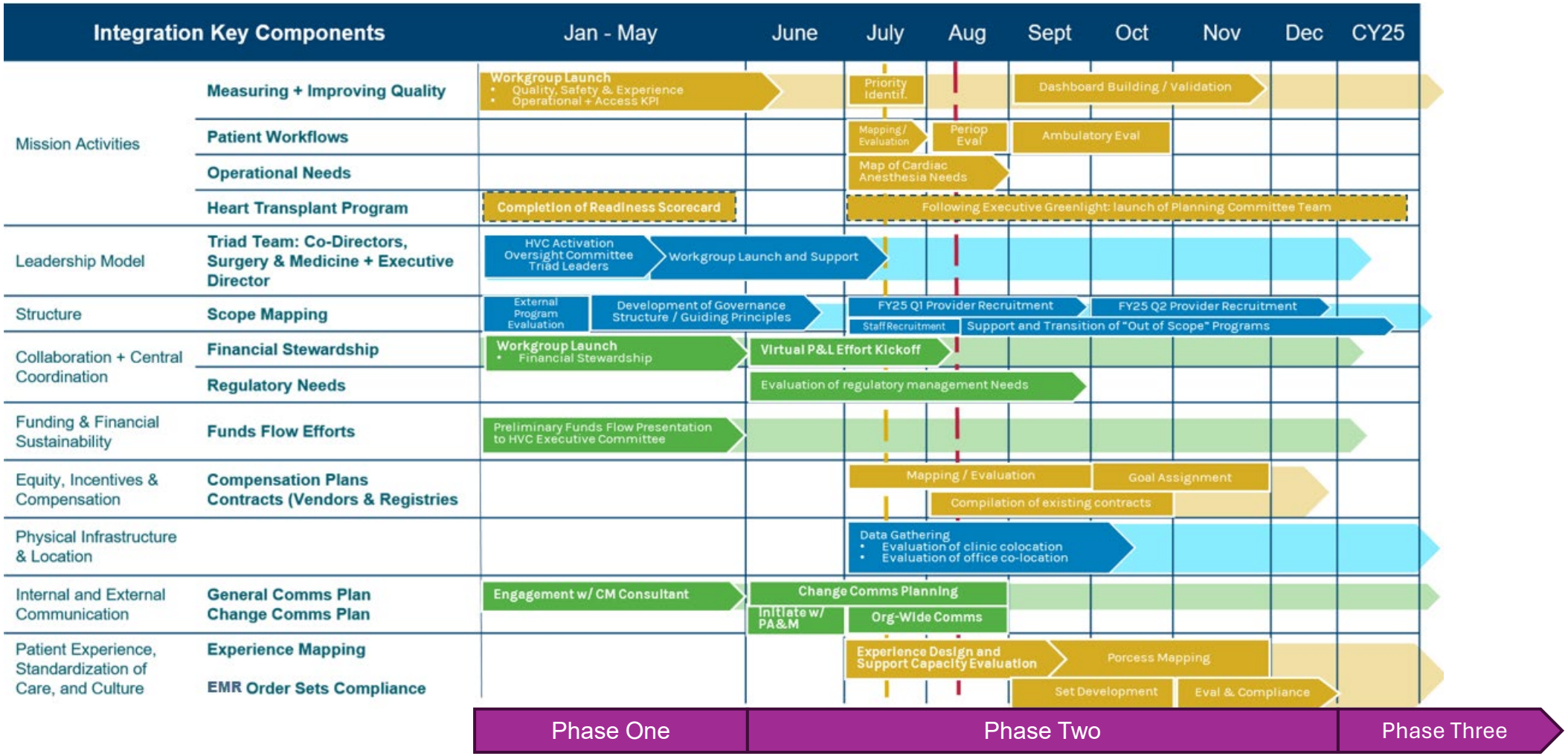
- Phase One (3 - 6 months)
  - Define Leadership + Scope of the Heart and Vascular Center
  - Identify Areas of Focus, Measures for Improvement, Launch of Workgroups
  - Map Timeline and Short-, Mid-, and Long-Term Priority Action Items
- Phase Two (6 - 12 months)
  - Execute Short- and Mid- Term Priority Action Items
  - Stabilize opportunity areas along care continuum and measure improvement
- Phase Three (1 – 3 years)
  - Establish a fully integrated, independent, autonomous Heart and Vascular governance structure to encompass operational, research, and teaching responsibilities.

# A Phased Approach – Project Timeline




Abbreviations: CM = Change management; FY = Fiscal year; PA&M = Public affairs and marketing; Q = Fiscal quarter

# Interventions

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## Early, High Level Impact Actions

- Identify leaders to define scope + drive initiative
- Define “in” & “out” areas + functions*
- Interview external program leaders
- Identify demonstrated results of achieved vision
- Set short-, mid-, and long-term goals

## Early Focused Actions

- Engage with Change Management, evaluate readiness
- High-Priority Workgroup Launches
- Metric and benchmark identification
- Focused Strategy Sessions with discipline-specific teams
- Virtual Profit and Loss statement creation

***Governance and Structure**: Defining what is “out” of scope is equally as important as defining what is “in”. Buy-in is necessary.

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# Learning from Fellow Vizient Institutions

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| Key Component | Component Attributes | UCDH Current Integration Level | UCDH 18mo. Integration Level | Prog A | Prog B | Prog C | Prog D | Prog E |
|---|---|---|---|---|---|---|---|---|
| **Integrated Services** | Example: Heart and Vascular = CV Med, Cardiac Surgery, Vascular Surgery, Nursing, CV Anesthesia, CV Imaging | Limited | Majority | √ | √ | × | × | √ |
| **Mission Activities** | Clinical: Quality | Limited focus / ad hoc | Full alignment with institutional goals | √ | √ | √ | √ | √ |
| | Clinical Cost | Limited focus / ad hoc | Full alignment with institutional goals | √ | √ | √ | √ | √ |
| | Clinical: Patient Satisfaction | Limited focus / ad hoc | Full alignment with institutional goals | √ | √ | √ | √ | √ |
| | Clinical: Access | Limited focus / ad hoc | Majority alignment with institutional goals | √ | √ | √ | √ | √ |
| | Clinical: Volume | Limited focus / ad hoc | Majority alignment with institutional goals | √ | √ | √ | √ | √ |
| | Education: Teaching | Limited focus / ad hoc | Majority alignment with institutional goals | √ | √ | √ | √ | √ |
| | Education: CME | Limited focus / ad hoc | Majority alignment with institutional goals | √ | √ | √ | √ | √ |
| | Research: Sponsored Research | Limited focus / ad hoc | Majority alignment with institutional goals | √ | √ | √ | √ | √ |
| | Research: Clinical Trails | Limited focus / ad hoc | Majority alignment with institutional goals | √ | √ | √ | √ | √ |
| | Research: Publications | Limited focus / ad hoc | Majority alignment with institutional goals | | √ | √ | √ | √ |
| **Leadership Model** | 1. Single Leader<br>2. Dyad Model (Co-Leaders)<br>3. Triad Model or Multi-Leader | Unaligned Model | Aligned Model | √ | √ | √ | √ | √ |
| **Structure** | 1. An overlay of services<br>2. Parts of the existing silo structure<br>3. Independent governing body | Partial Overlay | Matrixed and algined structure | √ | √ | √ | √ | √ |
| **Collaboration and Central Coordination** | Clinical: Care teams | Limited admin support and resources | Empowered Admin support and control over resource base | √ | √ | √ | √ | √ |
| | Clinical: Quality Review | Limited admin support and resources | Empowered Admin support and control over resource base | √ | √ | √ | √ | √ |
| | Clinical: Service portfolio decisions | Limited admin support and resources | Empowered Admin support and control over resource base | √ | √ | √ | √ | √ |
| | Administration: Marketing | Limited admin support and resources | Empowered Admin support and control over resource base | | √ | √ | √ | √ |
| | Administration: Development | Lacking admin structure and resources | Empowered Admin support and control over resource base | | √ | √ | √ | √ |
| | Administration: Access Center | Lacking admin structure and resources | Empowered Admin support and control over resource base | | √ | √ | √ | √ |
| | Administration: Networking | Lacking admin structure and resources | Empowered Admin support and control over resource base | | √ | √ | √ | √ |
| | Administration: Finance | Limited admin support and resources | Empowered Admin support and control over resource base | √ | √ | √ | √ | √ |
| | Administration: Management of external influences (Regulation / Policy / etc.) | Lacking admin structure and resources | Empowered Admin support and control over resource base | √ | √ | √ | √ | √ |
| | Administration: Information Technology | Limited admin support and resources | Empowered Admin support and control over resource base | | √ | √ | √ | √ |
| **Funding & Financial Sustainability** | 1. No backstop<br>2. Institutional backstop<br>3. Institutional + departmental backstop<br>4. Self-Sustaining Model | Reliance on backstop / partial visibility into funding | Independent / defined financial sustainability model / visible financial health | × | √ | √ | × | √ |
| **Equity, Incentives, and Compensation** | 1. Department based compensation<br>2. Salary + Department incentives<br>3. Salary + Center incentives | Variable department-based compensation | Aligned and Center determined salary and incentives | √ | √ | √ | √ | √ |
| **Physical Infrastructure & Location** | 1. Virtual<br>2. Co-located<br>3. Standalone building | Virtual / Limited | Co-located | √ | √ | √ | √ | √ |
| **Internal and External Communication** | 1. Ad hoc basis<br>2. Frequent communication<br>3. Defined bi-directional communication | Ad hoc | Defined bi-directional communication | √ | √ | √ | √ | √ |
| **Patient Experience and Standardization of Care** | Standardized patient pathways | One-off efforts | Cultural adoption of vision and practices | √ | √ | √ | √ | √ |
| | Centralized protocol development | One-off efforts | Cultural adoption of vision and practices | √ | √ | √ | √ | √ |
| | Integrated reporting / dashboards | One-off efforts | Cultural adoption of vision and practices | √ | √ | √ | √ | √ |
| | Patient Communication / Education | One-off efforts | Cultural adoption of vision and practices | √ | √ | √ | √ | √ |
| | Consistent metric tracking | One-off efforts | Centrally coordinated efforts | √ | √ | √ | √ | √ |

Integrated Multidisciplinary Scorecard Provided by Jim Andrews, MHL – Senior Vice President, Heart & Vascular and Neurosciences | RWJBarnabas Health

"The Pursuit of the Integrated Multidisciplinary Service Line"

Leading Strategic Change in an Era of Healthcare Transformation. edited by Austin, Bentkover, and Chait, Springer Publishing, 2016 pg. 93-106

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Abbreviations: CME = Continuing medical education; CV = Cardiovascular

# Phase One Outcomes

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- HVC Executive Leadership Team Defined: HVC Executive Director, Medical Director, Surgical Director – Triad Team
- Governance Structure “in” and “out” approved by Executive Committee
- Development of Profit and Loss Statements + Funds Flow Model
- Development of Key Performance Indicator Reports for: Operational and Access Metrics; Financial Stewardship; Quality, Safety, and Experience
- Analysis of revenue charge capture and billing cycle
- Optimization and stabilization of surgical teams
- Provider recruitment

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# Lessons Learned

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- Establish ongoing touchpoints and processes to evaluate progress against project timeline and adjust as needed
  - Be prepared for other organizational priorities to overlap with or delay progress
  - Routinely evaluate progress
- Define pillars of success and repeat often
  - Frequently share what success looks and how teams fit into that vision
  - Celebrate widely when progress is made
- Change is often challenging – be prepared to guide stakeholders through programmatic adjustments

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# Key Takeaways

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- Define the “why” – why the change and why now
- Obtain leadership and key stakeholder buy in
- Identify Heart and Vascular Center leaders to oversee and shepherd efforts towards future state
- Measure current state integration levels and performance and be realistic with teams with what it will take to achieve vision

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# Questions?

## Contact:

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Kelsey Ingriselli, MHA kingriselli@ucdavis.edu

*This educational session is made possible through the collaboration of Vizient Member Networks.*

# Optimize Length of Stay: Create Inpatient Capacity and Enable Growth

**Matthew Gonzalez, MD**, Cardiologist, Advanced Heart Failure and Transplant

**Nancy Schwallier, MPAS, PA-C**, Vice President Heart & Vascular

**Ashly Sweet, PA-C**, Advanced Practice Provider, Advanced Heart Failure and Transplant

**Kristen Buck, MSN, RN**, Lead Quality Improvement Specialist

Corewell Health West, Grand Rapids, Mich.

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**Nancy Schwallier, MPAS, PA-C**, speaker for this educational activity, is an advisor for Abiomed.

*All relevant financial relationships listed for this individual have been mitigated.*

All others in a position to control content for this educational activity have no relevant financial relationship(s) to disclose with ineligible companies.

## By the numbers

Numbers are only part of our story. They help demonstrate our positive impact on lives across Michigan.

**65,000+**
Team Members

**15,500+**
Nurses

**300+**
Ambulatory/ Outpatient Locations

**21**
Hospital Facilities

**5,000+**
Licensed Beds

**1.3 Million**
Health Plan Members

**12,000+**
Affiliated, Independent and Employed Physicians and Advanced Practice Providers

**9,000+**
Employers Contracted by Priority Health


### One system of care and coverage

For more information, visit **corewellhealth.org**

### Locations

Hospitals  Priority Health

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Beaumont + Spectrum Health

Together, we are now

Corewell Health™

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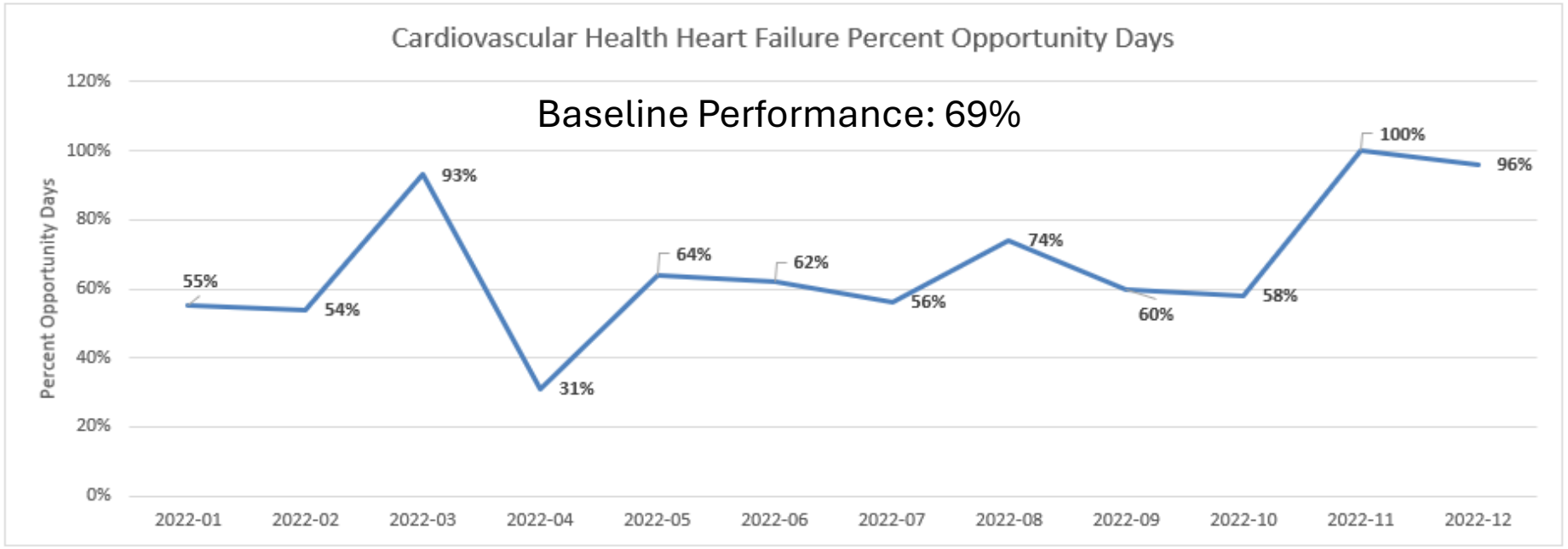
# The Ask

**In early 2023, CHW had been asked to reduce LOS by 150 opportunity days per week, including 50 days for CHF reduction split evenly between the Hospitalist and Cardiovascular teams.**

**This translated to a CV goal of improving CV Attending CHF YTD LOS opportunity days from a rolling 12- month average of 69% to 35% by December 31, 2023.**

Abbreviations: CHF = congestive heart failure; CHW = Corewell Health West; CV = cardiovascular; LOS = length of stay; YTD = year-to-date

# Cardiovascular Health Heart Failure Opportunity Days




**Geometric Length of Stay (GMLOS):**
Average length of time a patient should stay in the hospital for a specific diagnosis or procedure, determined by CMS.

**Opportunity Days:**
Time the patient spends hospitalized over their GMLOS. GMLOS is 1 day, LOS is 2 days = 100% opportunity days.
(LOS – GMLOS) / GMLOS)

Abbreviations: CMS = Centers for Medicare and Medicaid Services. Data source: Internal planning and analysis database

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"Every system is perfectly designed to get the results it gets"

Susan Carr

"INSANITY: doing the same thing over and over again and expecting different results."

Albert Einstein

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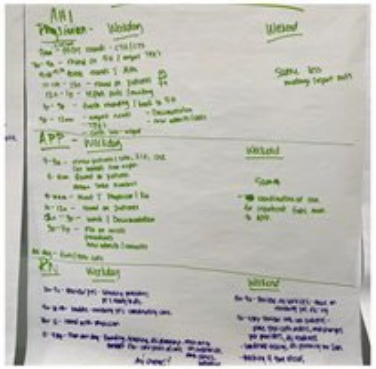
# Rapid Improvement Event

All day, multi-disciplinary team approach

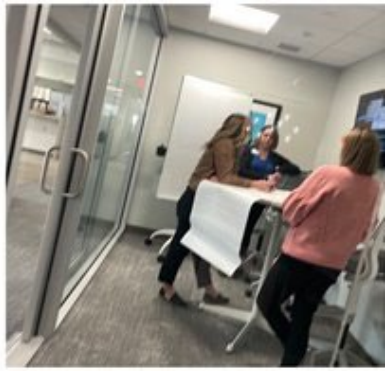
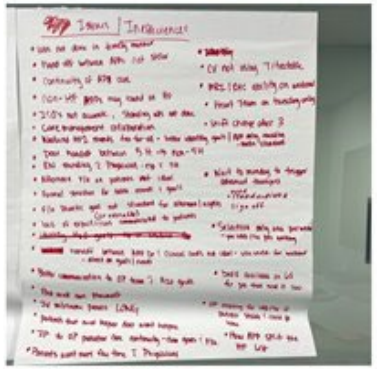
New process defined

- Multidisciplinary team
- Continuous rounding
- Documentation
- H2O appointments
- APP process
- Physician process

Abbreviations: APP = advanced practice provider; H2O = hospital to outpatient

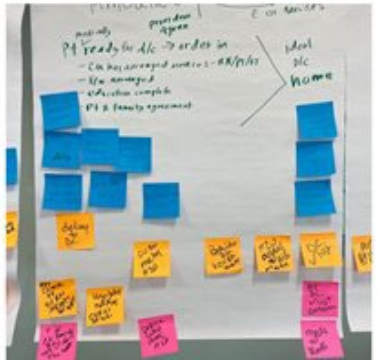
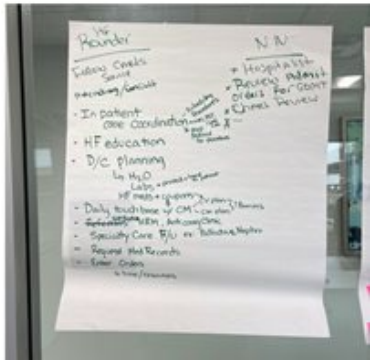



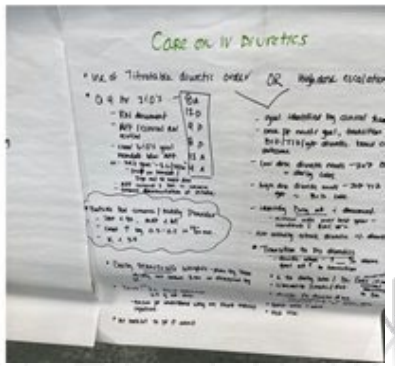








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# High-Reliability Framework – RDT / i-Rounds MDT Team

### Pre-Occupation with Failure:

Review patient list and care provided daily for inclusion criteria, adherence to applicable orders, protocols etc.

Monitor and track LOS, readmissions, missed opportunities

### Reluctance to Simplify:

Recognize the care of these patients is complex and thus the solutions will also likely be complex.

Actively challenging long-held beliefs and structures.

Continuously monitoring data, benchmarks and performance metrics.

### Sensitivity to Operations:

Working with both frontline leaders and staff; those closest to the work.

Weekly huddles to hear concerns and share information.

### Commitment to Resilience:

Continuously working to anticipate trouble / opportunities and quickly improvising when something unexpected occurs.

Working as a multi-disciplinary and inter-professional team.

Leadership actively involved to remove barriers quickly.

### Deference to Expertise:

All areas of expertise engaged (nursing, care management, palliative care, physician and APP, pharmacy etc.)

Value expertise over authority.

Abbreviations: MDT = multi-disciplinary team; RDT = rapid discharge team

# Change Through Process

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01

From problem list focused rounding to discharge barrier focused rounding

02

From q24h rounds to continuous rounds

03

From segmented inpatient/outpatient discharges to one inpatient/outpatient team.

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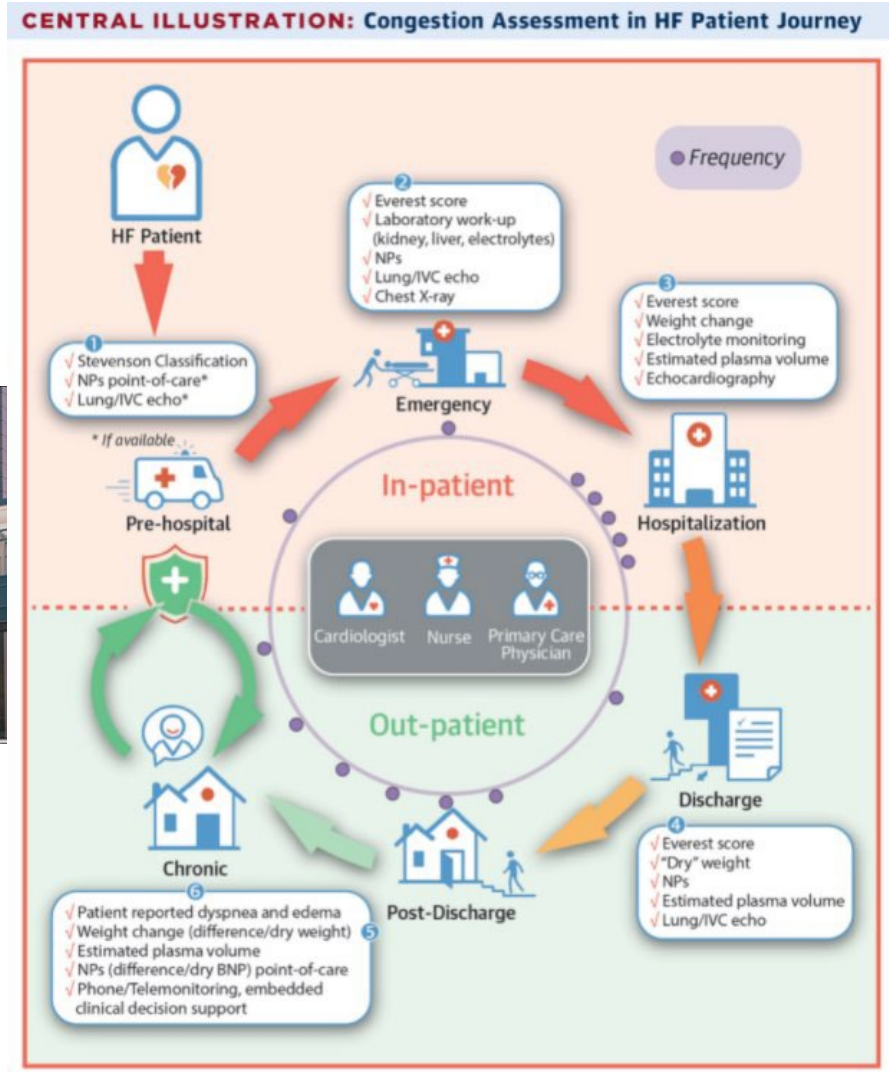
# Collaboration: Inpatient and Outpatient AHF Care

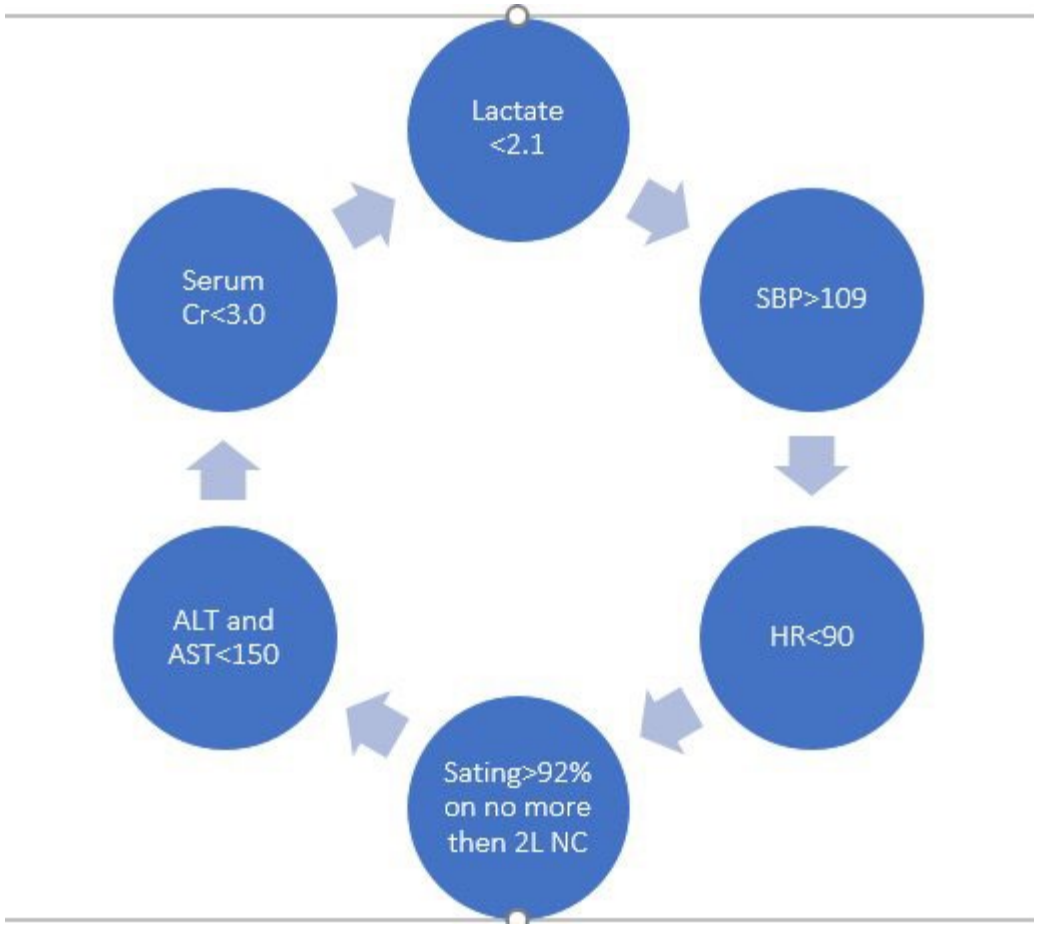





Abbreviations: AHF = acute heart failure; HF = heart failure

Girerd, N. et al. J Am Coll Cardiol HF. 2018;6(4):273-85.

# Patient Selection Criteria




If yes to all

Warm and Wet

Intensive diuresis service

Goal is to reduce LOS

Abbreviations: ALT = Alanine aminotransferase; AST = Aspartate aminotransferase; Cr = Creatinine; HR = Heart rate; NC = Nasal cannula; SBP = Systolic blood pressure

# Process and Structure

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**AHF Physician**
**AHF APP**
**AHF RN navigator**
**Bedside RN**
**Care Manager**
**Pharmacist**
**Palliative Care**

## IRounds

- Daily am huddles
- Structured and quick
- Focus on medical and non-medical barriers for discharge
- Goal for the day, goal for the stay

Structured documentation and follow up plan

- APP follow up on plan/UOP goals
- Continuous rapid diuresis rounds
- Escalate barriers for discharge
- Culture shift - "does this need to be done inpatient?"
- Ok to discharge wet if clinically stable / H2O appt


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Abbreviations: UOP = Urinary output

# Timeline of Heart Failure LOS Reduction Initiatives

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**April 18, 2023**

Launch of iRounds RDT Service

**May 2023**

IV Diuretic Titratable Order Set Re-Launch

**May 2, 2023**

Launch of Heart Failure Sidebar in Electronic Health Record

**May 10, 2023**

Expansion of iRounds to all Heart Failure patients on AHF2 List on 6 North

**May 22, 2023**

Started tabletop iRounds on all Heart Failure patients on AHF2 List on 6 South and 6 Heart Center

**July 2, 2023**

Changed to tabletop iRounds for all patients on AHF2 List no matter location.

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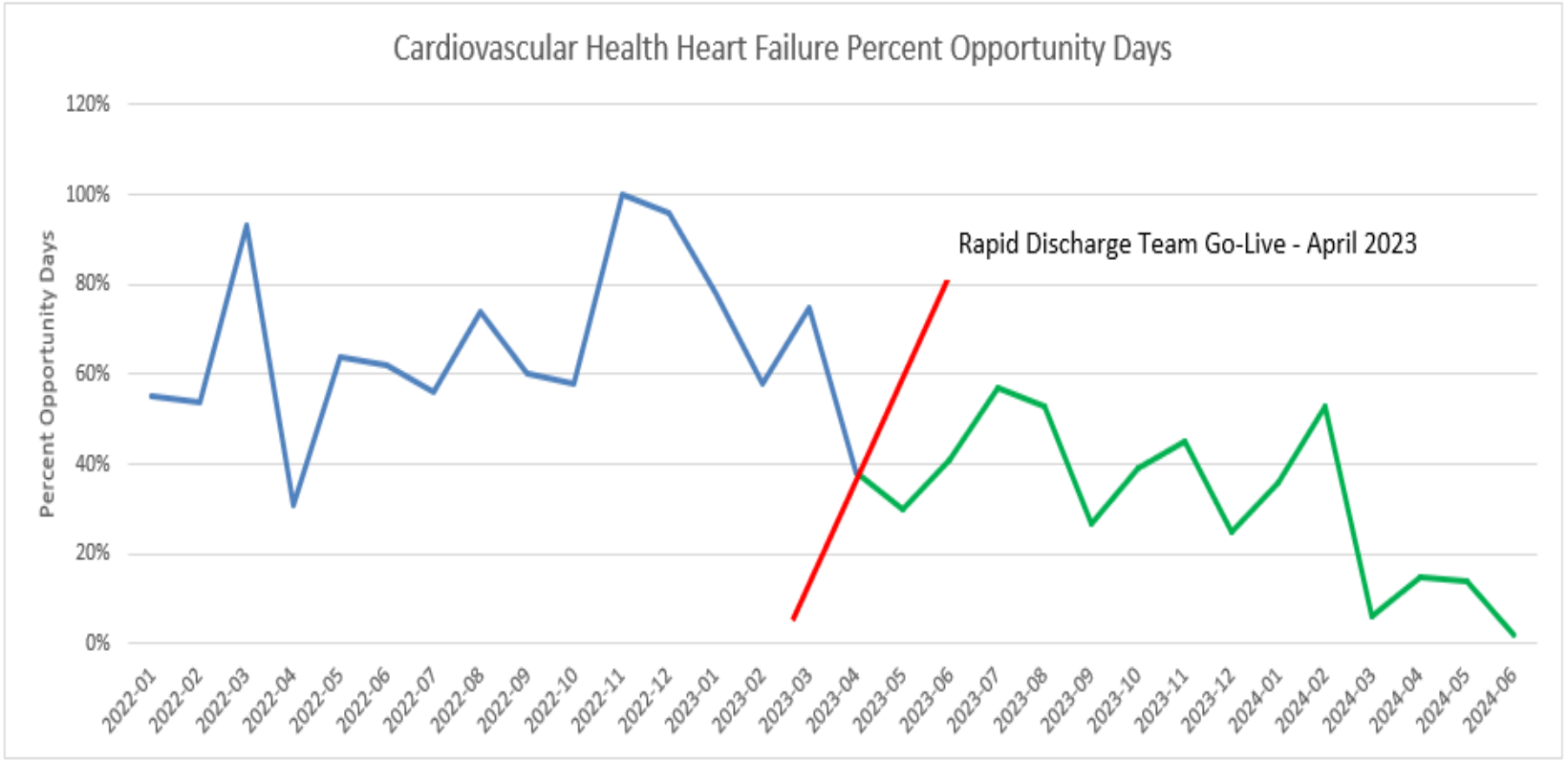
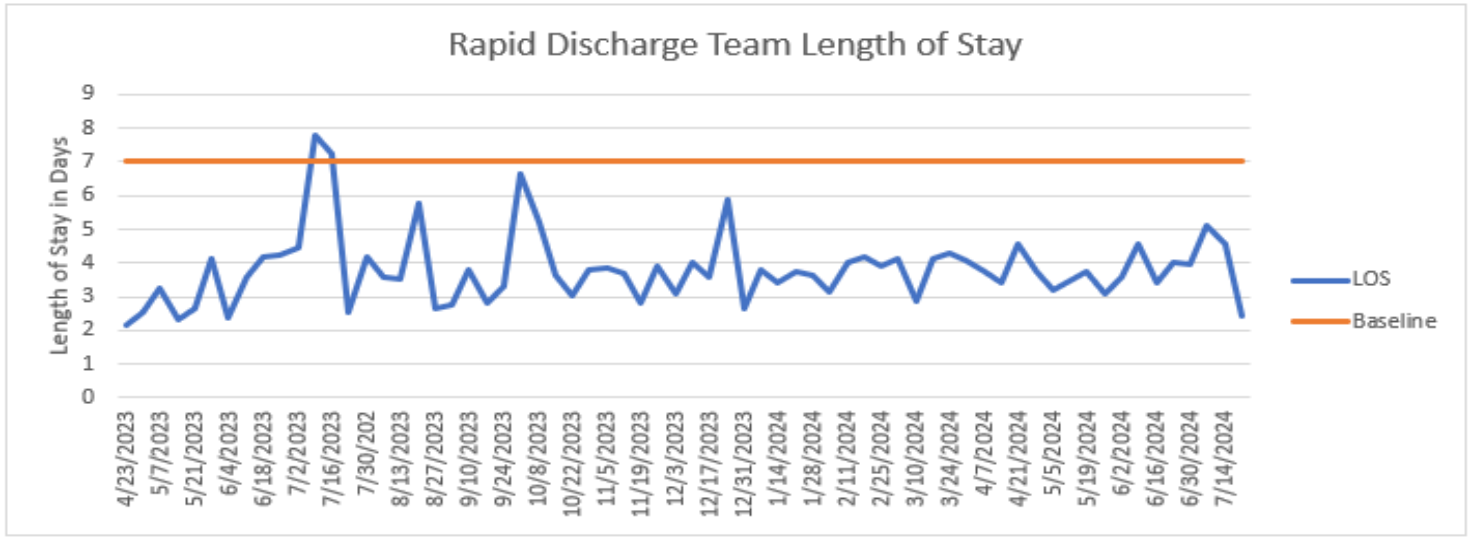
# Cardiovascular Health Heart Failure Opportunity Days

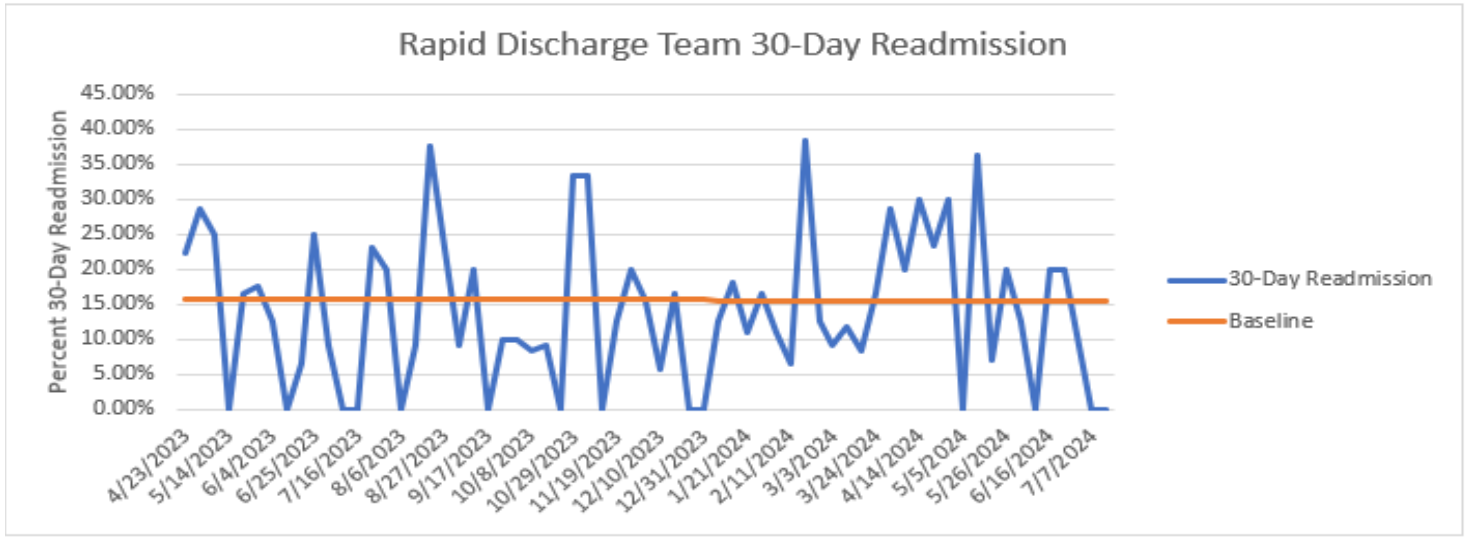



| | Average % Opportunity Days |
|---|---|
| 2022 (Baseline) | 69% |
| 2023 | 45% |
| 2024 (YTD) | 22% |

Abbreviations: YTD = Year-to-date. Data source: Corewell Health internal planning and analysis database

# Rapid Discharge Team Outcomes

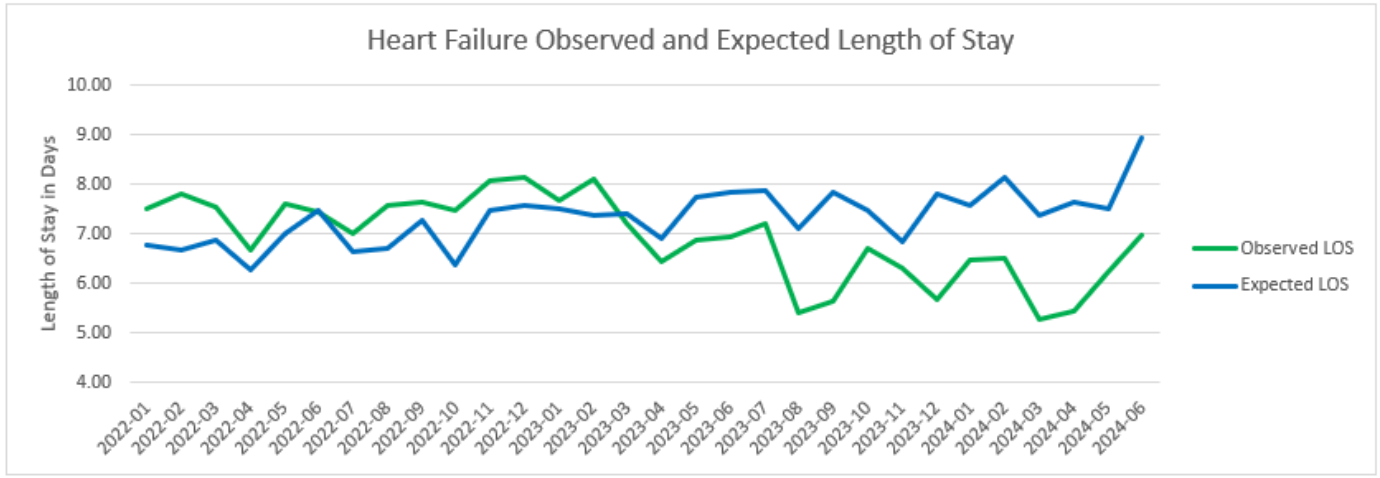


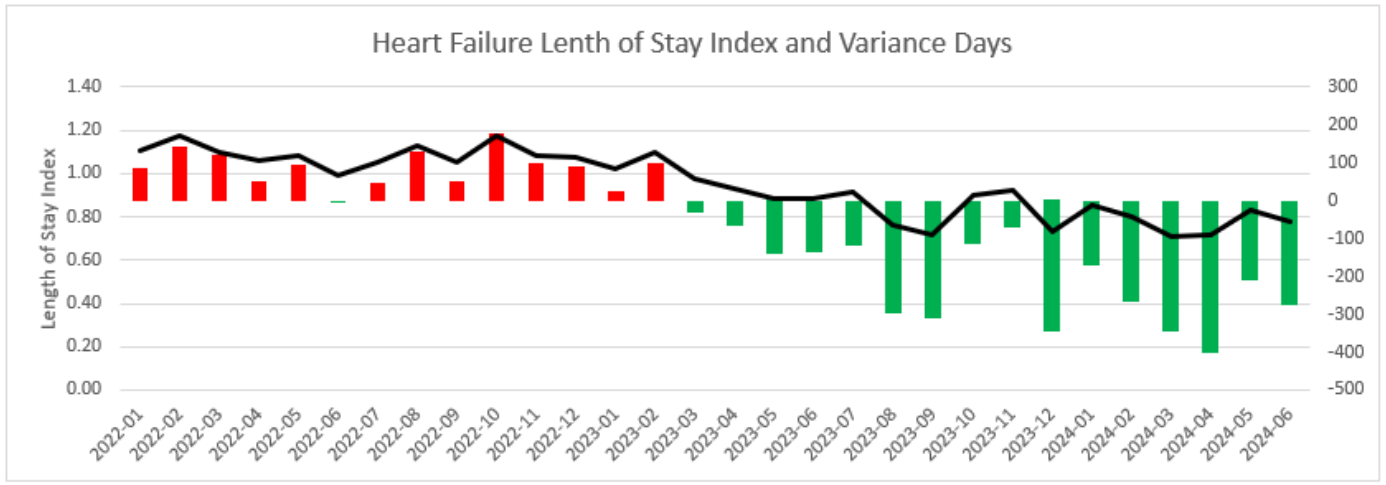




| Metric | Performance |
|---|---|
| Average LOS | 3.82 Days |
| Baseline LOS (CY 2022) | 7 Days |
| Hospital Days Saved | 2156 |
| Estimated Cost Prevention | $1,841,000 |
| Percent 30-Day Readmission | 14.3% |
| Baseline 30-Day Readmission | 15.7% |

Abbreviations: CY = Calendar year
Data sources: Corewell Health electronic health record, manual chart abstraction

# Heart Failure Length of Stay Outcomes




| | CY 2022 | CY 2023 | 2024 YTD |
|---|---|---|---|
| Volume | 1716 | 1857 | 999 |
| Expected LOS | 6.94 | 7.49 | 8.35 |
| Observed LOS | 7.57 | 6.69 | 6.59 |
| Difference Between O & E | 0.63 | -0.8 | -1.76 |
| LOS Index | 1.09 | 0.89 | 0.79 |
| Variance Days | 1082 | -1499 | -1762 |

Abbreviations: O & E = Observed and Expected. Data source: Vizient Clinical Data Base

# Lessons Learned

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- Hospitals are built to keep patients in
- Roll with the unexpected
- Multi-disciplinary but also continuous rounding
- Proper use of electronic medical record
- Morale on the front lines matters
- Not all labeled HF is really HF

# Key Takeaways

- Think differently
- Consider what testing/procedures could be done in the ambulatory space
- Change rounding model from daily to multiple times a day and night
- Define process to escalate barriers, especially on weekends
- Let the urine flow
- Not all ADHF is the same and should not be treated the same

Abbreviations: ADHF = Acute decompensated heart failure

# Questions?


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*This educational session is made possible through the collaboration of Vizient Member Networks.*

REFLECTION

THE UNIVERSITY OF TEXAS MD Anderson Cancer Center
Making Cancer History®

HOUSTON Methodist THE WOODLANDS HOSPITAL

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# Rapid Access Clinics: Reduce ED Patient Returns and Improve Efficiency

**Ryan Huey, MD, MS**, Assistant Professor, GI Medical Oncology, MD Anderson Cancer Center, Houston, Texas

**Ryan Roux, PharmD, MS, FASHP**, Vice President, Pharmacy, MD Anderson Cancer Center, Houston, Texas

**Jason Knight, MD, MBA, FACEP**, Chief Medical Officer and ED Physician Director, Houston Methodist The Woodlands Hospital, The Woodlands, Texas

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**Ryan Huey, MD, MS**, speaker for this educational activity, is a research funding recipient for Grail, Inc.

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THE UNIVERSITY OF TEXAS
# MD Anderson Cancer Center

Making Cancer History®

**Mission**: The mission of The University of Texas MD Anderson Cancer Center is to eliminate cancer in Texas, the nation, and the world through outstanding programs that integrate patient care, research and prevention, and through education for undergraduate and graduate students, trainees, professionals, employees and the public.

**Vision**: We shall be the premier cancer center in the world, based on the excellence of our people, our research-driven patient care and our science. We are **Making Cancer History®**.

**Core Values**: Caring, Integrity, Discovery, Safety, Stewardship


MD Anderson continues to rank No. 1 for cancer care in U.S. News & World Report's Best Hospitals list.


MD Anderson is listed at No. 63 overall among large employers throughout the U.S. The institution also was the second highest ranked health care organization in Texas to make the America's Best Large Employers list.


Newsweek recognizes MD Anderson as No. 1 among the World's Best Specialized Hospitals for oncology for 2024.

## MD Anderson FY23 Quick Facts

### PATIENT CARE

**179,399** patients

**1.6M** outpatient visits

**760** inpatient beds

**20,986** surgeries

**14M** pathology/laboratory medicine procedures

**637,857** diagnostic imaging procedures

**$319M** in uncompensated care provided to cancer patients

### RESEARCH

**More NCI-funded projects** than any other U.S. institution in FY23

**1,568** clinical trials

**$1.2B** spent on research

**9,606** patients in clinical trials

**25** drugs tested here received FDA approval*

**90** patents awarded to MD Anderson

### OUR PEOPLE

**24,498** employees, including 1,953 faculty

**1,212** myCancerConnection virtual, one-on-one support survivor volunteers

**277** on-site volunteers

### FACILITIES

**16.5M** square feet (about the size of 286 football fields)

### PHILANTHROPY

**$324M** donated to support our mission to end cancer

### PREVENTION

**40,586** patient visits to the Lyda Hill Cancer Prevention Center

**5,502** people received tobacco cessation support through the Tobacco Research and Treatment Program

**462** cancer prevention education programs held in the community

# Presentation aims

- List the strategies that can be employed to improve hospital capacity and throughput
- List examples of virtual tools that can be employed to communicate with patients after they are discharged from the hospital

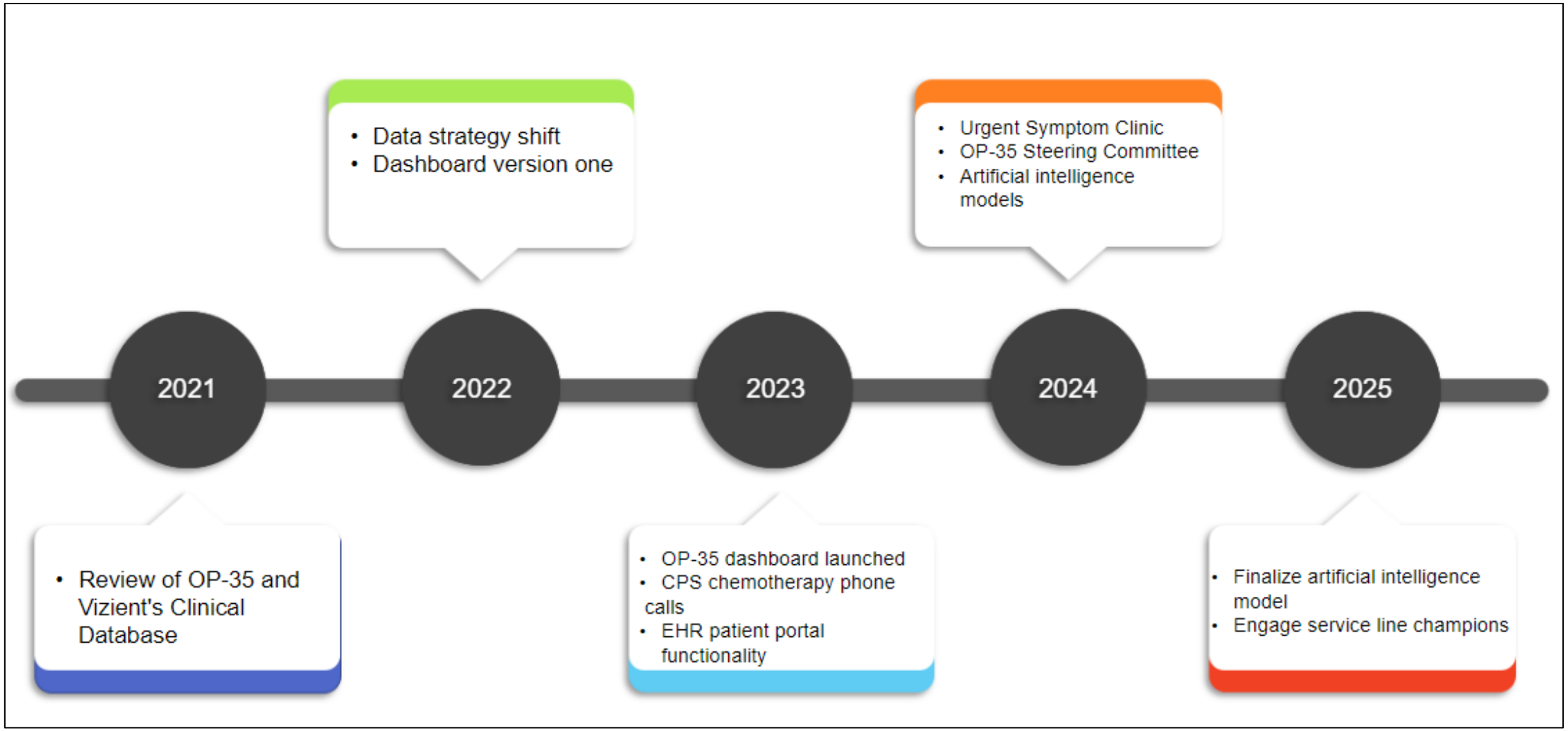
# Background

- OP-35 is a Centers for Medicare & Medicaid Services (CMS) defined metric that measures patient returns to the emergency center or inpatient admissions within 30 days of receiving outpatient chemotherapy. OP-35, along with other metrics, is part of the Vizient domain of Effectiveness.

- In July 2021, MD Anderson prioritized OP-35 with the goal of better understanding chemotherapy/immunotherapy-related outcomes and develop interventions to reduce Emergency Center use and hospital admissions.

- Furthermore, research on patient-specific events (e.g., febrile neutropenia, sepsis risk factors, admission for severe toxicities, etc.) should be conducted to identify improvement opportunities.

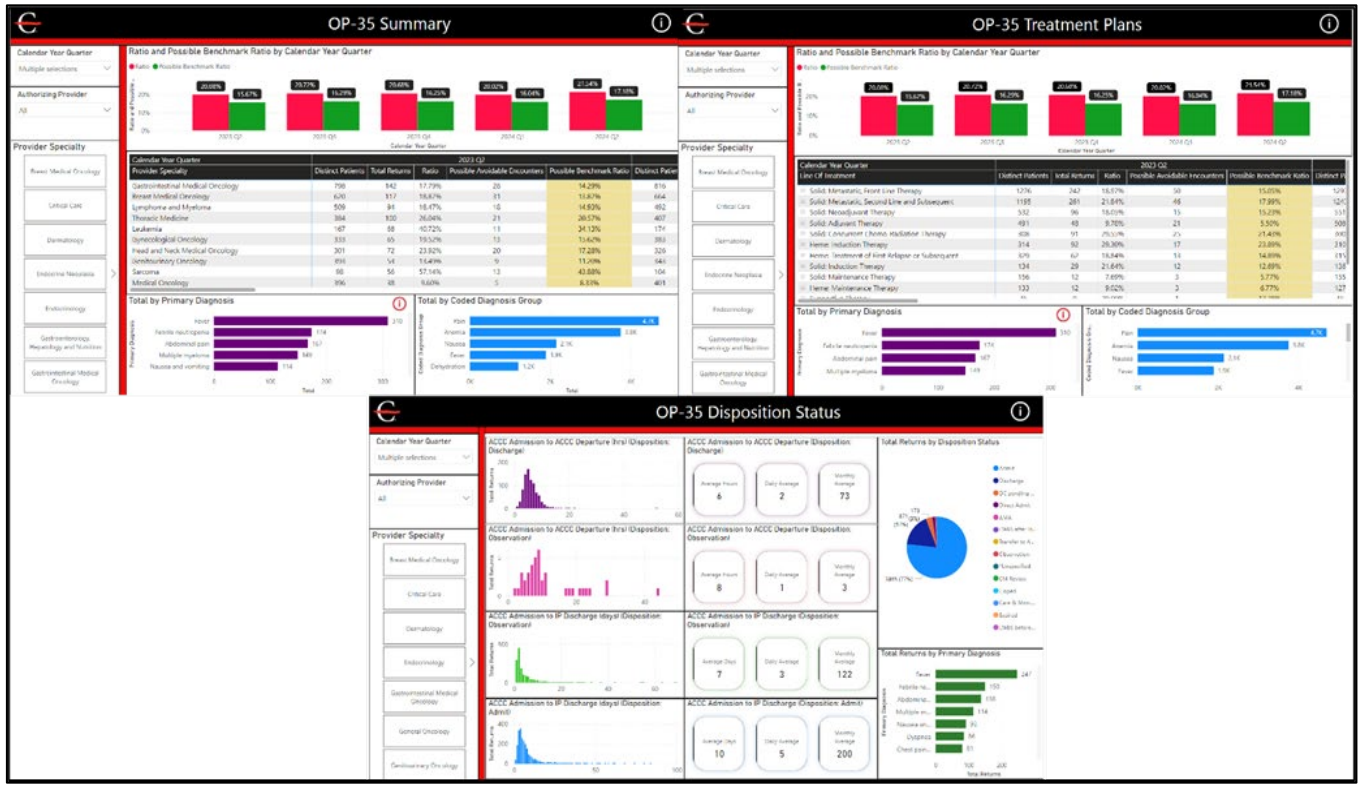
# Our Journey


2021
2022
2023
2024
2025
Review of OP-35 and Vizient's Clinical Database
Data strategy shift
Dashboard version one
OP-35 dashboard launched
CPS chemotherapy phone calls
EHR patient portal functionality
Urgent Symptom Clinic
OP-35 Steering Committee
Artificial intelligence models
Finalize artificial intelligence model
Engage service line champions

# Data Tools: OP-35 Dashboard: You Can't Improve What You Don't Measure

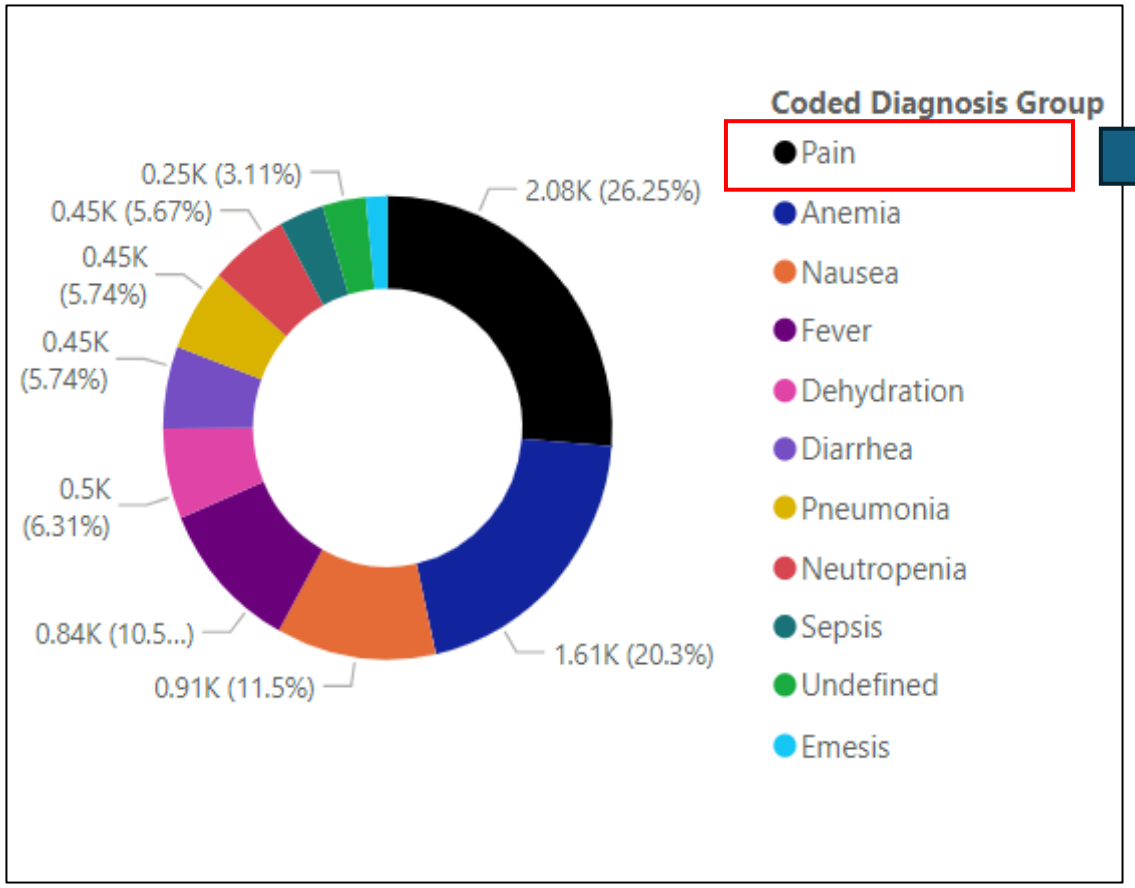
- Elements
  - Treatment plans
  - Cycles of chemotherapy
  - Demographics
  - Diagnosis
  - Disposition status

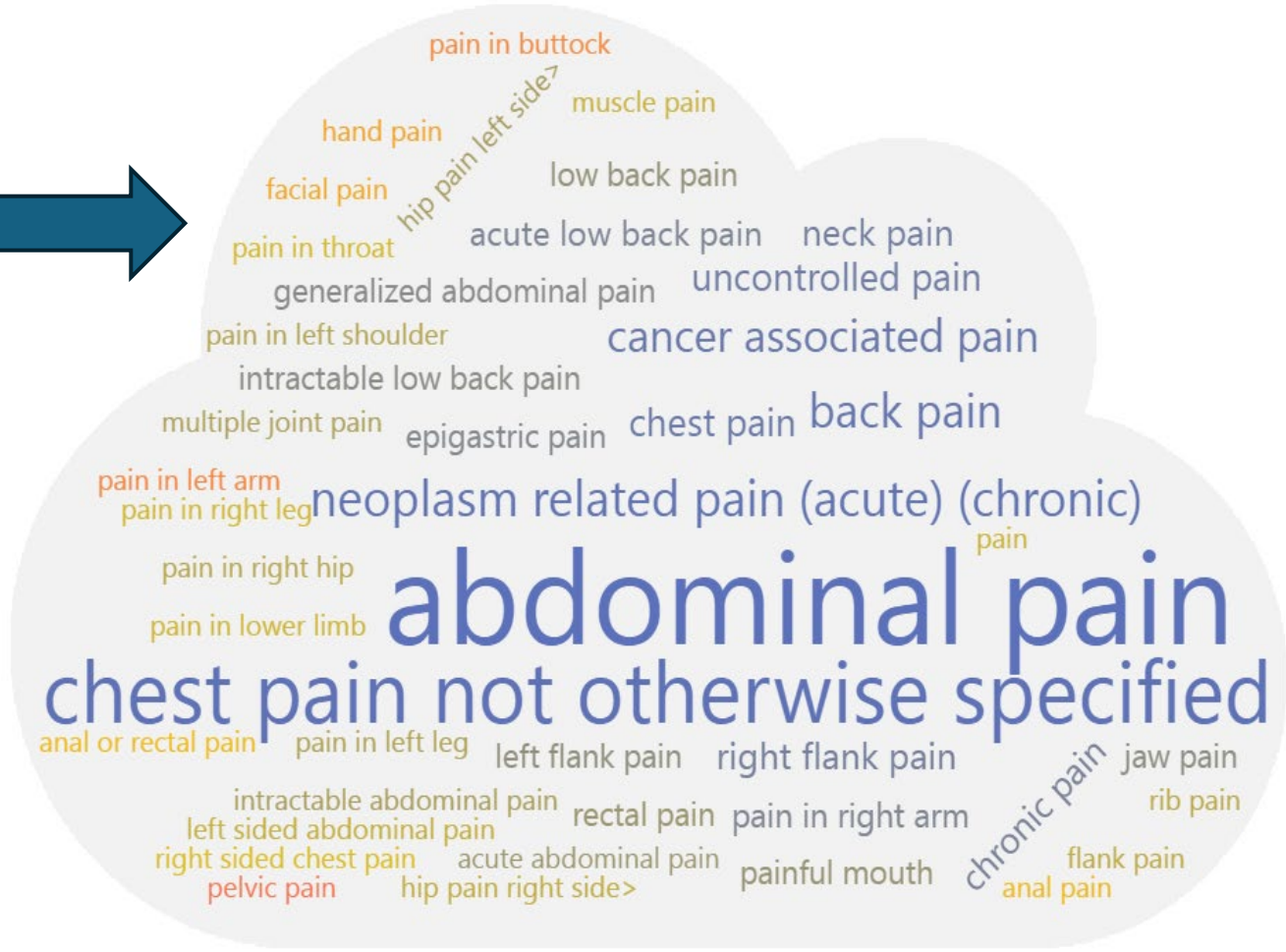
- Goals: identify patient populations that may benefit from targeted interventions in an outpatient setting.




Data source: MD Anderson electronic medical record

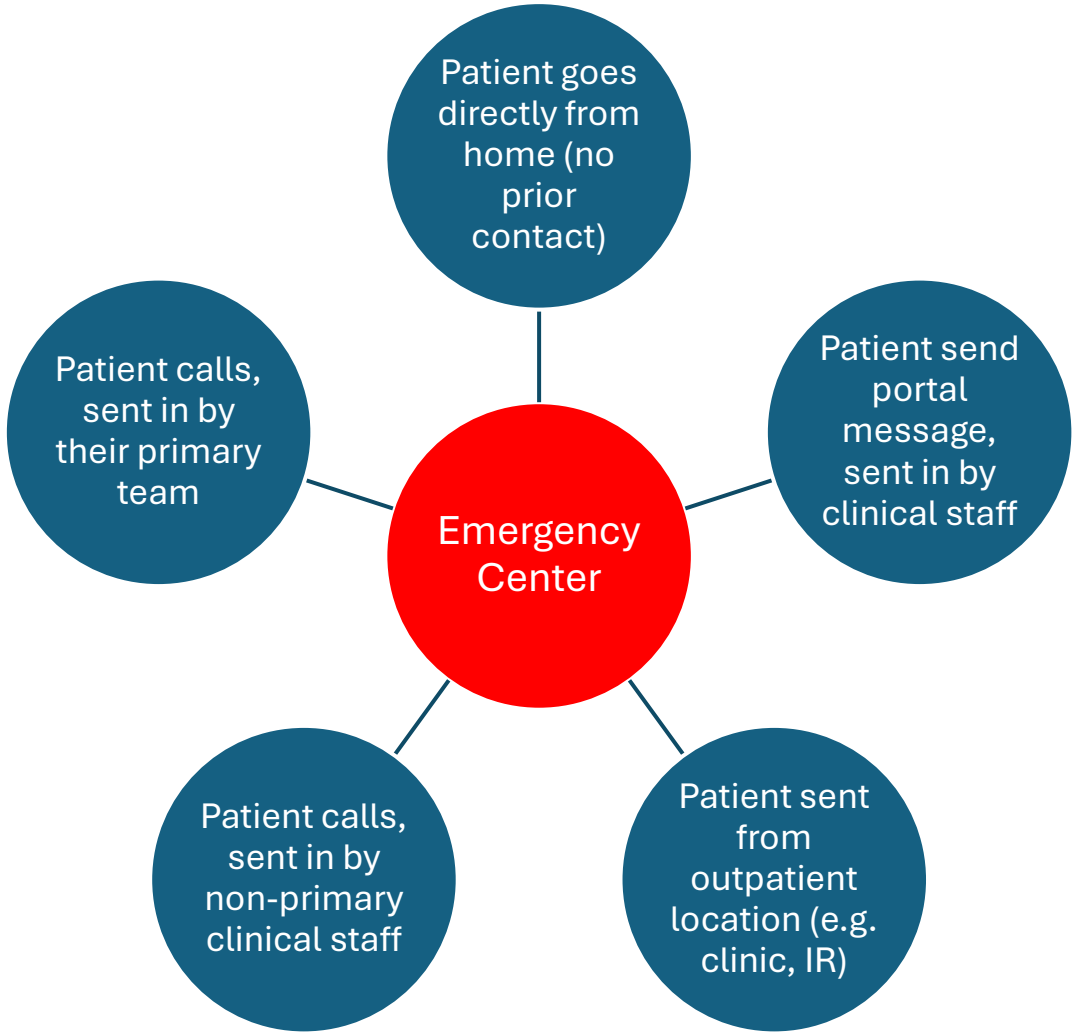
# Understand the Metric: Does it Measure the Right Stuff?




Data source: MD Anderson electronic medical record

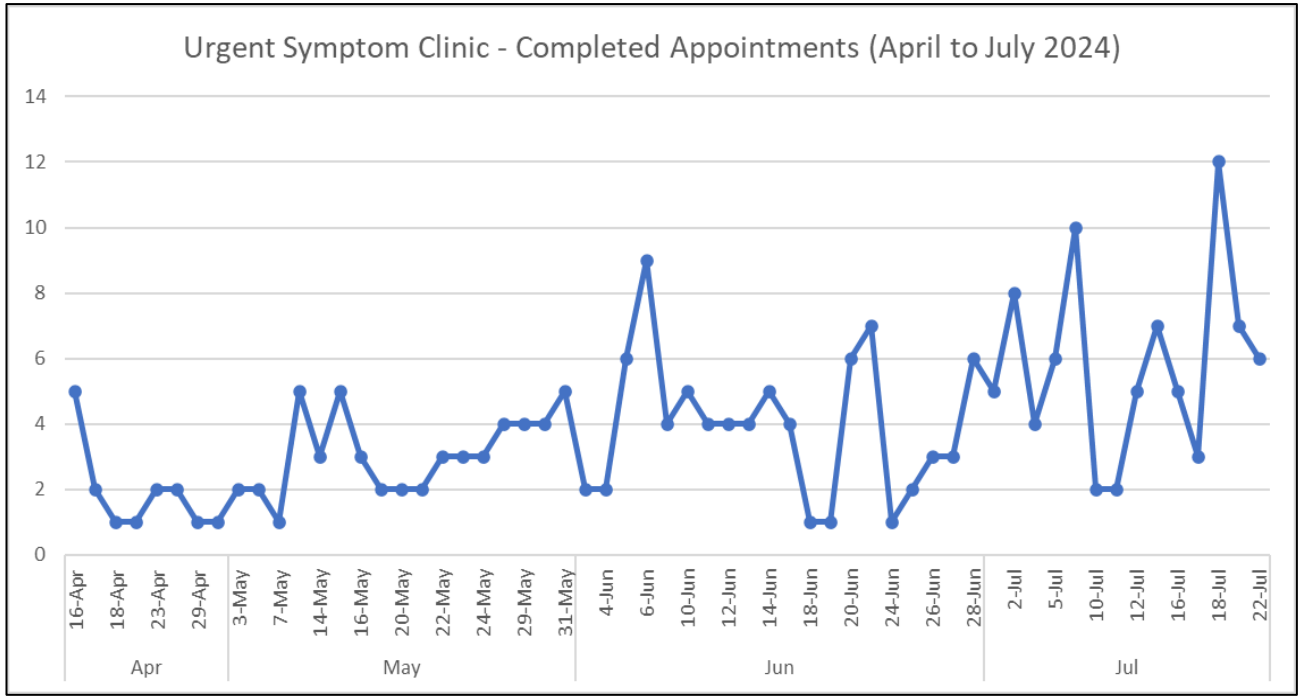
# Patient Journey Mapping: How Do Patients get to the EC?




Abbreviations: IR = Interventional Radiology

# Urgent Symptom Clinic (USC)

- Launched in April 2024, goal of providing acute symptom management for medically-stable, established, adult oncology patients in an outpatient setting that cannot be accommodated in the clinic, in lieu of seeing these patients in the Emergency Center.
  - Potential target population is lower acuity patients currently seen in the Emergency Center that can be diagnosed, treated, and discharged on the same day when possible
  - Patients referred by clinic staff (MD/APP/RN) and the patient is scheduled into an appointment; walk-ins are not accepted
  - Hours of Operation: M-F 10:30 am to 10:30 pm
  - Same/Next day appointments only




Data source: MD Anderson electronic medical record

# askMDAnderson: Providing Clinical Coverage to Patients After Hours

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- Patients calling MD Anderson's main line and askMDAnderson during the evenings and weekends connect with a clinician directly if they have a clinical question. The askMDAnderson team has clinical coverage after hours and 24/7 weekends and holidays to help manage patient issues overnight, avoid emergency care visits and decrease the number of pages to faculty on call.
- Roughly 19% of patient calls are related to medication issues. The collaboration with the askMDAnderson team is centered around review of these calls and working with the appropriate stakeholders for possible solutions (e.g., provider communication to review patient preference on pharmacy for discharge medications).
- The aim is to prevent patients from returning to the EC for medication issues that could have been resolved earlier.

# Risk Stratification Tool

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- The current dashboard does not stratify for risk based on disease progression, treatment plans, lab values, demographics, etc.
- In most use cases, further chart review is needed to identify specific interventions (e.g., encounters, lab values, etc.).

- The following models have been reviewed for potential applications for OP-35:
  - Existing solution
  - Customized solution based on Stanford University School of Medicine's study: *Machine Learning Applied to Electronic Health Records: Identification of Chemotherapy Patients at High Risk for Preventable Emergency Department Visits and Hospital Admissions* *
  - EHR cognitive computing model to calculate hospital admission or ED visit risk

* Peterson DJ, Ostberg NP, Blayney DW, Brooks JD, Hernandez-Boussard T. Machine Learning Applied to Electronic Health Records: Identification of Chemotherapy Patients at High Risk for Preventable Emergency Department Visits and Hospital Admissions. JCO Clin Cancer Inform. 2021 Oct;5:1106-1126. doi: 10.1200/CCI.21.00116. PMID: 34752139; PMCID: PMC8807019.

REFLECTION

# Campus at-a-Glance
# Houston Methodist The Woodlands


- 293 Beds
- 46 Bed Emergency Department
- 58 Bed Level III Childbirth Center
- 24 Bed Level III NICU

- 24 ORs
- 4 minimally invasive surgery robots
- 1 endovascular surgery robot
- 1 robotic surgical assistant device

- 6 Cardiac cath labs
- 6 Endo/bronch suites

- Expanded Outpatient Lab

Abbreviations: MOB = Medical office building

# By the Numbers

* 2023 year-end

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Data source: Houston Methodist The Woodlands internal database

**#1** of 181 hospitals (Vizient)

**293** Licensed Beds

**1,200** Affiliated Physicians

**800+** Registered Nurses

**265** Allied Health Professionals

**17,449** Admissions*

**49,820** Emergency Room Visits*

**Surgeries**

3,630 Inpatient*

9,729 Outpatient*

**2,335** Births*

**4** Outpatient Lactation Rooms

**6** Endo/ Bronch Suites

**6** Cardiac Cath Labs

**24** Operating Rooms

Number of Employees

**2,100+**

Stock images used with permission

# ED Waiting Room


Stock images used with permission

# ED Department Reality

Stock images used with permission

# Myth: Hospital Efficiency Will Fix All of our Problems

- Discharges by 10 a.m., 11 a.m., or Noon
- Echocardiograms
- MRIs
- GI consults for chest pain patients
- Reduce consults
- Case Management early intervention
- Discharge lounges

Reality: None of these really solve the ED hold problems all that well

Abbreviations: GI = Gastroenterology

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# ED Holds are an Access Problem

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# Case Study 1

- 55-year-old male with HTN and DM presents to the ED with 3 weeks of intermittent chest pain that got worse 1 hour prior to arrival at work
- HEART Score = 5
- Standard of Care: EKG, CXR, Labs, Hospital Obs for a cardiology consult, next day stress test and echo and D/C or cath
- Rapid Access Solution

Abbreviations: cath = cardiac catheterization; CXR = chest x-ray; D/C = discharge; DM = diabetes mellitus; EKG = electrocardiogram; HEART = history, EKG, age, risk factors, initial troponin; HTN = hypertension; obs = observation

# Case Study 2

- 37-year-old female presents to the emergency department with 2 months of vaginal bleeding
- Standard of Care = Labs, UA and Ultrasound
- Hemoglobin = 7.1, Admit for blood transfusion +/- GYN consult
- Rapid Access Solution

Abbreviations: GYN = gynecology; UA = urinalysis

# Case Study 3

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- 60-year-old male presents to the emergency department with bloody stools. He is on blood thinners due to prior episodes of atrial fibrillation
- AVSS, physical exam otherwise normal, labs normal
- Standard of care: Admit/obs for GI consult, serial hemoglobin labs, and an endoscopy/colonoscopy
- Rapid Access Solution

REFLECTION

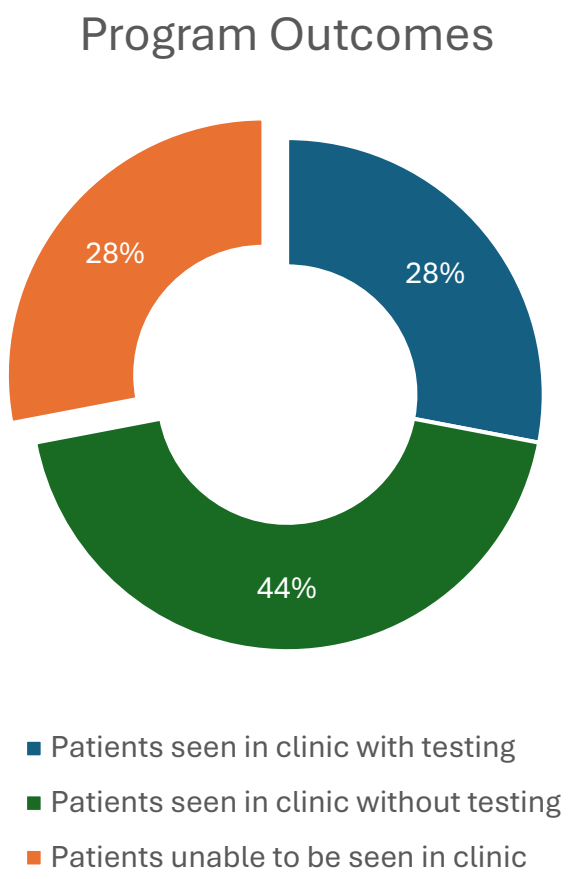
Abbreviations: AVSS = afebrile, vital signs stable

# Case 4

- 72-year-old female with multiple medical problems BIBA with left arm, left leg and left face numbness, tingling, and weakness that started 4 days ago.  The face and left arm weakness is worse than the leg.
- AVSS except that her BP is 185/90.  EKG normal. No Afib.
- NIH stroke scale = 0
- Diagnosis?
- Standard of Care: Admit/obs, MRI, echo, anti-coagulation, statins, Cardiology and Neurology consults
- Rapid Access Solution

Abbreviations: Afib = atrial fibrillation; BIBA = brought in by ambulance; BP = blood pressure; NIH = National Institutes of Health

# Results: 1st Month of the Cardiology Program

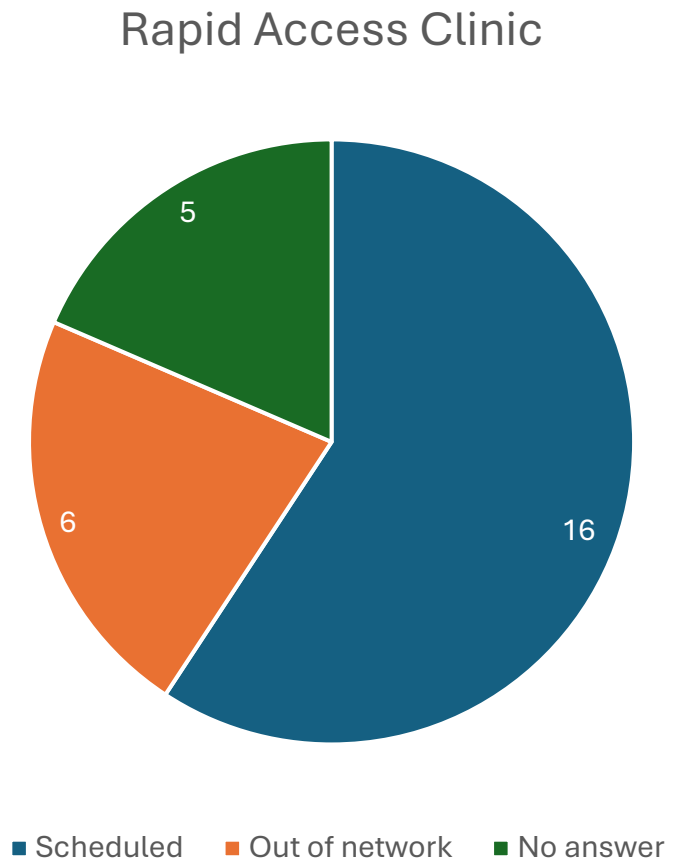



- In our first month, 33 total patients have been referred into the program
  - 24 were seen in our outpatient clinic
    - 9 received additional testing
    - 3 had procedures
  - 9 were not seen in clinic
    - 6 did not answer when we called
    - 2 scheduled and later cancelled
    - 1 did not have appropriate insurance
- These patients have been seen in addition to our physicians' already full schedules
- Average time spent by these patients in observation was 6 hours (vs. hospital average 26 hours)

Data source: Manual tracking by Houston Methodist The Woodlands team

# Results: 1st Month of the Neurology Program

- 27 total referrals
  - 16 were seen in clinic
  - 6 were out-of-network
  - 5 no-answer and unresponsive after 3 documented messages
- No serious safety concerns
- Huge cost reduction

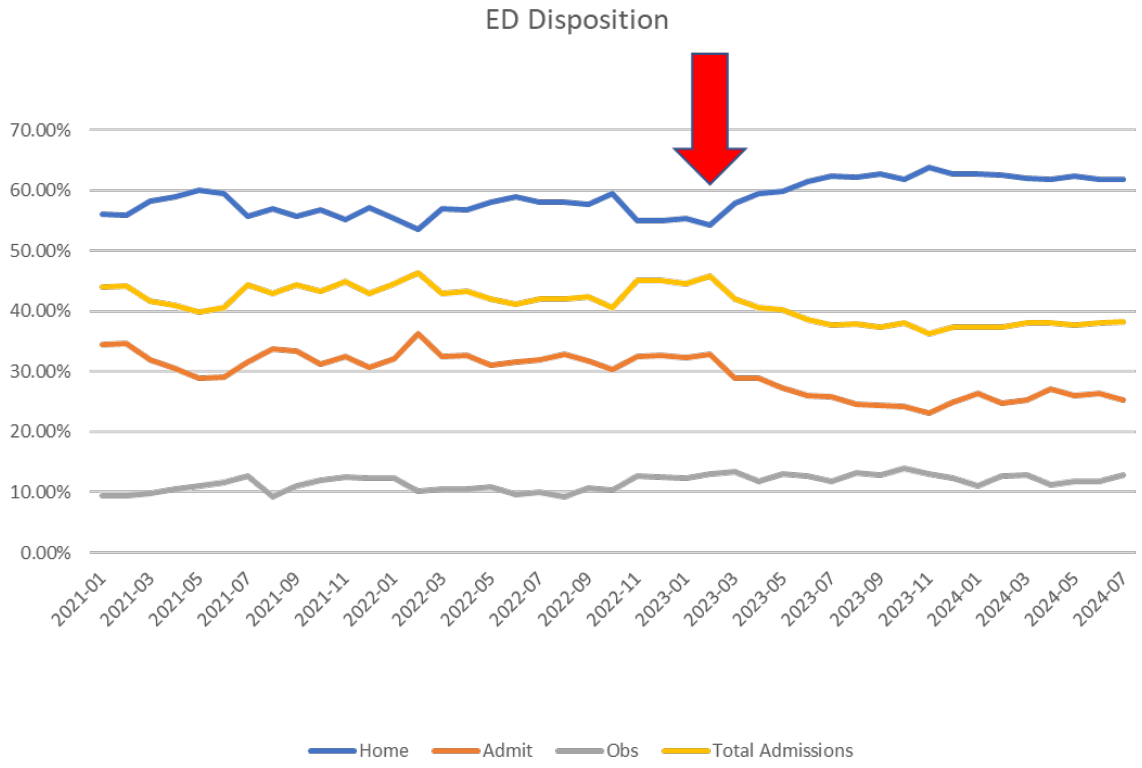


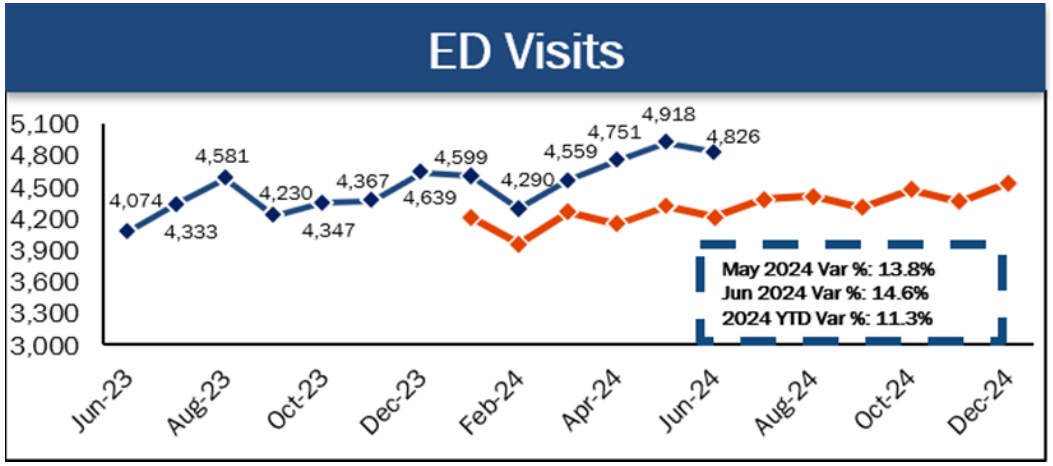

Tracking:

| Name | MRN | Date referral received | Appt date | Comments |
|---|---|---|---|---|

Data source: Manual tracking by Houston Methodist The Woodlands team

# Rapid Access Clinic Results




Data source: Houston Methodist The Woodlands electronic medical record

# Rapid Access Clinic Results

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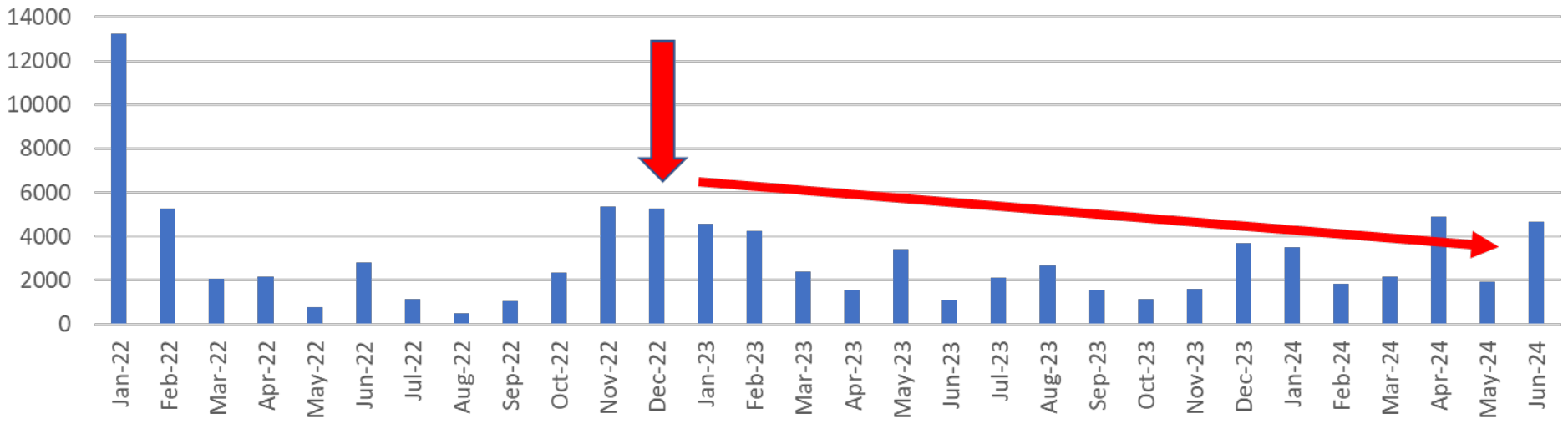
## ED Admission Data by Physician

| 2022 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 | Jul-23 | Aug-23 | Sep-23 | Oct-23 | Nov-23 | Dec-23 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 43% | 45% | 51% | 44% | 39% | 36% | 37% | 43% | 42% | 37% | 25% | 27% | 37% |
| | | | | | | | 33% | 40% | 40% | 43% | 39% | 37% |
| 38% | 37% | 38% | 38% | 38% | 35% | 37% | 37% | 38% | 35% | 35% | 35% | 34% |
| | | | | 43% | 40% | 43% | 34% | 38% | 38% | 34% | 31% | 37% |
| 40% | 55% | 51% | 33% | 48% | 36% | 40% | 49% | 34% | 43% | 45% | 43% | 34% |
| | | | | | 100% | 28% | 30% | 36% | 33% | 35% | 34% | 37% |
| 43% | 42% | 39% | 38% | 38% | 36% | 37% | 37% | 38% | 37% | 35% | 34% | 39% |
| | | | | | | | | | 38% | 43% | 35% | 41% |
| 38% | 43% | 47% | 39% | 39% | 43% | 35% | 36% | 34% | 30% | 34% | 34% | 35% |
| 58% | 54% | 52% | 53% | 47% | 52% | 46% | 45% | 45% | 44% | 44% | 43% | 48% |
| 44% | 43% | 47% | 43% | 38% | 40% | 43% | 45% | 40% | 42% | 38% | 36% | 39% |
| | | | | | | | | 31% | 43% | 47% | 35% | 29% |
| 49% | 51% | 49% | 39% | 45% | 41% | 42% | 38% | 43% | 40% | 45% | 44% | 40% |
| **43%** | **45%** | **46%** | **42%** | **40%** | **40%** | **39%** | **38%** | **38%** | **37%** | **38%** | **36%** | **37%** |

## Total Boarder Hours with 20% YOY ED Volume Growth




REFLECTION

Abbreviations: YOY = year-over-year. Data source: Houston Methodist The Woodlands electronic medical record

# Lessons Learned

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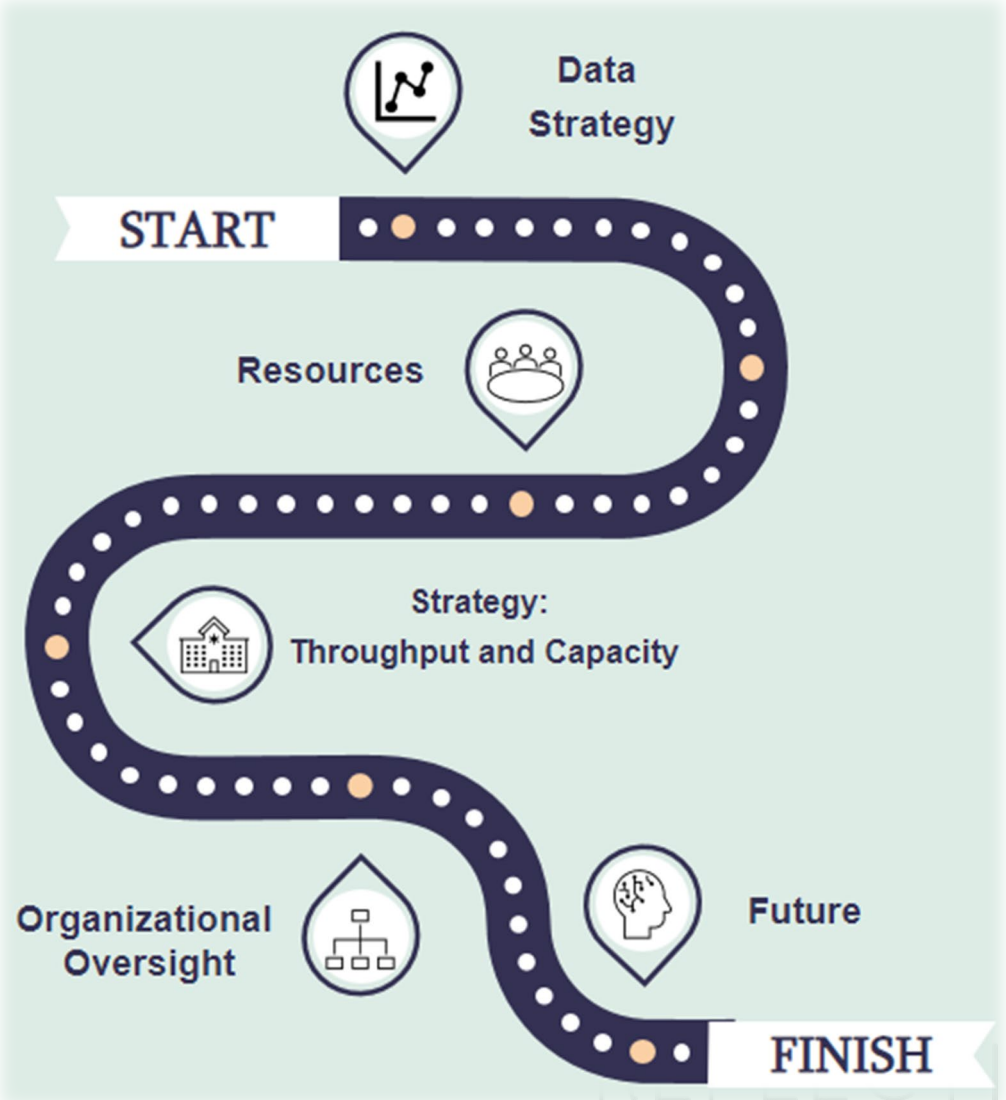
- Understand your metrics – national measures are imperfect yet directional (and required)
- Target interventions for improvement
- Rapid access clinics may be the right solution for certain patient types **and** for ED throughput

REFLECTION

# Key Takeaways

- Effective dashboards require
  - Near real time data
  - Include key elements for analysis
  - Nimble data team
- Care delivery reform requires a truly multidisciplinary team
- Hospital efficiency measures will not solve ED constraints
  - ED holds are an access problem



# Questions?

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*This educational session is made possible through the collaboration of Vizient Member Networks.*

REFLECTION

# Unlocking Capacity: Optimizing Sites for Ambulatory Surgery

**Anthony Cuttitta**, Program Manager, MPrOVE
University of Michigan Health, Ann Arbor, Mich.
**Gretchen Pagac**, Associate Chief Nursing Officer and Associate Chief Operating Officer
University of Michigan Health, Ann Arbor, Mich.

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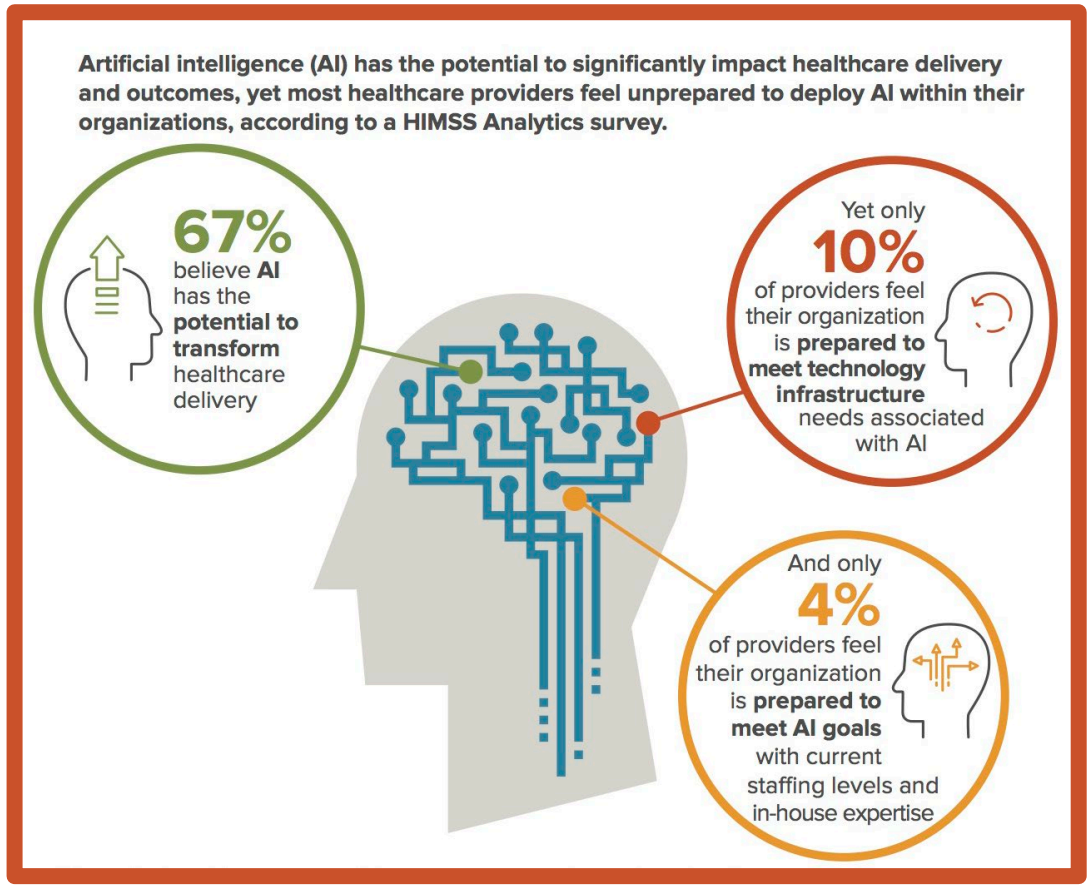
REFLECTION

# “55% of medical professionals say AI isn’t ready for healthcare”

“The healthcare industry is still skeptical about the introduction of AI use within medical care, with 55 percent of medical professionals stating the technology is not ready for medical use.”

- Naomi Diaz, Becker’s Health IT, July 10, 2023

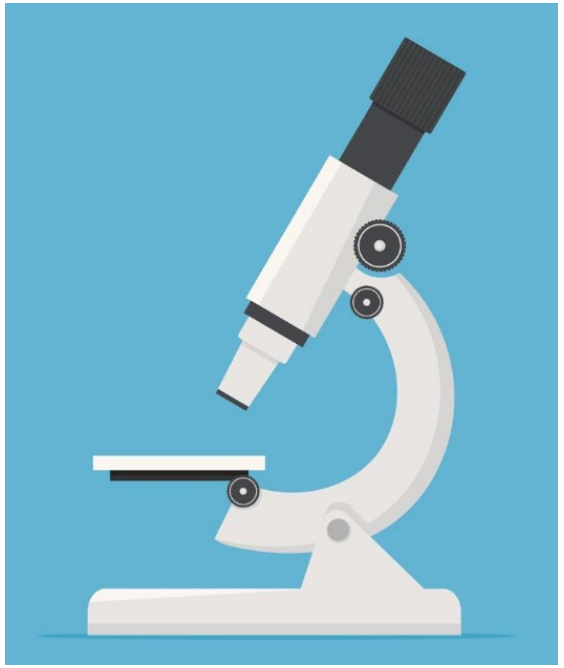


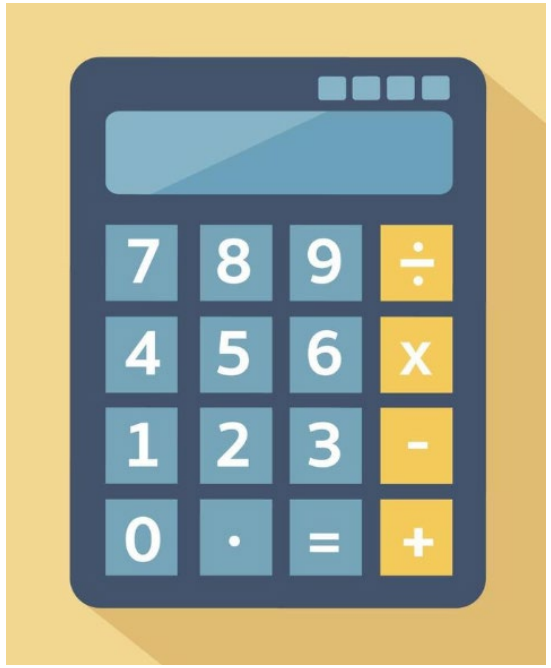


**Sources**:

- Becker’s Healthcare. 55% of Medical Professionals say AI isn’t ready for healthcare. July 2023. Accessed July 31, 2024. https://www.beckershospitalreview.com/healthcare-information-technology/55-of-medical-professionals-say-ai-isnt-ready-for-healthcare
- Healthcare IT News. Future Proofing: Infrastructure Support for Artificial Intelligence. November 2017. Accessed July 31, 2024. https://www.healthcareitnews.com/infographic/future-proofing-infrastructure-support-artificial-intelligence#:~:text=Artificial%20intelligence%20%28AI%29%20has%20the%20potential%20to%20significantly,their%20organizations%2C%20according%20to%20a%20HIMSS%20Analytics%20survey.

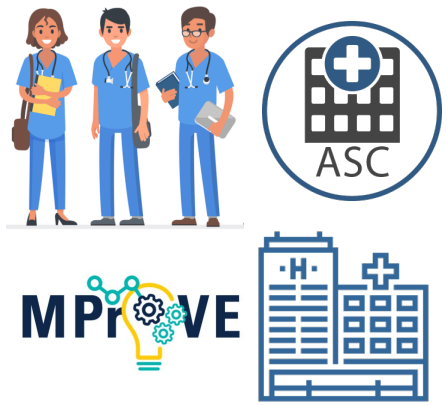
How can we think
about AI in healthcare?





# Ambulatory Surgery Center (ASC) Surgical Site Optimization Model

# ASC Surgical Site Optimization Model




**Our ASC (Ambulatory Surgery Center) Surgical Site Optimization Model**

**Why does ASC utilization matter?**

- ASCs are the optimal location for low-risk surgical cases
- Better surgery experience for patients
- Appropriate use of ASCs opens up OR space at UH

**What is the Problem?**

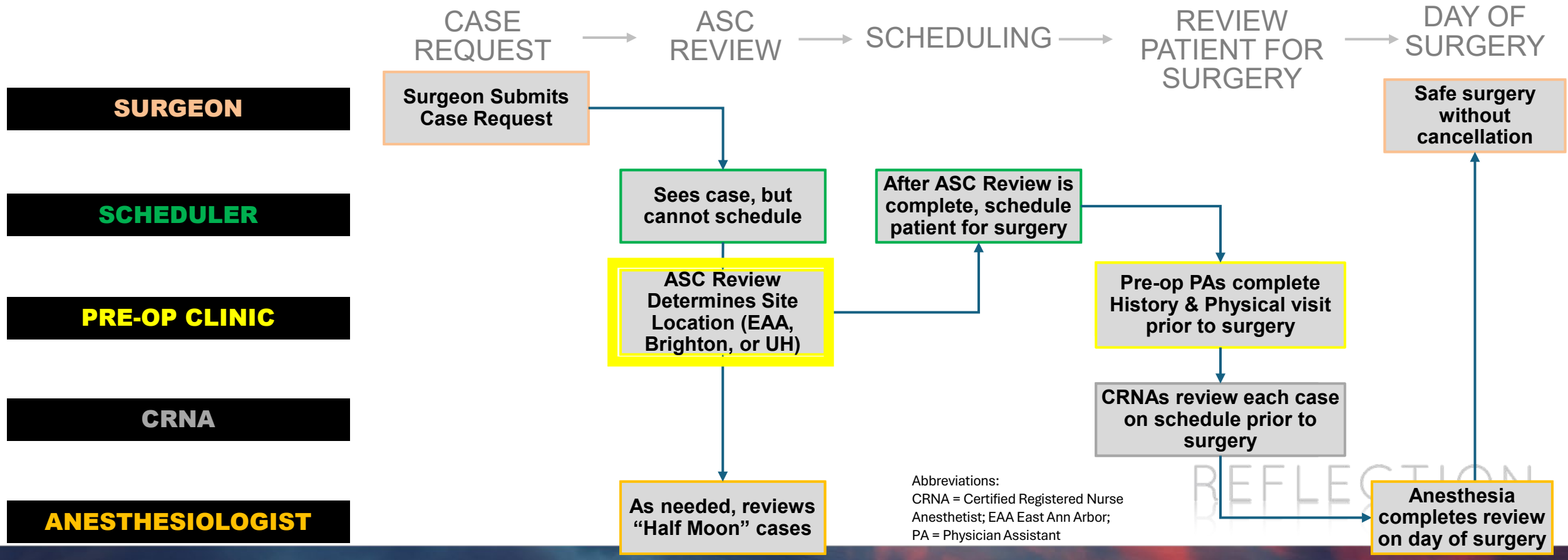
- Patients must be screened for ASC eligibility to ensure safety & avoid cancelations
- Detailed screening of a large volume of outpatient surgical requests is time and labor-intensive
- Outmigration initiatives as an organizational priority

Abbreviations:
OR = Operating Room; UH = University Hospital

# Original State of ASC Review and Surgery Scheduling

**BENEFITS:**
- Ensures safety & ASC appropriateness
- Cases rarely moved from ASCs to UH (~2.5%); limits cancellations (week of surgery rate only ~6.5%)

**CHALLENGES**:
- Creates scheduling delay for each case
- ASC review is a high burden/workload (11,809 case reviews in 2023, approximately 2,000 hours of PA effort)
- Redundant review for patients also going to PreOp Clinic



# ASC Surgical Site Optimization Model

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*In close collaboration with clinical partners, we built a predictive model for ASC Reviews*

## *Site Optimization Model Inputs*

**Michigan Medicine Anesthesia Guidelines & >25 key clinical indicators available in EMR**

*The model incorporates key data elements (which are determined by Michigan Medicine's anesthesia guidelines) to inform case complexity and predict site location/suitability for ASC*

- *BMI*
- *Cardiovascular System*
- *Respiratory System*
- *Neurologic System*
- *Anesthesia-specific issues*

**10,000+ Historical Review Decisions Previously completed by PAs**

*The model is also built based on pre-operative PA review decisions and is designed to replicate the review decisions made by PAs for historical cases (i.e., 2020-2021)*

REFLECTION

Abbreviations:
BMI= Body Mass Index; EMR = Electronic Medical Record

# MPrOVE Surgical Site Optimization Model

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## OLD PROCESS
*WITH ASC REVIEW COMPLETED MANUALLY BY PRE-OP PAs*

CASE REQUEST → ASC REVIEW (takes 3 days) → SCHEDULING

**Surgeon Submits Case Request**

**Scheduler sees case, submits for PA review, cannot schedule**

**ASC Review (Manual) Determines Site Location (EAA, Brighton, or UH)**

**After ASC Review is complete, schedule patient for surgery**

- *This ASC Review required detailed chart review of 25 key indicators*
- *Takes ~3 days for PAs to review cases*
- *>60 hours of work per week for Pre-op Clinic PA team*

***CLINICIAN BURDEN***

- *Scheduling is delayed until after manual PA ASC review*
- *This ~3 day wait can create OR scheduling challenges & a poorer patient experience*

***SCHEDULING DELAYS***

## NEW PROCESS
*MPrOVE ASC MODEL CONDUCTS REVIEW*

CASE REQUEST → MPrOVE MODEL REVIEW (takes 10 minutes) → SCHEDULING

**Surgeon Submits Case Request**

***MPrOVE Model runs & assesses each case after case request submission***

**Scheduler can schedule patient for surgery without waiting**

*This new process replicates the ASC review automatically; reviews are now done quickly & accurately, maintaining the site optimization benefits but eliminating the PA review burden & scheduling delay*

REFLECTION

Abbreviations:
MPrOVE = Michigan Program on Value Enhancement

# Surgical Site Optimization Model

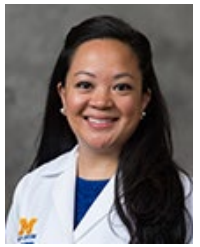
## *Does it work in the real world?*

- After rigorous testing, the model meets accuracy targets as intended
  - 98.5% (3,601/3,654) of completed cases that the model categorized as "Clear ASC" or "Likely ASC" cases have a final status of "Approved for ASC" (green check mark from manual PA review); data from July 2023 through February 2024
  - **The model is accurate in predicting case suitability for ASC**

- The clinical leadership team has provided guidance throughout model development regarding accuracy targets & case category thresholds





Data source: MPrOVE / Michigan Medicine internal database

# ASC Surgical Site Optimization Model

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*Does it work in the real world?*

GOALS

High Accuracy & consistency with PA decisions

Reduce PA effort by reducing # of cases requiring PA review

Reduce time from case request to scheduling

**CURRENT RESULTS**

- **Model case categories are very accurate and consistent with PA decisions (>98%)** accuracy across all surgical services
- **ASC review effort can be decreased by >75%**
- **Average business days from case request to scheduled surgery decreased by 1.5-2 days**

Data sources: MPrOVE / Michigan Medicine internal database; University of Michigan Health System electronic health record scheduling data

REFLECTION

# ASC Surgical Site Optimization Model

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IMPACT

| | *Impact to-date* | *Future Impact* |
|---|---|---|
| **High accuracy** & consistency with manual review | • >99% of model approved cases manually reviewed as ASC suitable<br>• Only 0.7% of model approved cases were rescheduled from ASC to UH | • >98% of model reviewed cases across all surgical services are reviewed as ASC suitable<br>• Continued non-inferiority in rates of model-approved cases rescheduled from ASC to UH |
| **Reduce PA effort** by reducing # of cases requiring PA review | • 186 hours of PA review time saved/avoided to-date<br>• 1,117 model-approved cases that did not require manual PA review | • 881 cases per month (> 10,000 per year) approved by model without PA review<br>• 147 hours – monthly time saved on PA review time (1,764 hours annually) |
| **Reduce scheduling time** from case request to scheduling | • Cases scheduled ~2 days faster<br>• 2,196 fewer patient-days waiting to schedule surgery each month | • Cases scheduled ~2 days faster<br>• 1,762 fewer patient-days waiting to scheduled surgery each month |

REFLECTION

Data sources: MPrOVE / Michigan Medicine internal database; University of Michigan Health System electronic health record scheduling data

# ASC Surgical Site Optimization Model

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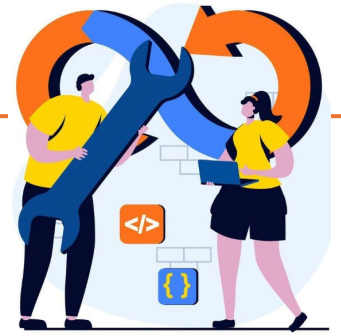
*Timeline*

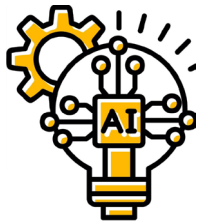
## Year 1 – BUILD & TEST MODEL

- Build model components
- Test variables for predictive value
- Significant clinician input



## Year 2 – TECHNICAL DEVELOPMENT

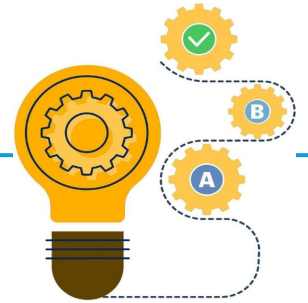
- Establish model to actively run within EMR
- Build local reports for key users
- Background testing of accuracy




**EMR**

## Year 3 – CLINICAL IMPLEMENTATION

- Staggered rollout to various surgical services
- Obtaining buy-in from surgery leads and other stakeholders




REFLECTION

# Lessons Learned

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AI in healthcare is great,
but not in my area

REFLECTION

# Key Takeaways

- Strong connections with all surgical services utilizing the model.
- Close collaboration with end users.
- The staggered rollout allowed close connections & resolutions of issues in real time.
- Key involvement from clinical leaders in surgery, anesthesia, nursing, the pre-operative clinic, surgery schedulers, and HITS.

REFLECTION

Abbreviation: HITS = Health Information Technology Services

# Questions?

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# Roundtable Discussion: Access, Capacity and Throughput

**Nicole Spatafora, MS-HSM**, Associate Vice President, Performance Improvement Programs, Vizient

**Kate O'Shaughnessy, MS-HSM, CPHQ**, Senior Member Networks Director, Vizient

**Alex Zafirovski, MBA, RT(T), ARRT**, Chief Administrative Officer, Robert H. Lurie Cancer Center of Northwestern University

**Jill Engel, DNP, ACNP, FNP, NEA-BC, FAANP**, Service Line Vice President – Heart and Vascular, Duke University Health System

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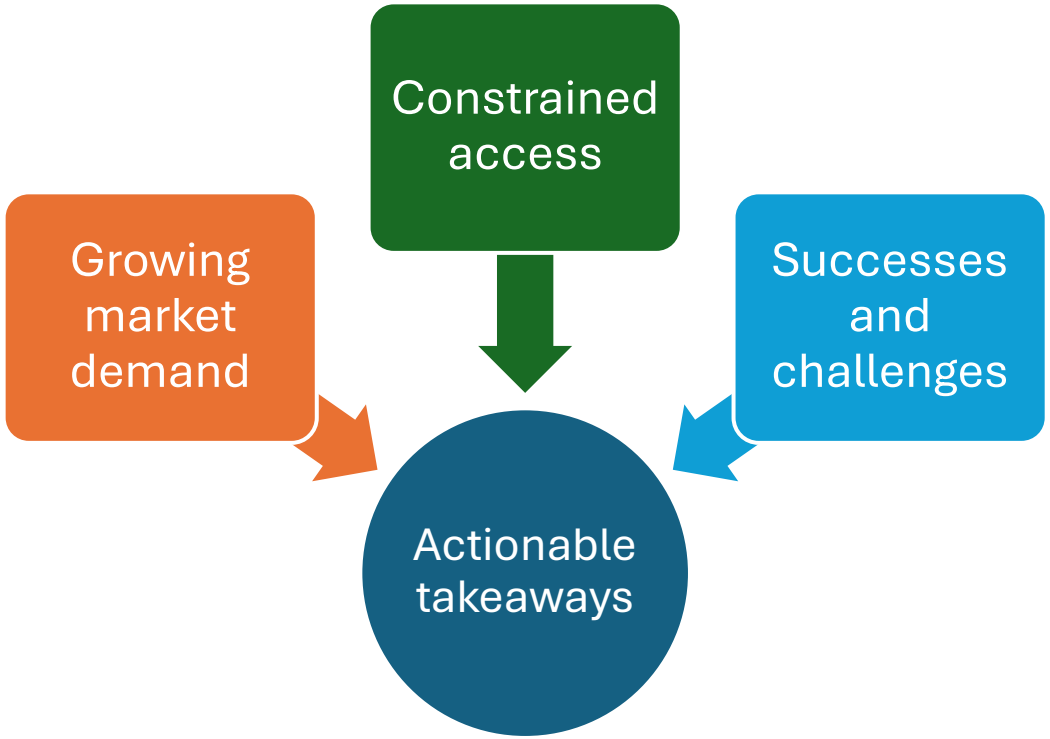
# Questions for discussion

- What are your current initiatives to improve **access** within your cancer and/or cardiovascular service lines?
- What are your current initiatives to improve **throughput** within your cancer and/or cardiovascular service lines?
- Are you working on any initiatives across more than one service line in your organization?

*Discuss these questions at your tables for 20 minutes*
*Be prepared to type your responses into the poll*

# Connecting the dots: What we heard today




- Market demand for cancer and CV services continues to grow.
- Key areas of focus to improve: inpatient, emergency department, procedural, clinics.
- Hear from your peers who have had success. Share your ongoing challenges.
- ***Take action at your organization.*** Meet the demand in your market.

# Questions?

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