

2024 VIZIENT CONNECTIONS SUMMIT

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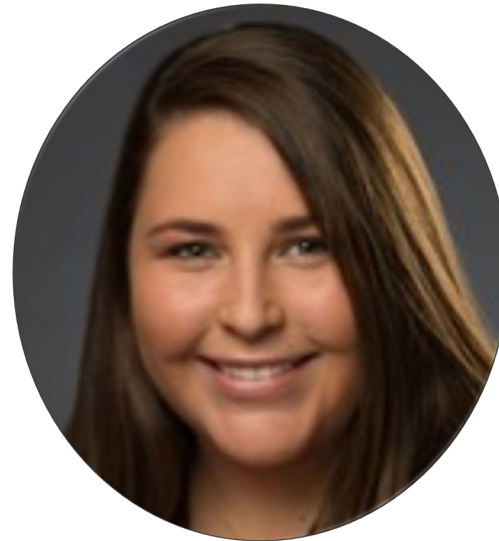
# REFLECTION

REFLECT | ADAPT | EVOLVE

# The Vizient COO Network Team



Michael D. Busch, FACHE  
*Vice President*  
Vizient



Katie Elia, MHA  
*Senior Director*  
Vizient



Terri Mariani  
*Networks Manager*  
Vizient

# A Few Housekeeping Items

- Today's materials are available via the Summit mobile app, including the presentation slide deck, speaker bios and the session evaluation.
- Please take a moment to make yourself aware of the nearest exits and restrooms.
- Please complete the evaluation within the mobile app following the session. Your input is important to us!

# Disclosure of Financial Relationships



Vizient, Inc., Jointly Accredited for Interprofessional Continuing Education, defines companies to be ineligible as those whose primary business is producing, marketing, selling, re-selling, or distributing healthcare products used by or on patients.

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**Operations Executives Peer to Peer Session**  
*Navigating the Intersection of Capacity, Workforce and  
Innovation*

# Welcome and Introductions



**Bryan Croft**

Executive Vice President, Hospital  
Operations and Chief Operating Officer  
Cedars-Sinai Health System  
Los Angeles, CA



**Michael Holmes, MSA**

Executive Vice President and Chief  
Operating Officer  
Yale New Haven Hospital  
New Haven, Conn.

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# Vizient COO Network Advisory Committee



**Michael Holmes (Co-Chair)**  
EVP & Chief Operating Officer  
Yale New Haven Hospital



**Lance Ferguson**  
Vice President, Operations  
Memorial Hermann-Texas Medical  
Center



**Jody Reyes**  
Chief Operating Officer  
University of Iowa Hospitals & Clinics



**Bryan Croft (Co-Chair)**  
EVP, Hospital Operations & COO  
Cedars-Sinai Health System



**Carol Gomes**  
CEO/COO  
Stony Brook University Hospital



**Sabi Singh**  
EVP, Chief Clinical Operating Officer and Hospital  
President  
Moffitt Cancer Center and Moffitt Hospital



**Ron Cummins**  
SVP & Chief Operating Officer  
University of Maryland Medical Center



**Lisa Moore**  
Executive Vice President & COO  
Cottage Health



**Paul VerValin**  
EVP & COO  
The Guthrie Clinic



**Rowell Daniels**  
Chief Operating Officer  
University of North Carolina Hospitals



**Charlie Reuland**  
Chief Operations Integration Officer  
UM-Health (University of Michigan)



**Rob Wiehe**  
EVP, Chief Operating Officer  
UC Health

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# The Power of the Network

Collaboration



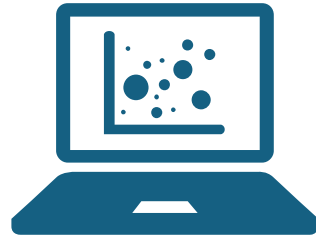
Panels and Presentations



Roundtable Discussion



Analytics, Intelligence and Insights



Industry Experts



Connections



*New insights lead to improved results*

REFLECTION



# Chief Operating Officers Network Calendar

## 2024-2025

Year	Quarter 1	Quarter 2	Quarter 3	Quarter 4
<b>2024</b>	<b>Feb 15</b> Virtual COO & Diversity, Health Equity & Inclusion Network: Practical Use Cases in DHEI	<b>April 11-12</b> Austin, TX Enhancing Organizational Performance: Leveraging Strategic Collaboration for Sustainable Growth	<b>Sept 16-18</b> Las Vegas, NV Connections Summit: Navigating the Intersection of Capacity, Workforce and Innovation	<b>November 14</b> Virtual Strategic Partnerships Spanning the System of Care
<b>2025</b>	<b>Feb 27</b> Virtual Topic TBD	<b>May 1-2 or 8-9</b> Rosemont, IL Building a High-Performance Organization <ul style="list-style-type: none"> <li>• The Evolving Role of the COO</li> </ul>	<b>Sept 17-19</b> Las Vegas, NV Connections Summit: Topic theme TBD	<b>December 4</b> Virtual w/ CFOs 2026 Outlook

REFLECTION

# Save the Dates

## COO's are cordially invited

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Chief Financial Officers and Pharmacy Executives Pharmacy Enterprise  
Virtual Leadership Series: Margin Optimization

Join our unique series to connect with industry peers, exchange ideas and gain valuable insights.

Over the course of three sessions, we will dive into margin optimization surrounding pharmacy enterprise strategy and deliver practical insights to enhance profitability. Attendees will discover new value opportunities and learn effective strategies to advance a system-wide approach. Key topics include 340B optimization, pharmacy payer negotiations, PBM strategies, trends in infusion therapy, opportunities in mail-order services, retail and specialty pharmacy considerations, and operational excellence.



August 13, 2024

October 2, 2024

December 18, 2024

Register

**August 13 at 10 a.m. to 11:30 a.m. CT**

Session one, *Unlock the Margin Power of Your Pharmacy Enterprise*

**October 2 at 10 a.m. to 11:30 a.m. CT**

Session two, *Igniting Profit Potential with Pharmacy Enterprise Margin Drivers*

**December 18 at 12 p.m. to 1:30 p.m. CT**

Session three, *Amplifying Your Pharmacy Enterprise Strategy to Elevate Financial Performance*

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# Today's Agenda



Time	Session title	Speaker/Facilitator
8 a.m.	<b>Welcome &amp; Introductions</b>	Michael D. Busch, FACHE, Vice President, Vizient Member Networks  Bryan Croft, Executive Vice President, Hospital Operations and Chief Operations Officer, Cedars-Sinai Health System
8:15 a.m.	<b>Elevating Practical Solutions: Innovation, Workforce and the Capacity Crunch</b>	Eric Burch, MBA, RN, FACHE, Senior Principal, Vizient  Tomas Villanueva, DO, MBA, FACPE, SFHM Senior Principal, Performance Improvement Consulting, Vizient
9:00 a.m.	<b>Roundtable Discussion</b>	Facilitated by Eric Burch and Tom Villanueva
9:45 a.m.	<b>Networking Break</b>	
10 a.m.	<b>Leveraging Predictive Analytics for Nursing Workload Management</b>	Mayo Clinic
10:20 a.m.	<b>AI Powered Solutions to Optimize Patient Flow</b>	Tampa General Hospital and Cleveland Clinic
10:55 a.m.	<b>Roundtable Discussion</b>	All
11:55 a.m.	<b>Concluding Comments</b>	Katie Elia, MHA, Senior Director, Vizient Member Networks
Noon	<b>Adjourn</b>	All

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# Learning Objectives

- Discuss new workforce investments to optimize capacity and augment frontline staff and leadership.
- Explore successful innovation strategies related to the state of labor, the operational impact of artificial intelligence and the system of care to optimize capacity.
- Reveal innovations in the workforce equation by pairing quantitative data and qualitative insights.
- Explain how to leverage a high-performance framework and practical use cases to demonstrate an improved future state of work.

# Elevating Practical Solutions: Innovation, Workforce and the Capacity Crunch

**Eric Burch, MBA, RN, FACHE**

Senior Principal, Performance Improvement Consulting  
Vizient

**Tomas Villanueva, DO, MBA, FACPE, SFHM**

Senior Principal, Performance Improvement Consulting  
Vizient

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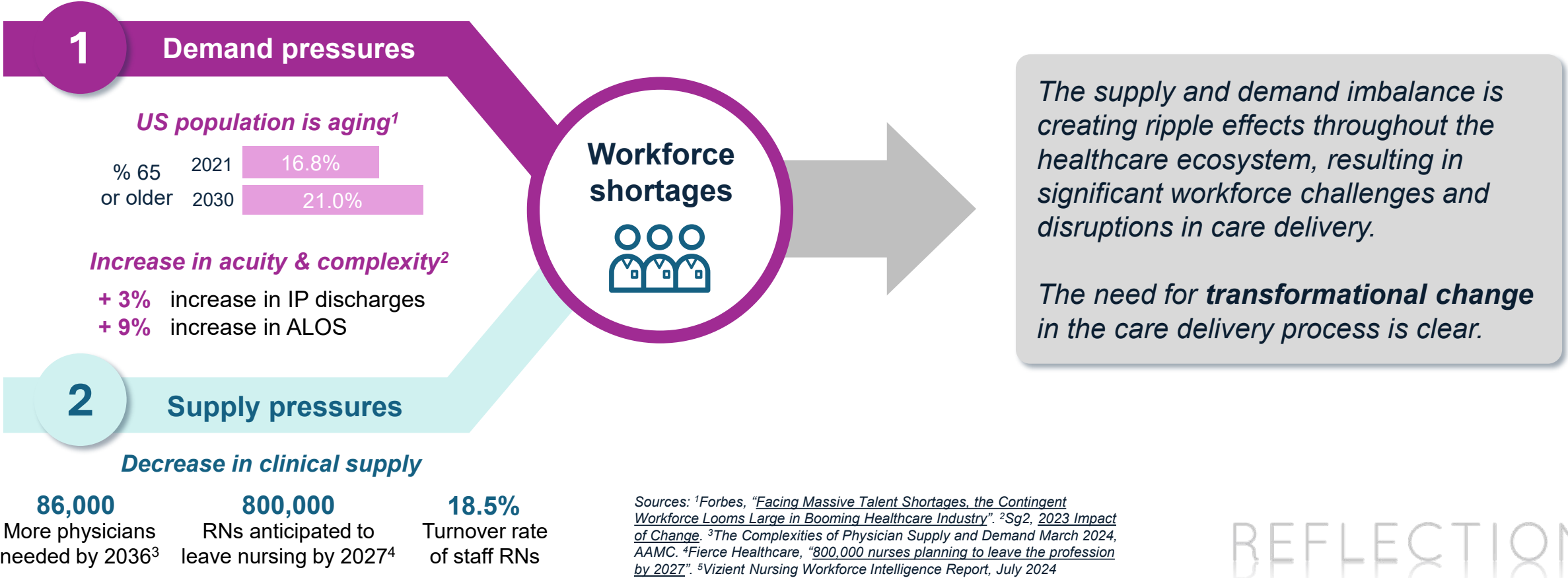
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# The imbalance of workforce supply and demand is creating critical shortages in healthcare

The COVID-19 pandemic became a tipping point for many, creating the perfect storm of long-lasting staffing issues, including turnover, staff stress and burnout, a decreasing pipeline of clinical positions, and higher labor costs creating overall financial challenges.



# The Complexities of Physician Supply and Demand: Projections From 2021 to 2036: March 2024 AAMC

## Demand

- Total projected shortage of between **13,500 and 86,000 physicians by 2036.**
  - A shortage of between **20,200 and 40,400 primary care physicians.**
  - For Surgical Specialties, a shortage of between **10,100 and 19,900 physicians.**
  - For Medical Specialties, a shortage of **5,500 to a surplus of 3,700 physicians.**
  - For Other Specialties, a shortage of **19,500 to a surplus of 4,300 physicians.**
- If access issues in underserved communities were addressed this shortfall would be **3 to 6 times** the magnitude of current shortfall estimates.

## Key Drivers

- A large portion of the physician workforce is nearing the traditional retirement age of 65.
- The new scenarios project the impact on physician supply if investments in graduate medical education (GME) continue to grow.
- This report adopts lower projected U.S. population estimates than in the previous report, modeling that the U.S. population will reach 359.7 million in 2036 (and 356.4 million in 2034).

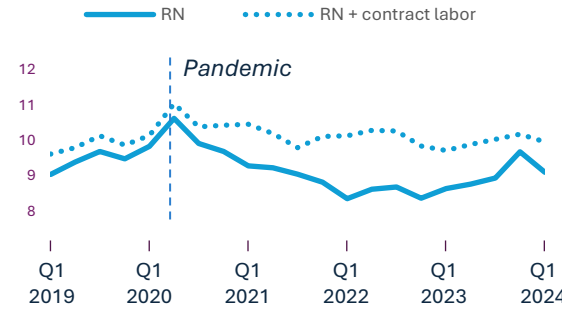


# Nursing workforce indicators stabilize, but concerns remain

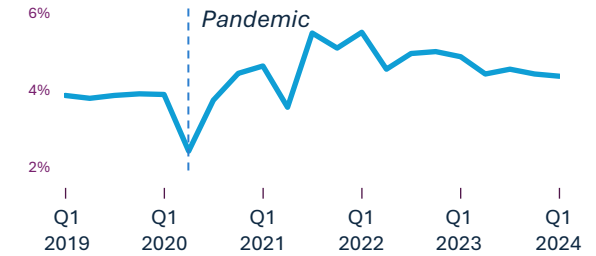
- RN contract labor remains constant
- RN overtime remains higher than pre-pandemic levels
- Nursing burnout continues to climb
- RN turnover is down to 18-19%

## NURSING HOURS, OVERTIME AND TURNOVER LEVEL OUT, BUT REMAIN HIGHER THAN PRE-PANDEMIC

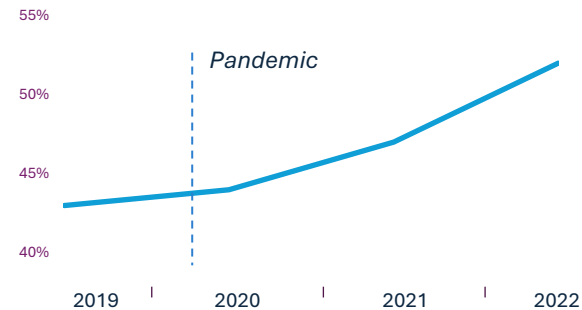
**NURSING HOURS PER PATIENT DAY**  
Vizient ODB<sup>3</sup>, 2019Q1 – 2024Q1



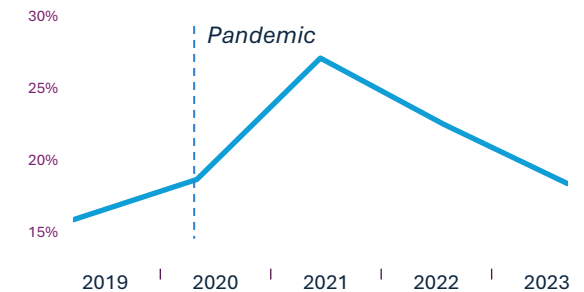
**NURSING OVERTIME HOURS AS % OF WORKED HOURS**  
Vizient ODB<sup>3</sup>, 2019Q1 – 2024Q1



**HOSPITAL ROLLING BENCHMARK MEDIAN NURSING % BURNOUT**  
Safe and Reliable Healthcare<sup>4</sup>, 2019Q3 – '22Q3



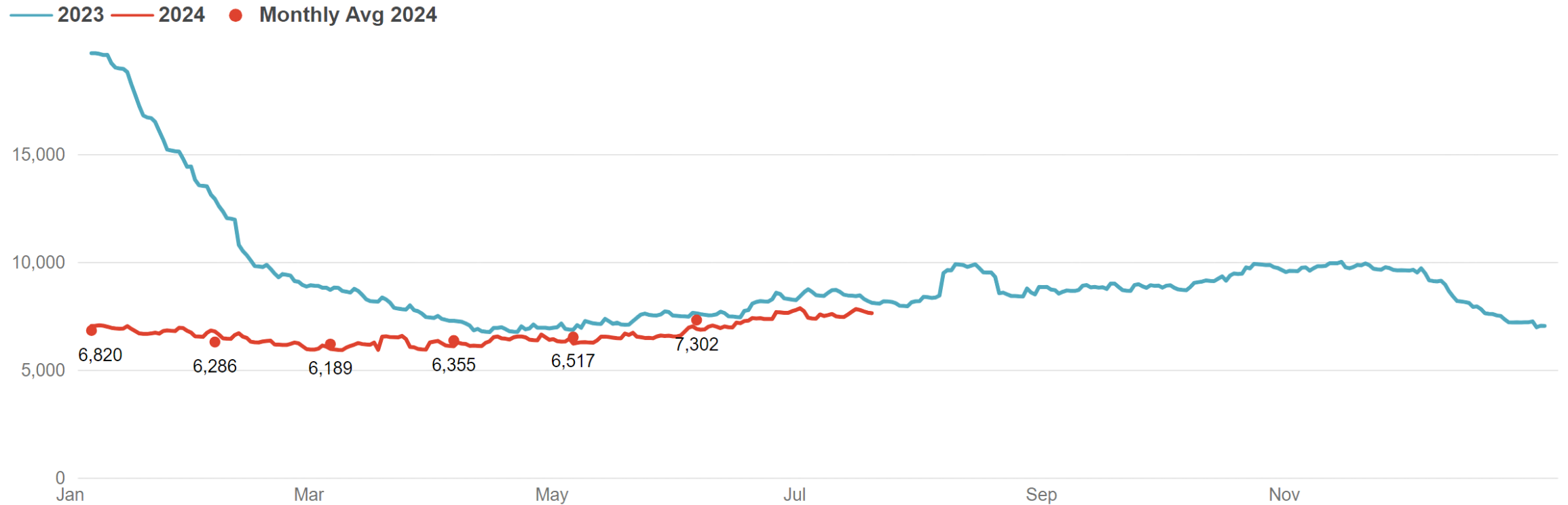
**% OF STAFF RN TURNOVER**  
NSI Nursing Solutions, Inc.<sup>5</sup>, CY19-CY23



# National Travel Nursing Job Volume

- There are 7,646 open Travel Nursing jobs as of 7/14/2024. There has been a 5% change in open Travel Nursing jobs in the last 30 days.
- Open Travel Nursing jobs are 6% lower than on this day in 2023.

YOY



• Vaya 2024. Confidential. Not For Distribution.  
• Data is as of 7/14/2024 and is based on Workforce Solutions data including direct contracts, managed service contracts, and support of third-party staffing programs.  
• Travel RN Jobs include CNA, RN, and LVN specialties.

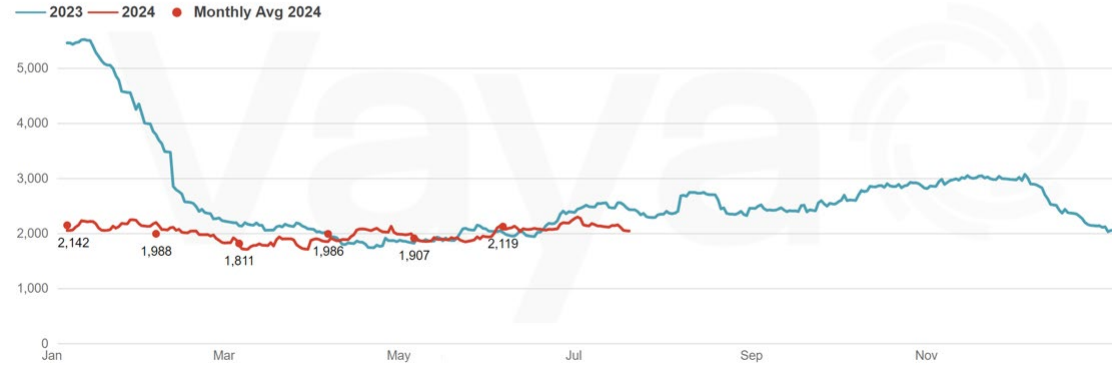
• Travel Jobs include all open jobs for Travel, Contract, and EMR needs. Data excludes Strike and Workforce Disruption.

REFLECTION

## National MS/Tele RN Job Volume

- There are 2,042 open MS/Tele Nursing jobs as of 7/14/2024. There has been a -1% change in open MS/Tele Nursing jobs in the last 30 days.
- Open MS/Tele Nursing jobs are 16% lower than on this day in 2023.

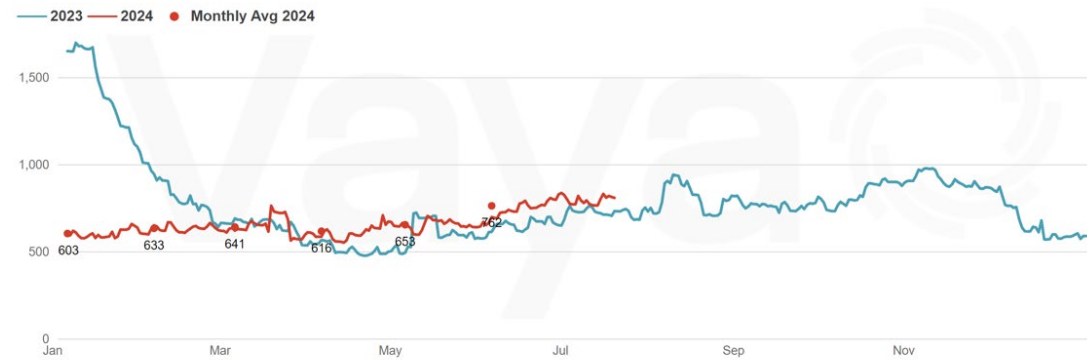
YOY



## National ICU RN Job Volume

- There are 813 open ICU Nursing jobs as of 7/14/2024. There has been a 6% change in open ICU Nursing jobs in the last 30 days.
- Open ICU Nursing jobs are 11% higher than on this day in 2023.

YOY



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 •Data is as of 7/14/2024 and is based on Workforce Solutions data including direct contracts, managed service contracts, and support of third-party staffing programs.

## National MedSurg RN Job Volume

- There are 1,199 open MedSurg Nursing jobs as of 7/14/2024. There has been a 3% change in open MedSurg Nursing jobs in the last 30 days.
- Open MedSurg Nursing jobs are 10% lower than on this day in 2023.

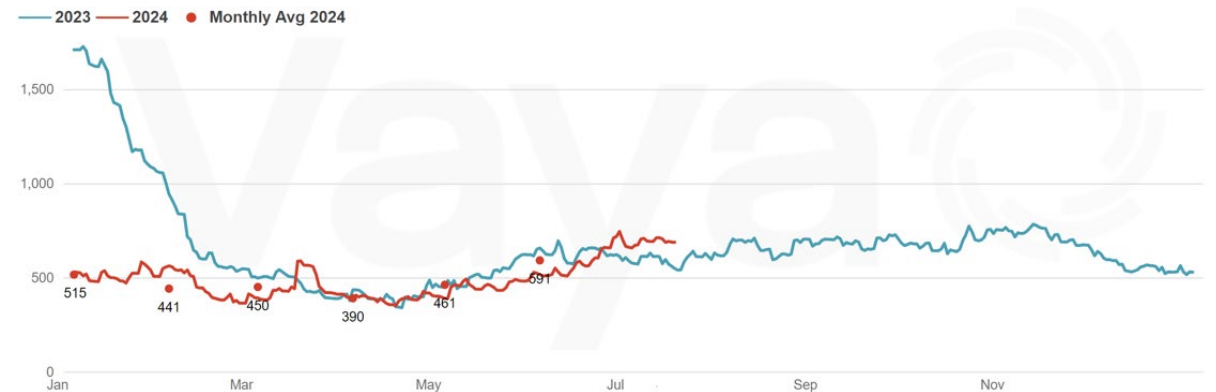
YOY



## National ER RN Job Volume

- There are 688 open ER Nursing jobs as of 7/14/2024. There has been a 17% change in open ER Nursing jobs in the last 30 days.
- Open ER Nursing jobs are 26% higher than on this day in 2023.

YOY

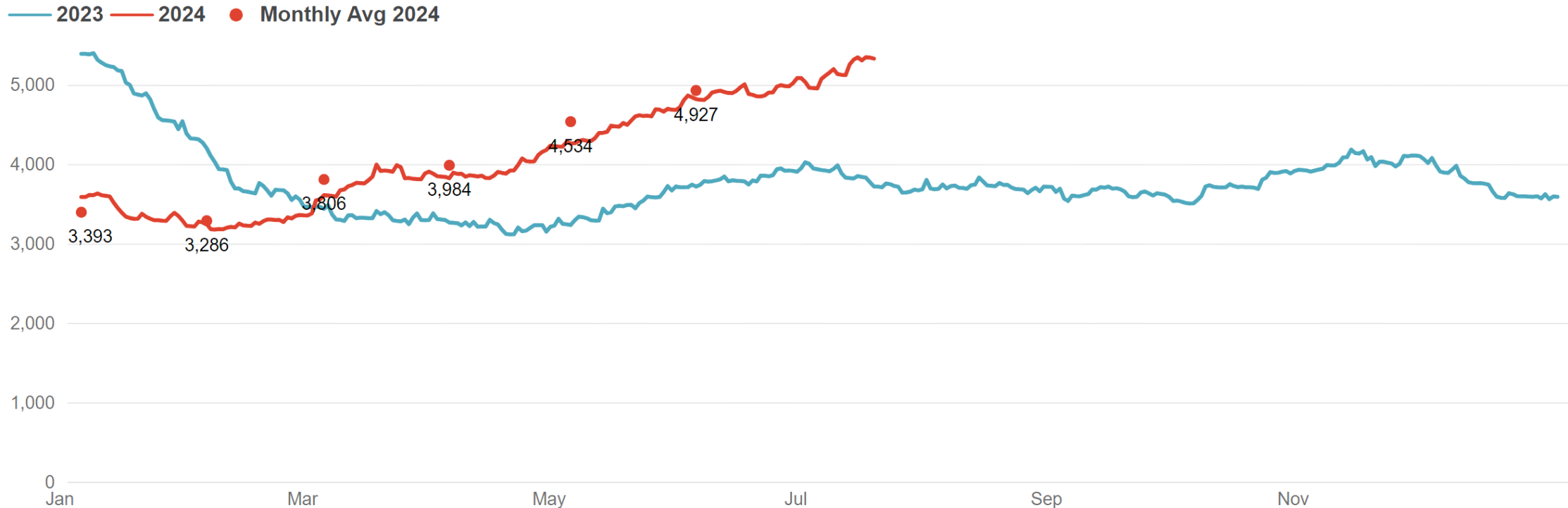


# National Travel Allied Job Volume



- There are 5,341 open Allied jobs as of 7/14/2024. There has been a 9% change in open Allied jobs in the last 30 days.
- Open Allied jobs are 44% higher than on this day in 2023.

YOY



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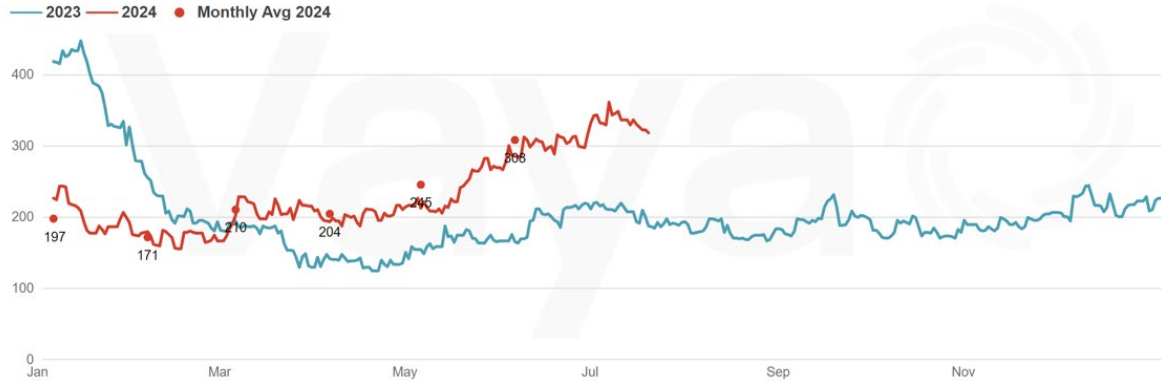
• Travel Jobs include all open jobs for Travel, Contract, and EMR needs. Data excludes Strike and Workforce Disruption.



## National RRT Job Volume

YOY

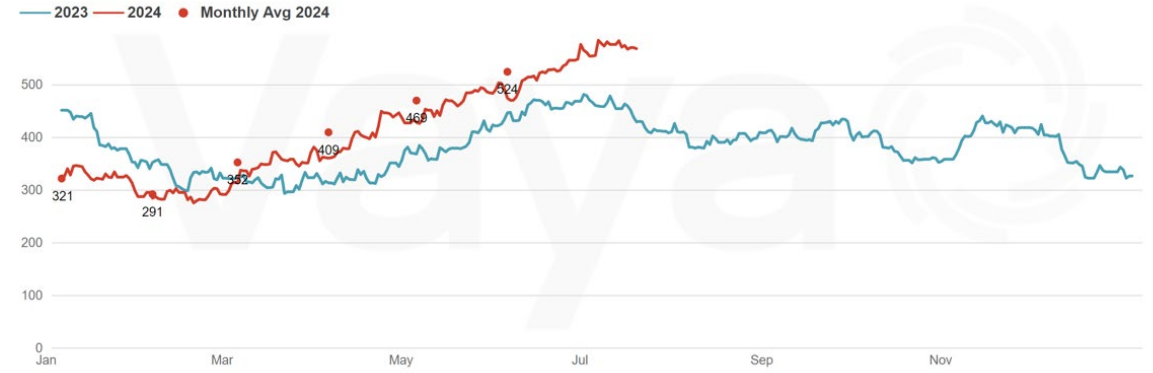
- There are 322 open RRT jobs as of 7/14/2024. There has been a 12% change in open RRT jobs in the last 30 days.
- Open RRT jobs are 72% higher than on this day in 2023.



## National CT Tech Job Volume

YOY

- There are 570 open CT Tech jobs as of 7/14/2024. There has been a 9% change in open CT Tech jobs in the last 30 days.
- Open CT Tech jobs are 33% higher than on this day in 2023.



## National MRI Tech Job Volume

YOY

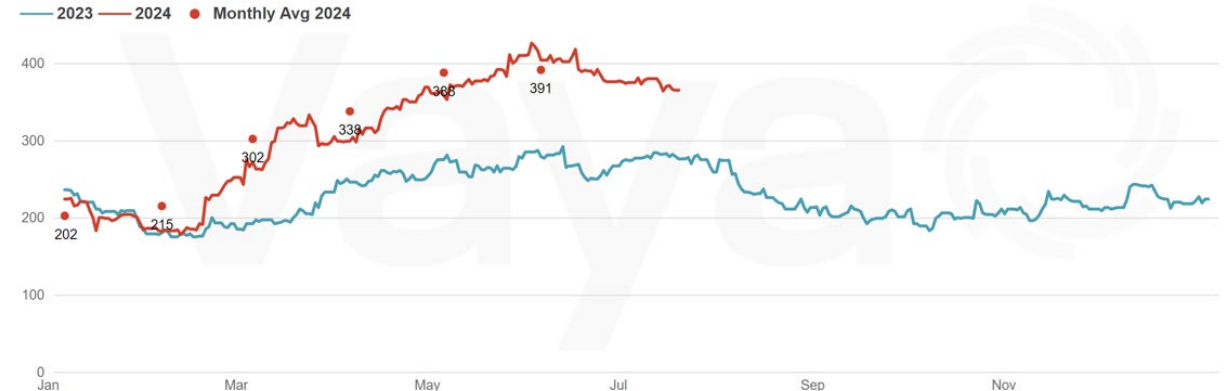
- There are 268 open MRI Tech jobs as of 7/14/2024. There has been a 37% change in open MRI Tech jobs in the last 30 days.
- Open MRI Tech jobs are 139% higher than on this day in 2023.



## National Travel PT Job Volume

YOY

- There are 365 open Travel PT jobs as of 7/14/2024. There has been a -6% change in open Travel PT jobs in the last 30 days.
- Open Travel PT jobs are 32% higher than on this day in 2023.



•Vaya 2024. Confidential. Not For Distribution.

•Data is as of 7/14/2024 and is based on Workforce Solutions data including direct contracts, managed service contracts, and support of third-party staffing programs.

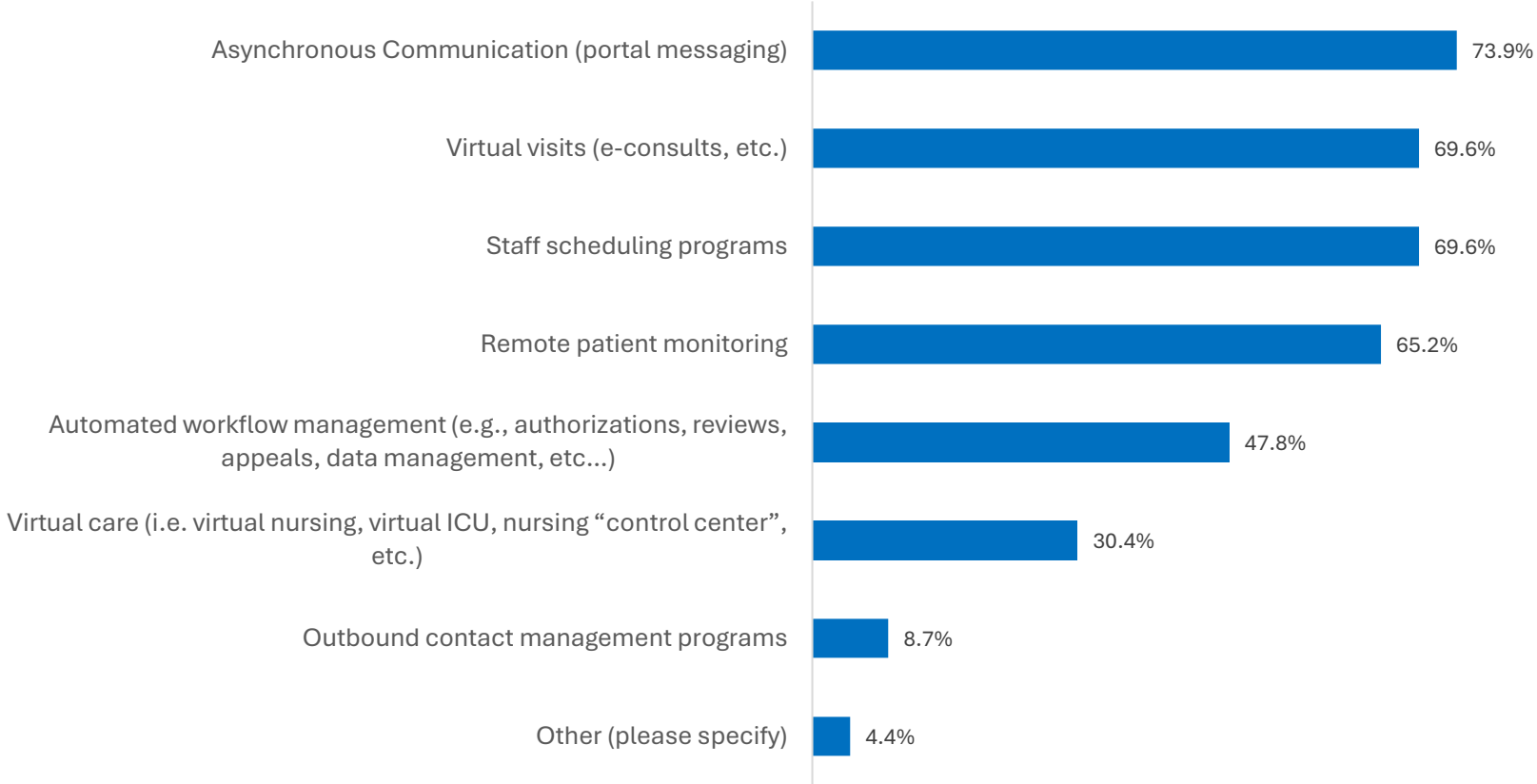
# Virtual health technology used, but larger opportunity exists



- While virtual health technology is used for communication and scheduling, less than half leverage it for workflow management
- With less than 5% offering additional programs in the “other” category, the idea of virtual health technology may be relatively new to respondents

Virtual health technology programs

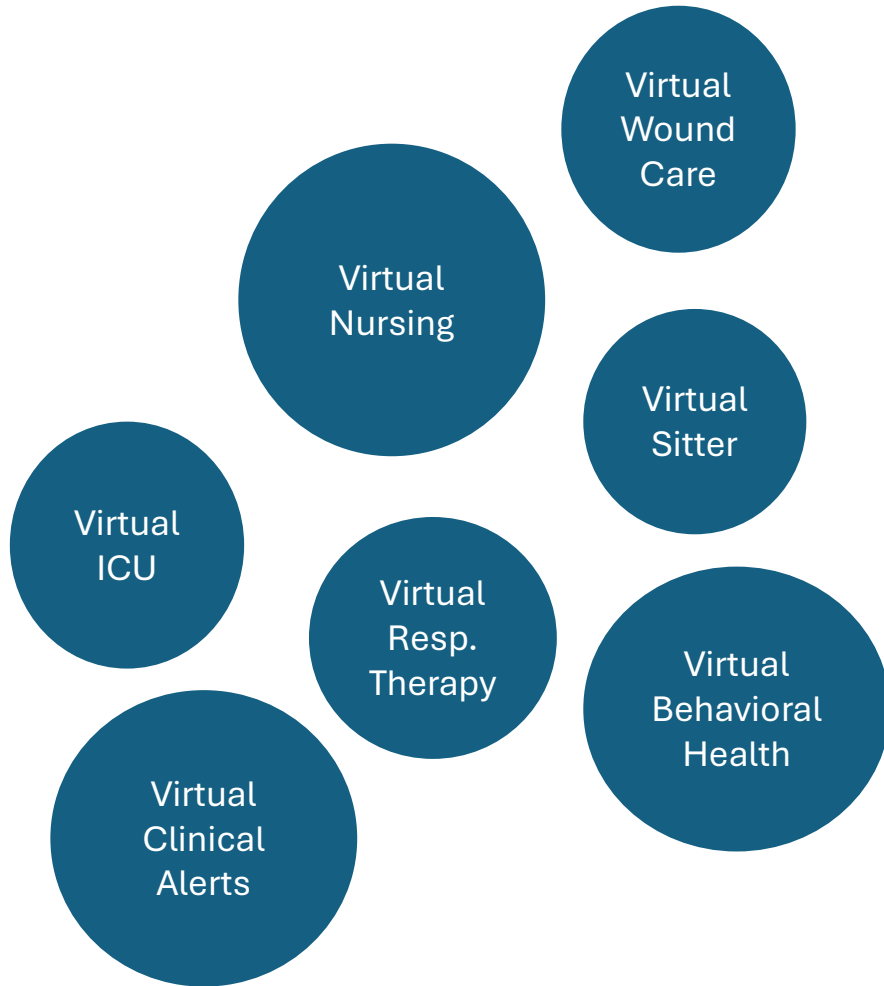
Base = 48



Question: In terms of virtual health technology within your institution, which of the following programs or initiatives does your institution currently do?



## Virtual Inpatient Care



## Patient Care Benefits

- Safety (Modified Early Warning System [MEWS] and AI alerts, proactive rounding, timeout documentation)
- Higher standardized quality
- Lower mortality due to early intervention for patient deterioration
- Higher patient satisfaction due to more individualized care and attention

## Workforce Benefits

- Higher engagement due to increased collaboration among team members
- Lower burnout rates as transactional time is traded for relational time with the patient
- Ability to operate at top of license at the bedside
- Additional training opportunities for new nurses

# Workforce considerations when adopting AI technology

**“AI will not replace clinicians but clinicians who use AI will replace clinicians who don’t.”**  
**-Dr. Bertalan Mesko, PhD**



Think of AI technology as a workforce enablement and not a replacement



Standardize clinical workflows across all virtual care services to maximize patient experience and ease provider adoption



Activate a fully dedicated leadership team with C-suite, clinical and administrative champions to govern the virtual and digital health program



When implementing technology plan time for training and adoption with your staff



Ensure functions and services supporting virtual care delivery are centralized and scaled in line with programmatic growth

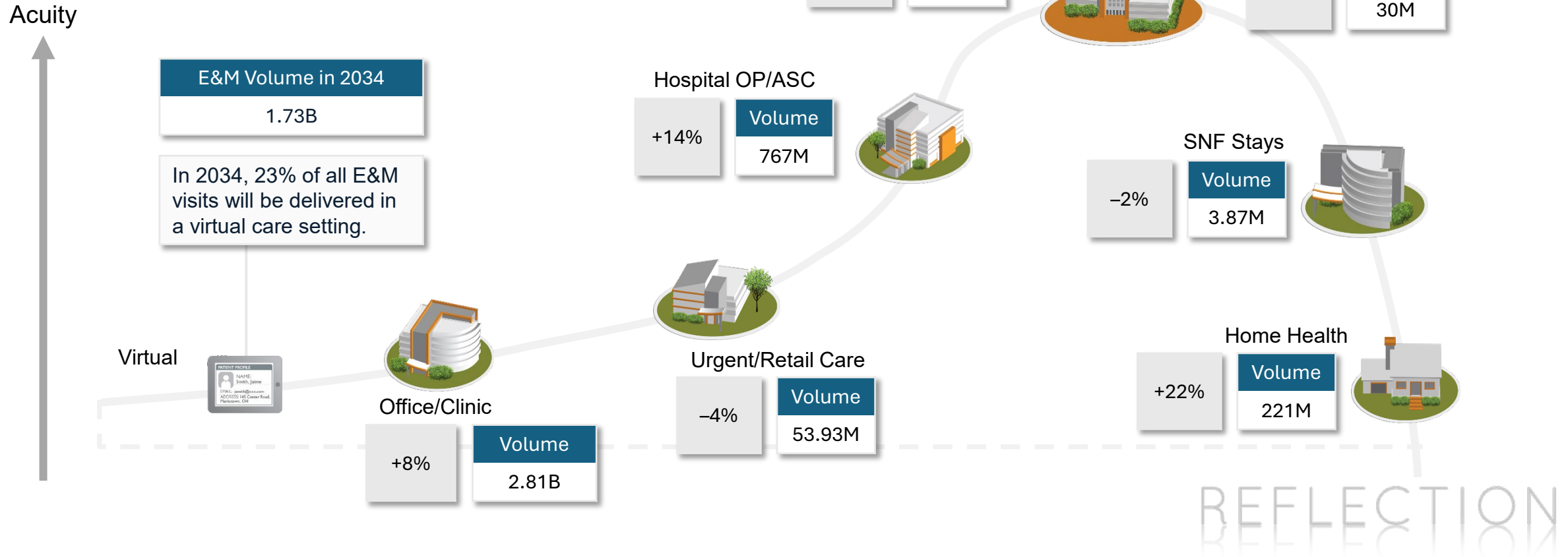
REFLECTION



# Capacity

# Site of care forecast driven by rising acuity and emerging care models

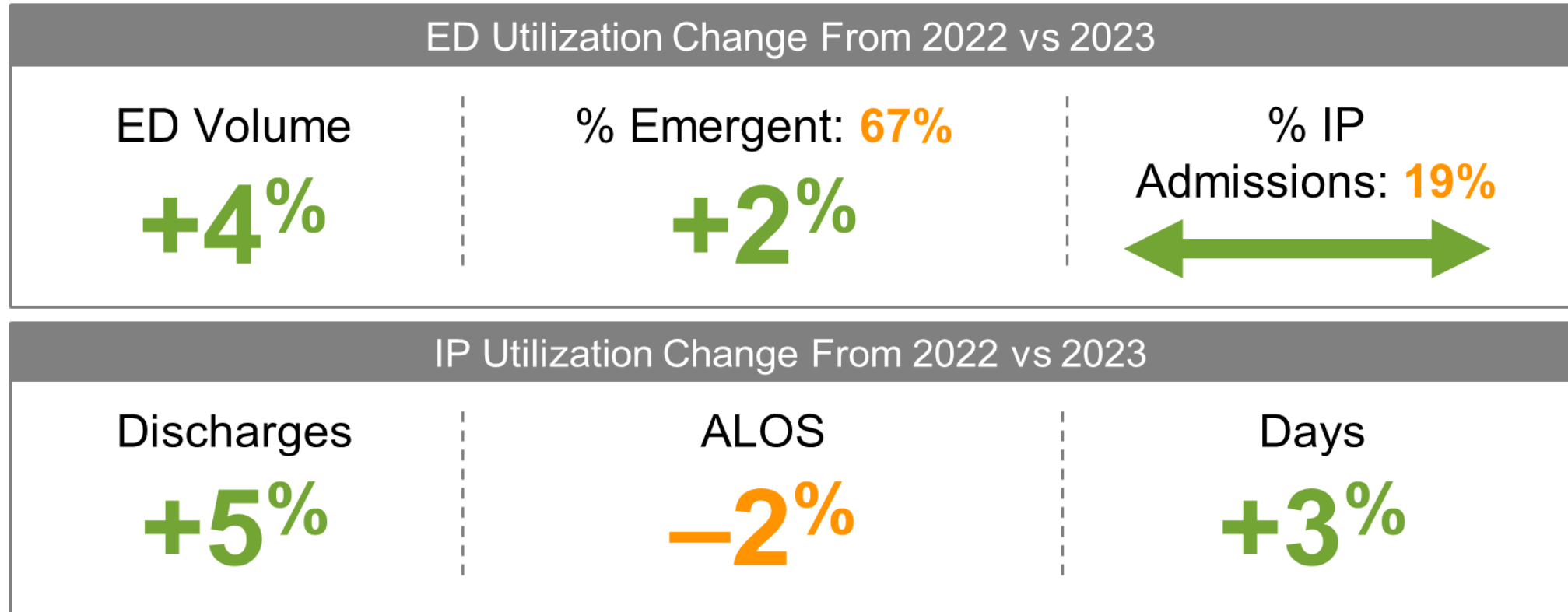
## 2024 Site of Care Volumes and 10-Year Forecast US Market, 2024–2034



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. ASC = ambulatory surgery center; E&M = evaluation and management; 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.

# 2023 year in review

## ED and IP utilization rise across most service lines



REFLECTION

# Inpatient growth stems from days, not discharges



## 2024 inpatient 10-year forecast\*



**Discharges +3%**



**Days +9%**

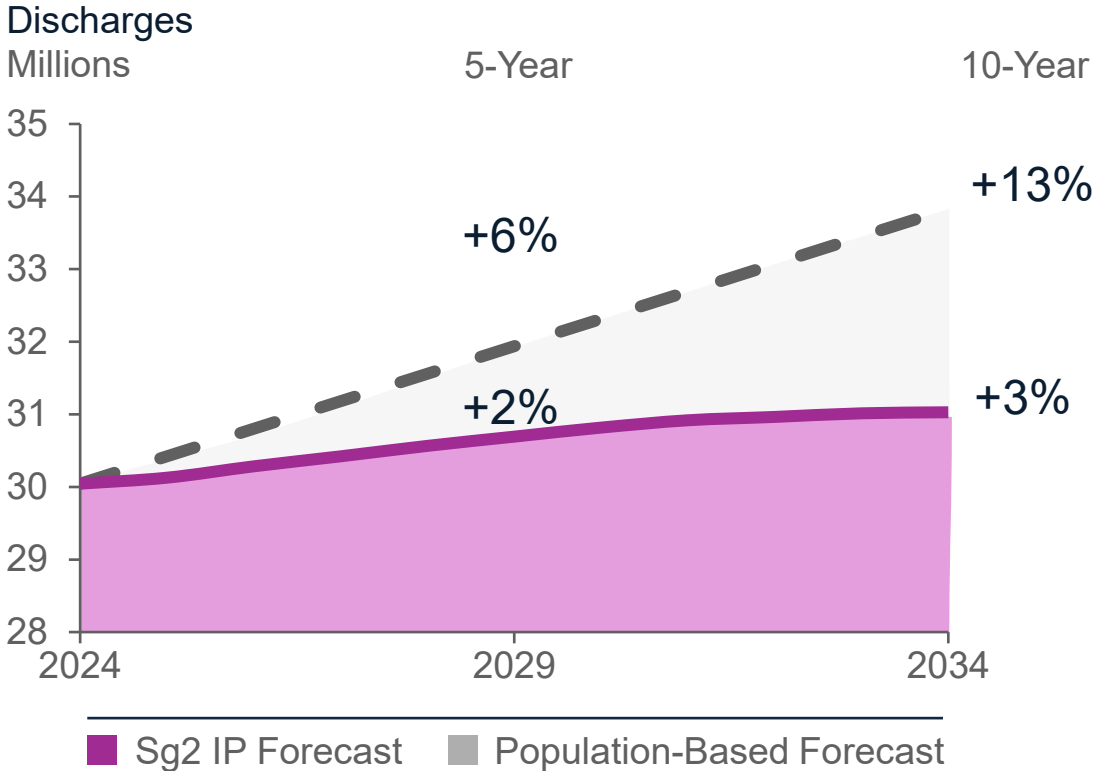
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\*Not a historical trend  
Note: Analysis excludes 0–17 age group. Sources: Impact of Change®, 2024; HCUP National Inpatient Sample (NIS). Healthcare Cost and Utilization Project (HCUP) 2019. Agency for Healthcare Research and Quality, Rockville, MD; Claritas Pop-Facts®, 2024; Sg2 Analysis, 2024.

# Modest rises in inpatient volumes expected due to rising patient acuity



### Adult Inpatient Forecast US Market, 2024–2034



Note: Analysis excludes 0–17 age group. 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; Claritas Pop-Facts®, 2024; Sg2 Analysis, 2024.

# Birth rate declines further constrain pediatric growth

## Pediatric Inpatient Forecast

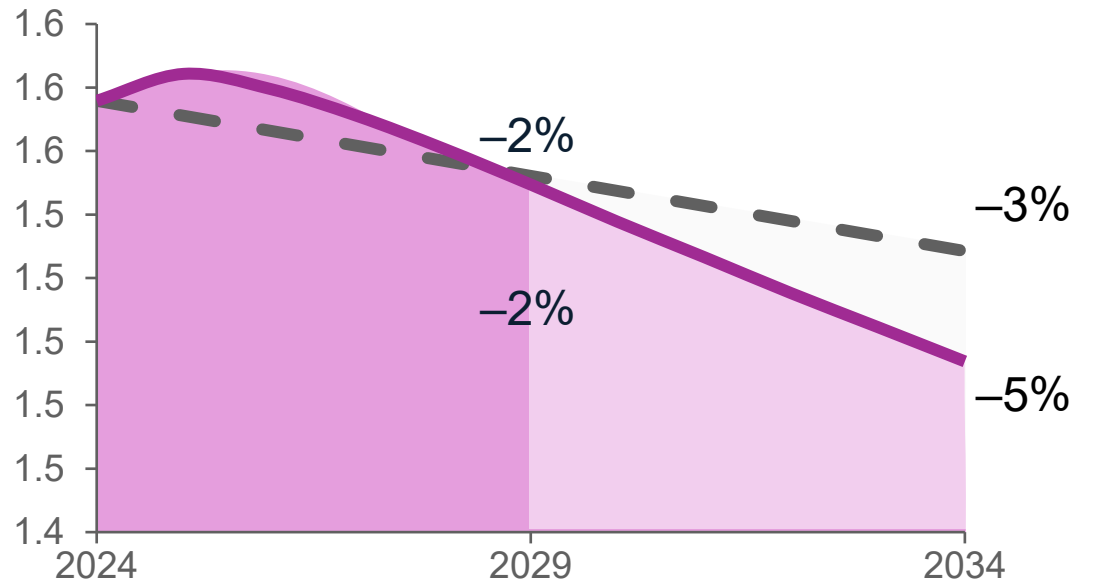
US Market, 2024–2034

Discharges

Millions

5-Year

10-Year



## Pediatric Outpatient Forecast

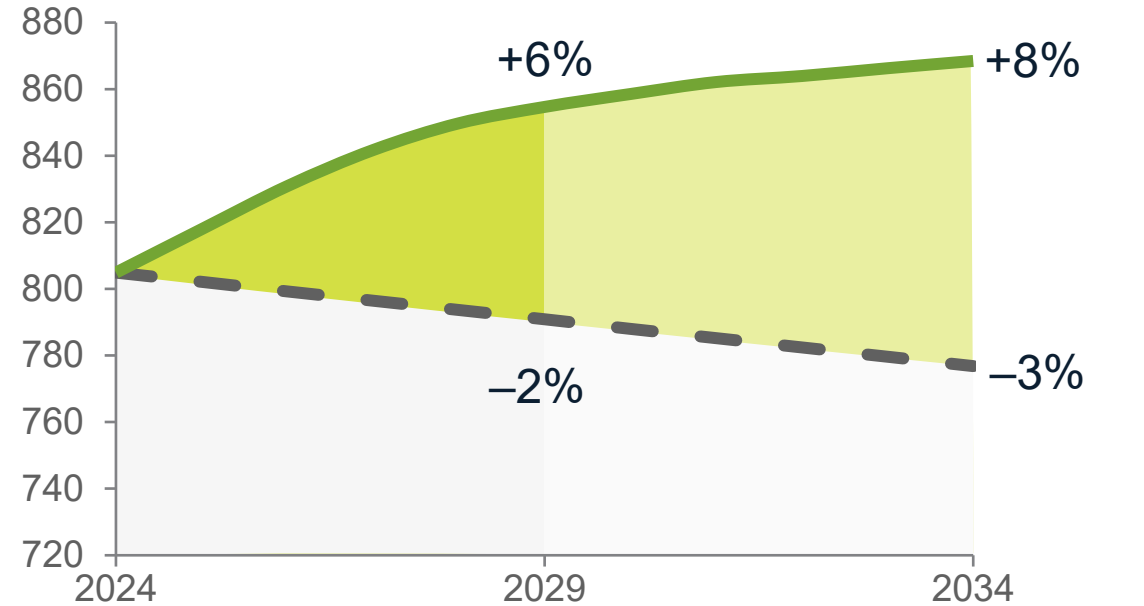
US Market, 2024–2034

Volumes

Millions

5-Year

10-Year



■ Sg2 IP Forecast   ■ Population-Based Forecast   ■ Sg2 OP Forecast

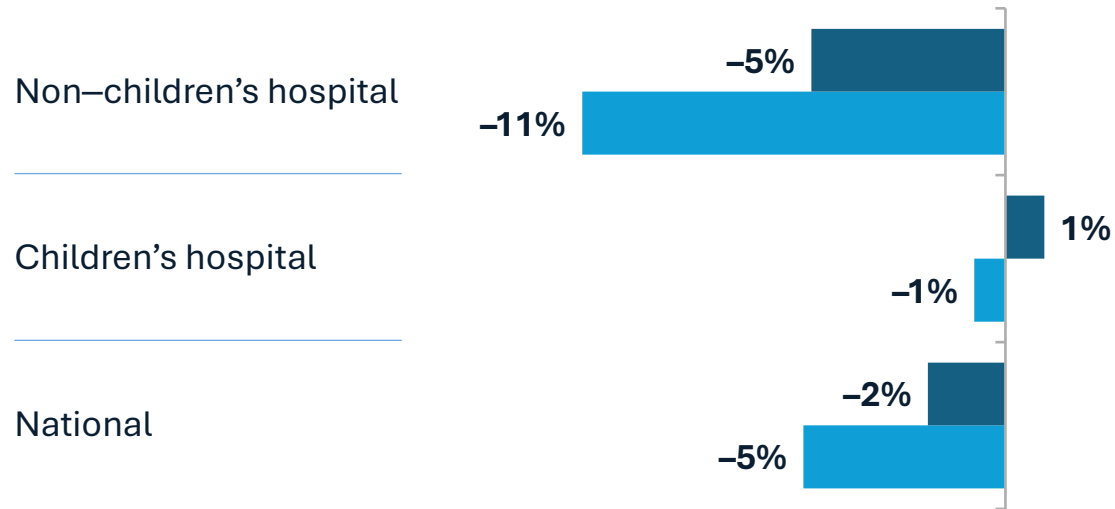
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# Pediatrics



Children's hospitals will see a more complex patient population staying longer, driving capacity demand

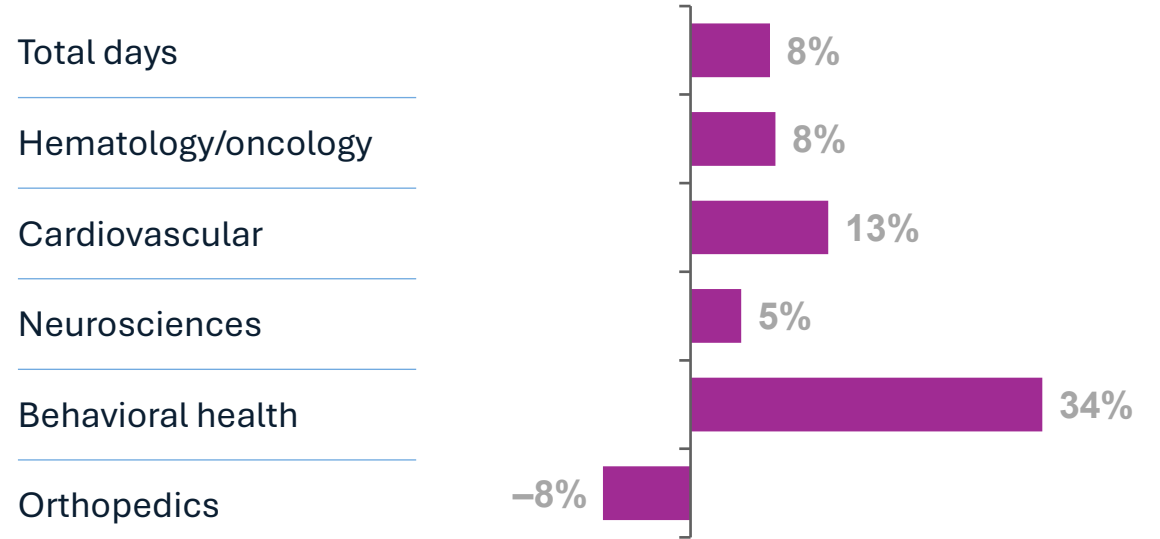
## Inpatient Pediatrics Forecast US Market, 2024–2034



■ Sg2 IP 5-Year Forecast ■ Sg2 IP 10-Year Forecast

Children's hospital discharges remain flat throughout the decade while non-children's hospital discharges continue to decline.

## Children's Hospital Days Forecast US Market, 2024–2034



■ Sg2 Days Forecast

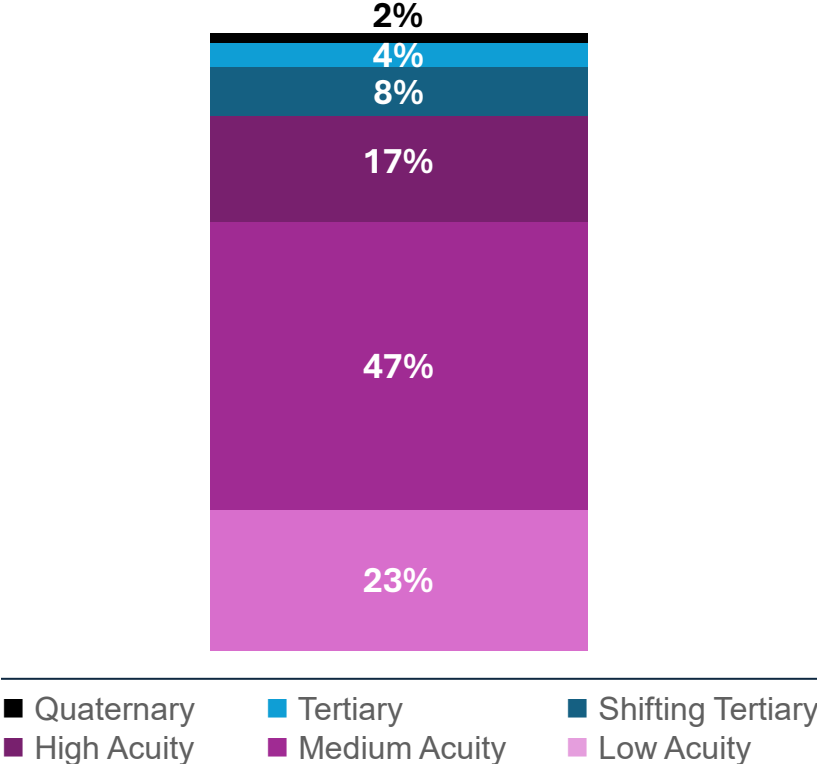
Behavioral health discharges contribute significantly to the overall days trend as they shift from non-children's hospitals to children's hospitals, adding beds throughout the decade.



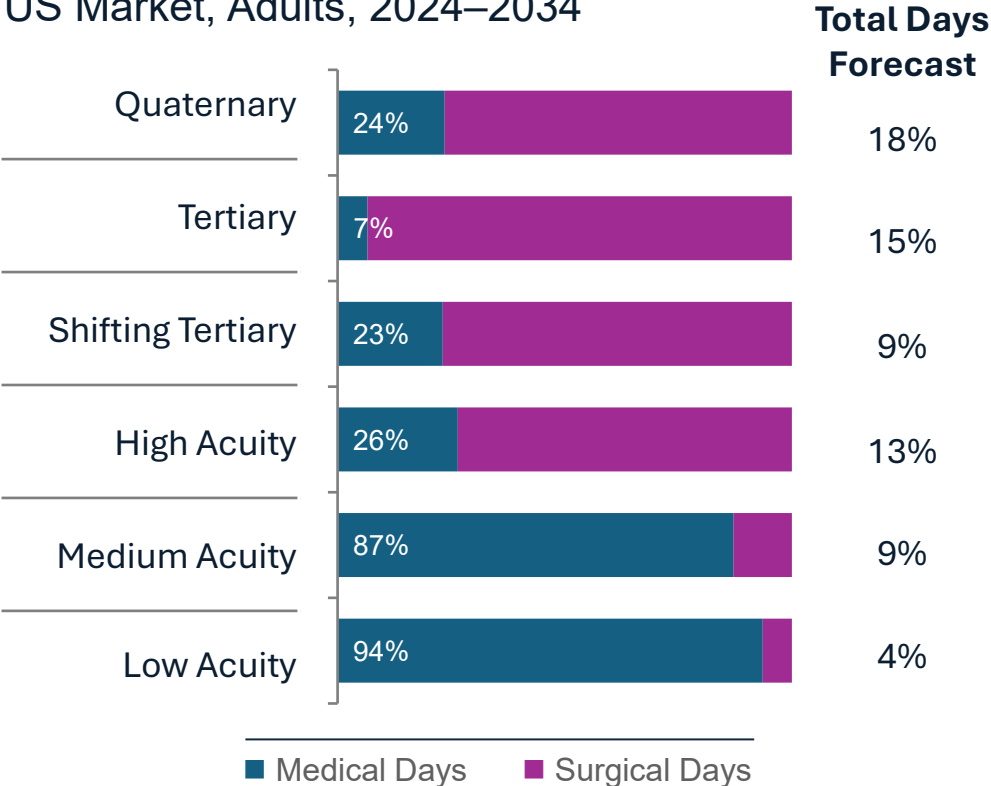
# Balance inpatient portfolio for strategic capacity management



**Inpatient Portfolio Days Distribution**  
US Market, Adults, 2024



**Inpatient Portfolio Days Forecast**  
US Market, Adults, 2024–2034



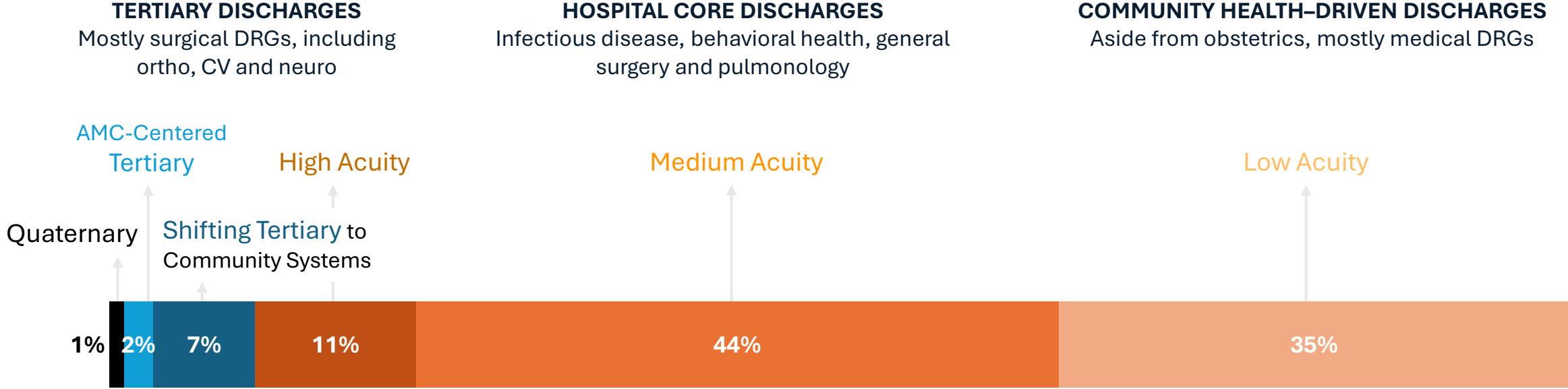
**Note:** Analysis excludes 0–17 age group. Percentages may not add to 100% due to rounding. Quaternary is Sg2 2024 Quaternary DRG list. Tertiary at risk of shifting = DRGs removed from Sg2 Tertiary List from 2017 to 2024. High Acuity: CMS weighted DRGs > 2.0; Medium Acuity: CMS weighted DRGs 1.0 to 2.0; Low Acuity: CMS weighted DRGs < 1.0. **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; Claritas Pop-Facts®, 2024; Sg2 Analysis, 2024.



# Pivot from capacity management toward strategic capture



## Inpatient Discharges by Portfolio Subtype US Market, Adults, 2024



REFLECTION

Note: Analysis excludes 0–17 age group. Quaternary is Sg2 2024 Quaternary DRG list. AMC-centered tertiary is Sg2 2024 Tertiary DRG list; tertiary shifting to community systems = DRGs removed from Sg2 Tertiary List from 2017 to 2024. High Acuity: CMS weighted DRGs > 2.0; Medium Acuity: CMS weighted DRGs 1.0 to 2.0; Low Acuity: CMS weighted DRGs < 1.0. 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; Claritas Pop-Facts®, 2024; Sg2 Analysis, 2024.

IP increases in acuity and volume driven by three service lines: cardiovascular, neurology, and behavioral health

### Cardiovascular

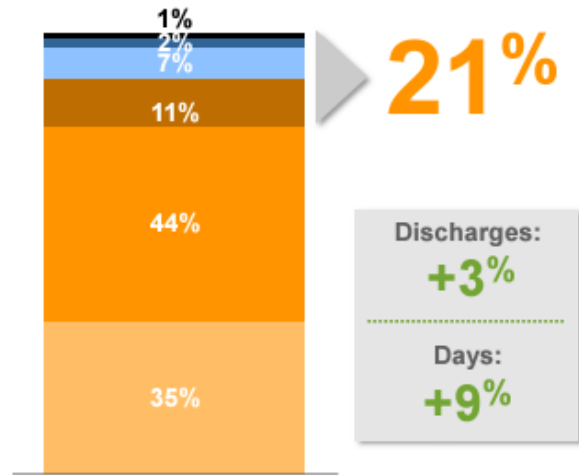
10-year IP growth +8%

Growth was driven by an aging population and a rise in disease onset and acute events in patients younger than 45

Physician and administrative leaders must manage increasingly complex inpatients and address health disparities within their market

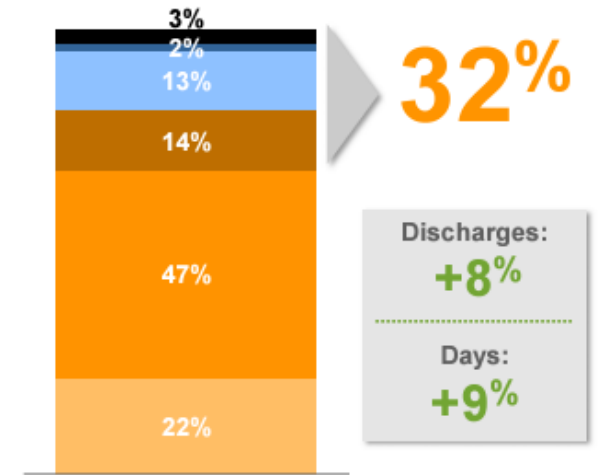
IP growth driven by Chronic Heart Failure (12%), Myocardial Infarction (3%), Valve Surgery (89%), and Coronary Artery Bypass Grafting (4%)

**Inpatient Portfolio Discharges Distribution**  
US Market, Adults, 2024



■ Quaternary ■ Tertiary ■ Shifting Tertiary  
■ High Acuity ■ Medium Acuity ■ Low Acuity

**CV Inpatient Portfolio Discharges Distribution**  
US Market, Adults, 2024



■ Quaternary ■ Tertiary ■ Shifting Tertiary  
■ High Acuity ■ Medium Acuity ■ Low Acuity

Note: Analysis excludes 0-17 age group. Percentages may not add to 100% due to rounding. Quaternary is Sg2 2024 Quaternary DRG list. Tertiary at risk of shifting = DRGs removed from Sg2 Tertiary List from 2017 to 2024. High Acuity CMS weighted DRGs > 2.0; Medium Acuity: CMS weighted DRGs 1.0 to 2.0; Low Acuity: CMS weighted DRGs < 1.0. Sources: Impact of Change®, 2024; HCUP National Inpatient Sample (NIS). Healthcare Cost and Utilization Project

IP increases in acuity and volume driven by three service lines: cardiovascular, neurology, and behavioral health

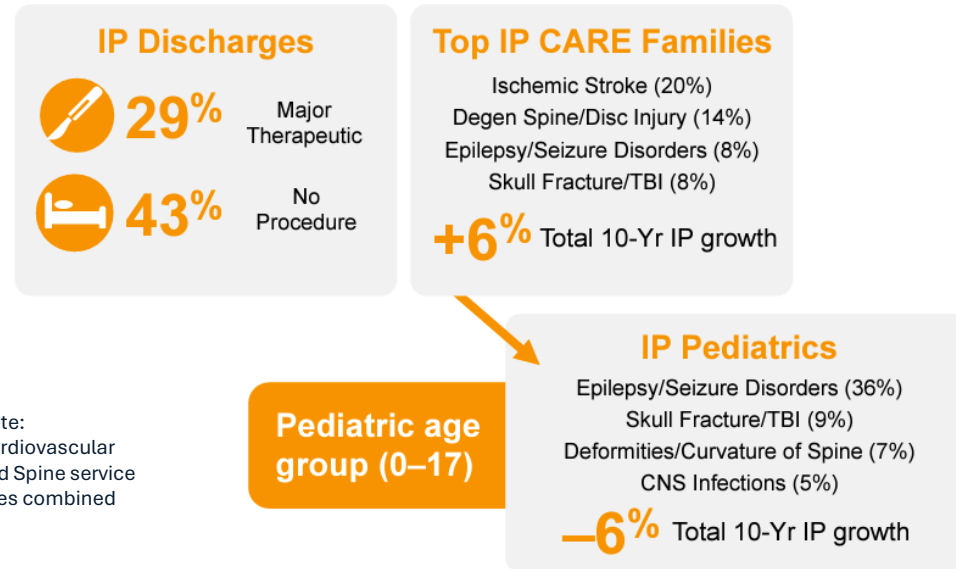
### Neurosciences

10-year IP growth +9%

Growth was driven by an aging population with increased complexity leading to rising acuity and volumes

Neurosciences and spine encompass a broad range of populations and services, seeing growth over the next ten years

Surgical advances drive growth and utilization shifts, resulting in increasing individualization, decreasing invasiveness, and a broadening of the pool of candidates



Note:  
Cardiovascular  
and Spine service  
lines combined

IP increases in acuity and volume driven by three service lines: cardiovascular, neurology, and behavioral health

### Behavioral Health

10-year IP growth +8%

Growth is expected across the system of care, with a concerning increase in the senior population, where many struggle with comorbidities that add to acuity and complexity

Upstream services to mitigate inpatient behavioral health volumes include:

- Partial hospitalization
- Intensive outpatient programs
- TMS
- Esketamine
- Integrated behavioral health in primary care

### Behavioral Health IP Growth

<b>IP discharges</b>	+8% (+30% Age 65+)
<b>ALOS</b>	+3% (+3% Age 65+)
<b>Bed days</b>	+12% (+34% Age 65+)

An increasing need for services treating comorbid conditions will challenge IP services

# Capacity crunch

Estimates show trio of care redesign strategies offer potential relief



Pursue strategic **partnerships** to streamline discharge for vulnerable patient populations; ensure redistribution of services does not exacerbate inequities in care delivery



Consider broader-scale **network optimization** opportunities to further bolster creation of inpatient capacity



Incorporate **capacity** strategies and impact into long-term master facility planning

## Numbers to know

**30,000**

Drop in total beds from 2020-2022

**76%**

2022 average weekly occupancy (all hospitals)

**87%**

2022 average weekly occupancy (AMCs)

## Steps for capacity analysis

**Step 1**

Understand bed day projections

**Step 2**

Factor in strategic impact

**Step 3**

Identify appropriate backfill to achieve growth targets

REFLECTION

# Evaluate outcomes compared to traditional payers



Group A – AMCs, LSMCs

Case type	Hospital	Cases	% cases	LOS outliers %	Mean LOS (obs)	Mean LOS (exp)	LOS index
Overall	Traditional Medicare	1,583,185	-	0.66	6.30	6.82	0.92
	Managed Medicare	1,705,108	-	0.82	6.69	6.87	0.97
Medical	Traditional Medicare	1,059,924	66.95	0.71	5.94	6.36	0.93
	Managed Medicare	1,152,684	67.60	0.84	6.14	6.23	0.98
Surgical	Traditional Medicare	523,260	33.05	0.56	7.03	7.75	0.91
	Managed Medicare	552,421	32.40	0.78	7.85	8.21	0.96

Managed Medicare LOS index > Traditional



# Outcomes by discharge status



Identify potential barriers to placement for patients needing post-acute care. Evaluate post-acute care partnerships and discharge planning protocols

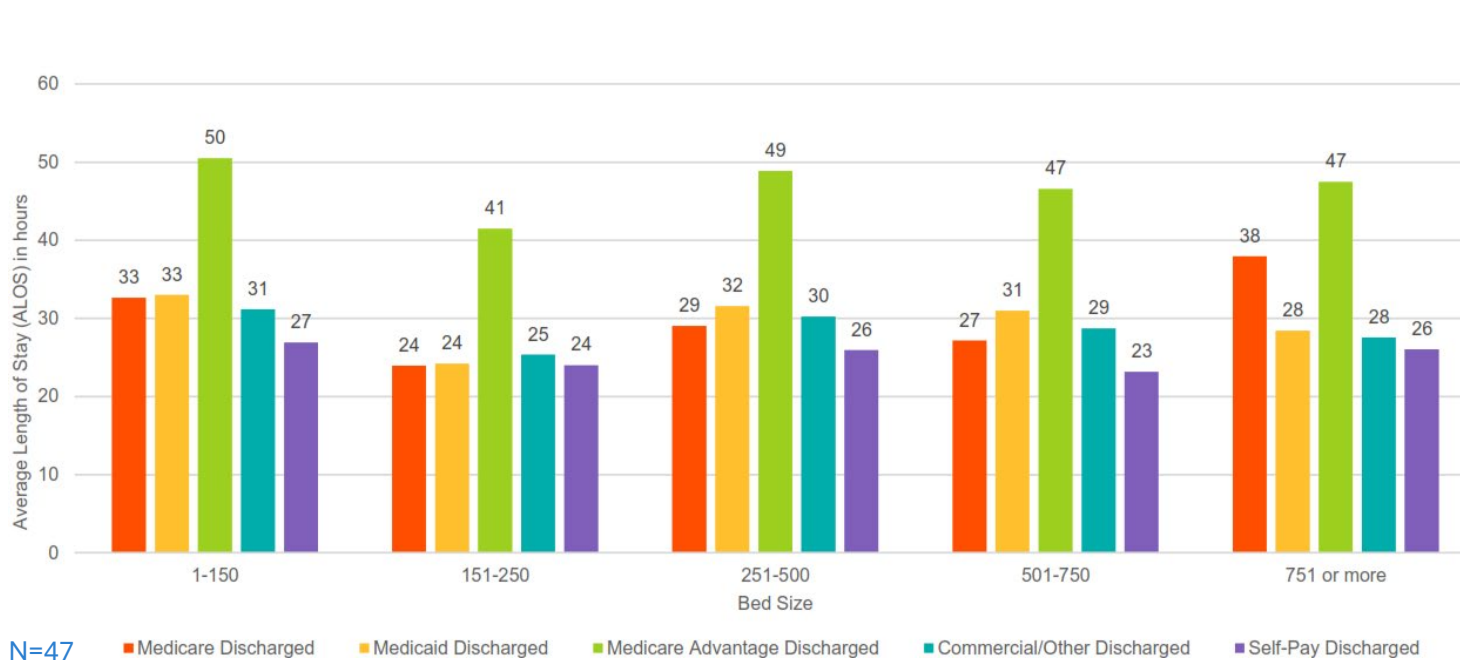
Discharge status	% cases		LOS outliers %		Mean LOS (obs)		Mean LOS (exp)		LOS index	
	Traditional	Managed	Traditional	Managed	Traditional	Managed	Traditional	Managed	Traditional	Managed
Home	45.59	47.05	0.27	0.31	4.11	4.30	5.04	5.12	0.82	0.84
Home Health	20.77	21.86	0.61	0.71	6.55	6.83	6.70	6.72	0.98	1.02
SNF/LTC	19.02	17.99	1.37	1.98	9.31	10.73	9.78	10.12	0.95	1.06
Rehab	5.17	3.36	0.71	1.32	8.86	11.28	7.78	8.56	1.14	1.32
Hospice	3.58	3.45	1.14	1.40	8.98	9.73	8.87	9.01	1.01	1.08
Expired	3.41	3.57	1.32	1.34	10.06	9.93	11.08	10.89	0.91	0.91
Other	1.53	1.75	1.18	1.02	6.46	5.85	6.08	6.02	1.06	0.97
Transfer	0.92	0.98	1.03	0.86	7.92	7.37	8.73	8.42	0.91	0.88

Managed Medicare LOS > Traditional



# Observation patients discharged

## Average Length of Stay (LOS) in hours by payor



Payor	25 <sup>th</sup> percentile	Median	75 <sup>th</sup> percentile
Medicare	25	28	33
Medicaid	22	27	34
Medicare Advantage	33	43	53
Commercial /other	25	30	35
Self-pay	19	25	31



# Key takeaways



## HIGHER PATIENT ACUITY IS EXPECTED TO AFFECT CAPACITY AND FLOW

Patients are sicker and staying in the hospital longer compared to pre-pandemic levels. Assuring appropriateness of admission and status will be important. Consider regionalization of medical teams and/or service lines and observation patients. Mitigate causes resulting in deconditioning of hospitalized patients.



## EXAMINE THE EFFECTS OF CERTAIN PAYERS MAY HAVE IN YOUR CAPACITY

Evaluate if MA patients are staying longer compared to traditional Medicare patients. Mitigate reasons for requiring preauthorization into the sub-acute arena. Examine what is influencing the decision to these levels of care. Review agreements with plans to address turnaround times for authorizations and appeals.



## WORKFORCE INNOVATION IS KEY TO OPERATIONAL STRATEGIES

Health organizations should prioritize the well-being of healthcare professionals, foster a culture of collaboration, engage in strategic workforce planning, invest in technology and innovation, and promote diversity and inclusion. By considering these key takeaways, organizations can address their workforce issues and enhance the quality of care provided to patients.



## LEVERAGE COMMUNITY AND LESS ACUTE FACILITIES TO EXPAND CAPACITY

Pursue strategic partnerships to streamline discharge for vulnerable patient populations; ensure redistribution of services does not exacerbate inequities in care delivery. Consider broader-scale network optimization opportunities to further bolster creation of inpatient capacity to facilities of lesser acuity including repatriation agreements on transfer patients.

# Lessons Learned

- **Increase workforce capacity:** Healthcare organizations should focus on expanding their workforce capacity to address capacity issues effectively. This can be achieved through strategies such as hiring additional staff, partnering with staffing agencies, or implementing flexible work arrangements.
- **Optimize workload distribution:** Efficiently distributing workloads among healthcare professionals is crucial to maximize capacity. Organizations should analyze workload patterns, identify bottlenecks, and implement strategies to balance the workload across the workforce.
- **Implement technology solutions:** Leveraging technology can help healthcare organizations improve efficiency and increase capacity. This includes implementing electronic health records, telemedicine platforms, and other digital tools that streamline processes and enable remote care delivery.
- Even though we place greater resources on patients requiring sub-acute resources, the greater proportion of patients are going home. Make sure all efforts are done towards **efficiency** on that population. Patients that walked into the hospital should be walking out.
- Leverage your command center towards placing patients in the **appropriate facility based on acuity**.
- Leverage/partner **community resources** for vulnerable patient populations.
- If you're always playing catchup, assess if your weekend coverage/staffing is significantly affecting **capacity** during the first half of the week.



QUESTION

## Do MA patients stay longer compared to traditional Medicare?

---

- Are you identifying reasons for their long stays?
- How have you mitigated these causes?



QUESTION

## Have more patients been discharged to SNF/Rehabs in the last 5 years?

---

- Why do you think this is?
- Have you done a deep dive analysis on why more patients are requiring transitioning to subacute care?
- What are ways you've have addressed this growing trend?



QUESTION

## Did you have an observation unit prior to the pandemic?

---

- What are reasons the observation unit closed?
- Do you track your observation patients remaining > 48 hours?
- Do you cohort your observation patients?

# Key takeaways



## HIGHER PATIENT ACUITY IS EXPECTED TO AFFECT CAPACITY AND FLOW

Patients are sicker and staying in the hospital longer compared to pre-pandemic levels. Assuring appropriateness of admission and status will be important. Consider regionalization of medical teams and/or service lines and observation patients. Mitigate causes resulting in deconditioning of hospitalized patients.



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# Questions?

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## Contact:

Eric Burch, [Eric.Burch@vizientinc.com](mailto:Eric.Burch@vizientinc.com)

Tom Villanueva, [Tomas.Villanueva@vizientinc.com](mailto:Tomas.Villanueva@vizientinc.com)

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REFLECTION





# Leveraging Predictive Analytics for Nursing Workload Management

**Meagen Driskill, DNP, MBA, RN, NEA-BC**  
Vice Chair, Nursing Optimization  
Mayo Clinic Rochester, MN

**Lindsey Worden, MAN, RN**  
Nurse Administrator, Workforce Optimization  
Mayo Clinic Rochester, MN

**Alissa Zimmerman, MSN, RN, NE-BC**  
Nurse Administrator, Workforce Optimization  
Mayo Clinic Rochester, MN

REFLECTION

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REFLECTION

# Presentation Intentions

- Evaluate considerations to leverage a nursing workload measurement tool and its influence on staff satisfaction.
- Synthesize core principles of FTE budget planning for nursing.
- Consider strategies to forecast staffing needs to meet practice demands and optimize capacity management.
- Illustrate the application of forecasting staffing needs to support the transformation of care delivery.



**Challenges with Staffing Constraints**



**Strain on Resources and Nurse Well-being**



**Need for Data-driven Approaches**

## Workload Approach

## Ratio Approach

## Nurse to Patient Ratios

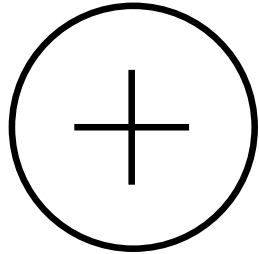
- > Maximum number of patients assigned to a single nurse
- > Ratios are set through benchmark trending across healthcare settings

## Nursing Workload Measurement

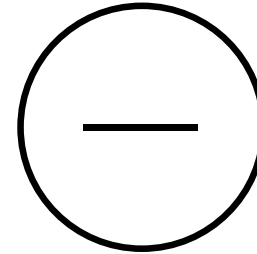
- > Number of patients assigned to a single nurse is dependent upon individual patient severity and care complexity
- > Workload is considered with yearly budget planning

REFLECTION

# Nursing Workload Management

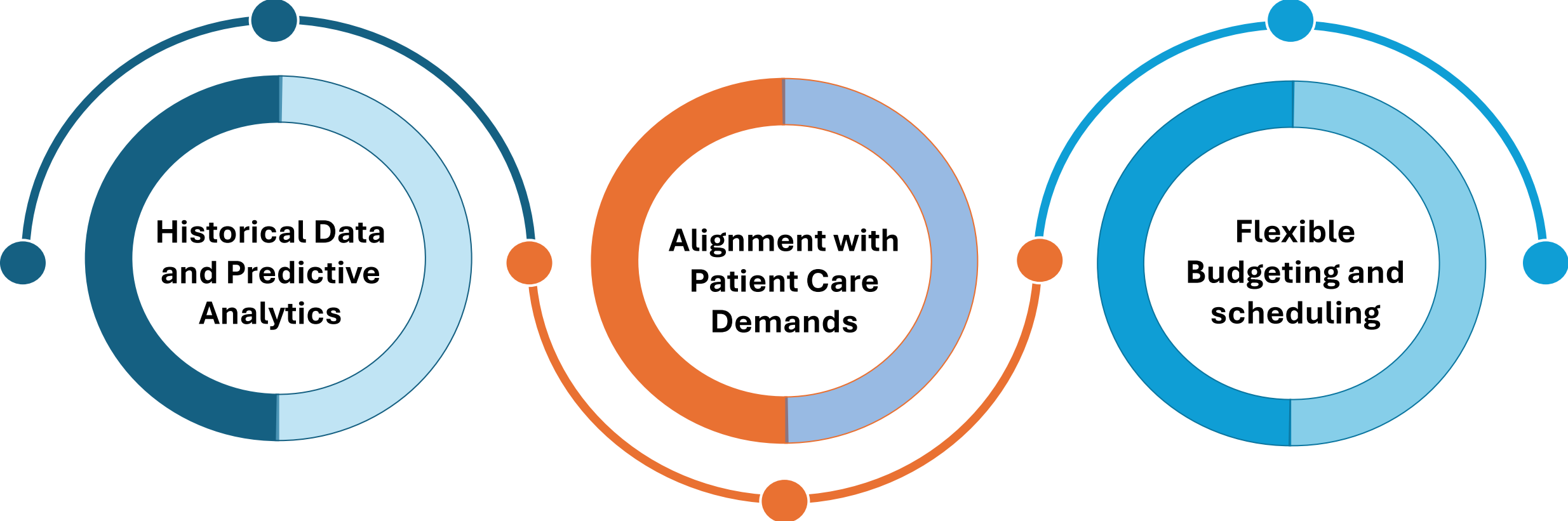


- ✓ Ability to optimize workforce allocation
- ✓ Identify nursing workload in relation to quality outcomes and patient safety
- ✓ Anticipate future workload



- ✓ Robust data required to provide predictive modeling for dynamic changes
- ✓ Relies on documentation entry and accuracy

# Nursing Budget FTE Planning



REFLECTION

# Enhancing Workforce Management with AI

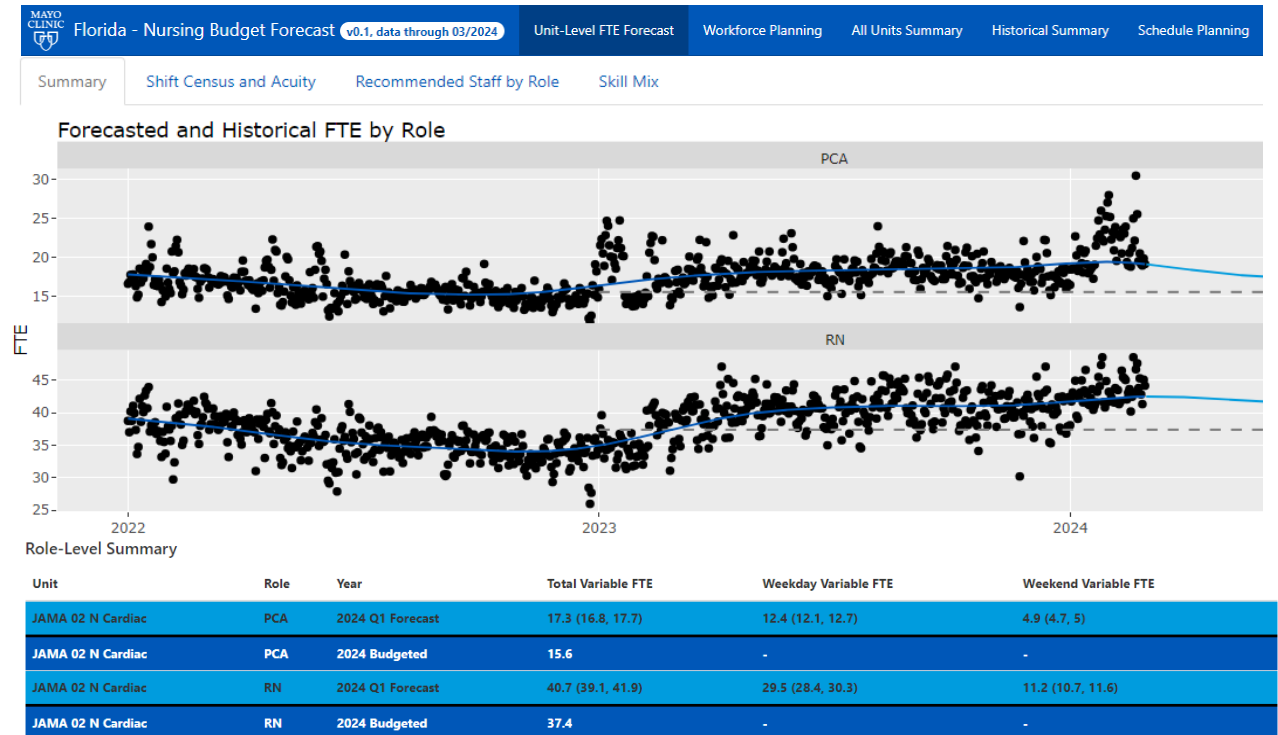


**Dynamic Forecasting:** Real-time forecasts for patient census and staffing

**Proactive Planning:** Forecasts adjustments for anticipated changes

**Optimal Scheduling:** Recommends FTE distribution across shifts and days of week

**Data Driven Decisions:** Provides advanced analytics for informed decision-making



REFLECTION



**Problem:** High patient census was causing significant strain on resources, creating bottlenecks in care and operational inefficiency.

**Opportunity:** Identified that 15% of inpatient census consists of discharge delayed patients.

**Important Considerations:**

- **Policy Challenges:** Current hospital policies, designed for acute care patients, over-prescribe care interventions
- **Throughput Impact:** Delayed discharges negatively impact hospital throughput

# Discharge Ready Unit: A new care model to optimize resource utilization and improve hospital throughput



## Outcomes:

- Achieved **63% cost savings** with the new care model
- Improved **hospital throughput**:
  - ✓ Saved 285 PCU bed days
  - ✓ Reduced hospital readmission rate by **7%**
- Enhanced Care Delivery:
  - ✓ Decreased **staff burnout** by **13%**
  - ✓ Increased nurses finding '**meaning**' in work by **38%**
  - ✓ Increased staff **innovation** by **23%**
- Maintained exceptional quality patient care outcomes

# Lessons Learned



Automation and integration improved data availability



Transparency of data and analytics improved decision making



Workforce tools facilitated process improvements



Refinement of predictive models is continuous



Interdisciplinary collaboration is essential

# Key Takeaways

- Importance of data transparency and real-time analytics
- Continuously refine predictive workforce tools to align with workforce management strategies
- Establish interdisciplinary collaboration and partnership to support a comprehensive workforce management system



## Questions?

## Contact:

Meagen Driskill, [driskill.meagen@mayo.edu](mailto:driskill.meagen@mayo.edu)

Lindsey Worden, [worden.lindsey@mayo.edu](mailto:worden.lindsey@mayo.edu)

Alissa Zimmerman, [zimmerman.alissa@mayo.edu](mailto:zimmerman.alissa@mayo.edu)

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REFLECTION



# Artificial Intelligence-Powered Solutions to Optimize Patient Flow

**Jaimie Weber, MD**

Associate Chief Medical Informatics Officer  
Tampa General Hospital  
Tampa, FL

**Adrian Han-Miu, JD, MBA, MSN**

Senior Director of Patient Flow, Admission and Transfer Center  
Cleveland Clinic  
Cleveland, OH

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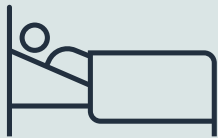



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# One of the Nation's Leading Academic Health Systems



 <p><b>700+</b> RESIDENTS &amp; FELLOWS</p>	<p><b>USF Health</b></p> <p><b>60+</b> TRAINING PROGRAMS</p>	 <p><b>15,000+</b> TOTAL TEAM MEMBERS &amp; MEDICAL STAFF PROVIDERS</p>	 <p><b>150+</b> LOCATIONS ACROSS STATE OF FLORIDA</p> <p>SERVING <b>6.7 MILLION</b> PATIENTS ACROSS <b>15</b> COUNTIES</p>	<p><b>\$2.6 BILLION</b> TOTAL REVENUE</p> <p><b>\$240.3</b> <b>MILLION</b> IN COMMUNITY BENEFIT <i>(Through end of fiscal year 2022)</i></p>
---	--	--	---	--

 <p><b>47,000+</b> SURGERIES</p>	 <p><b>1,588</b> LICENSED BEDS <i>(Incl. 6 Hospitals)</i></p> <p><b>56,404</b> INPATIENT DISCHARGES</p> <p><b>130,000+</b> TOTAL VISITS <i>(Emergency &amp; Trauma Center)</i></p> <p><b>652,269</b> OUTPATIENT VISITS</p>	 <p><b>7,200+</b> DELIVERIES</p>	 <p><b>LEVEL 1 TRAUMA CENTER</b></p>	 <p><b>740+</b> TRANSPLANTS</p>
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REFLECTION

All data through end of fiscal year 2023. Community benefit through fiscal year 2022.





# Right Patient, Right Place, First Time

Value

- Functionality
- Cost
- Resource availability
- Time to market
- Intellectual Property
- Integration



Intellectual  
Property



COST



Integration



RESOURCE



FUNCTIONALITY

# Right Patient, Right Place, First Time

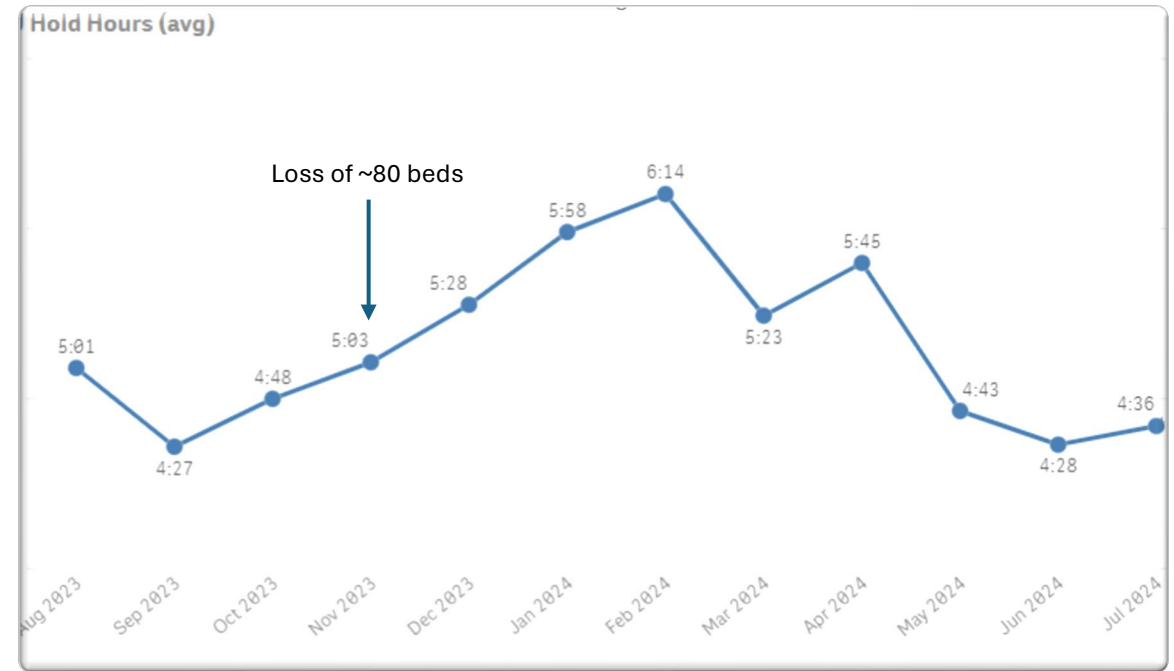
## Outcomes



28% decrease in PACU hold hours

>95% accuracy for post PACU placement decisions

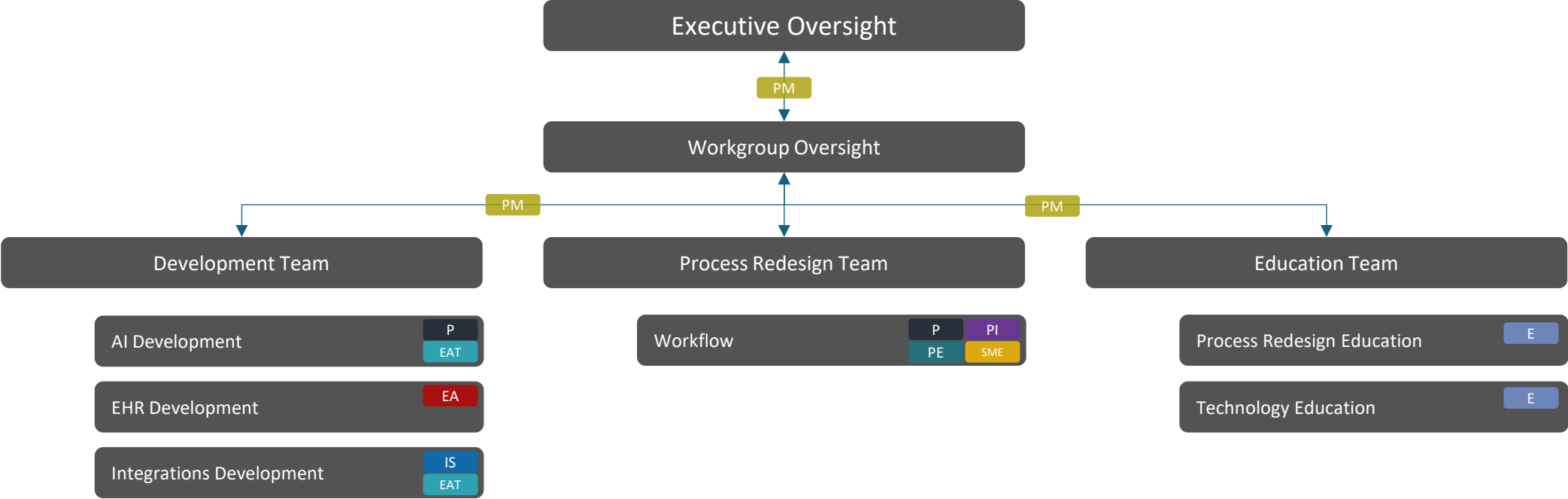
>88% accuracy for on service placements from the ED



REFLECTION

# Right Patient, Right Place, First Time

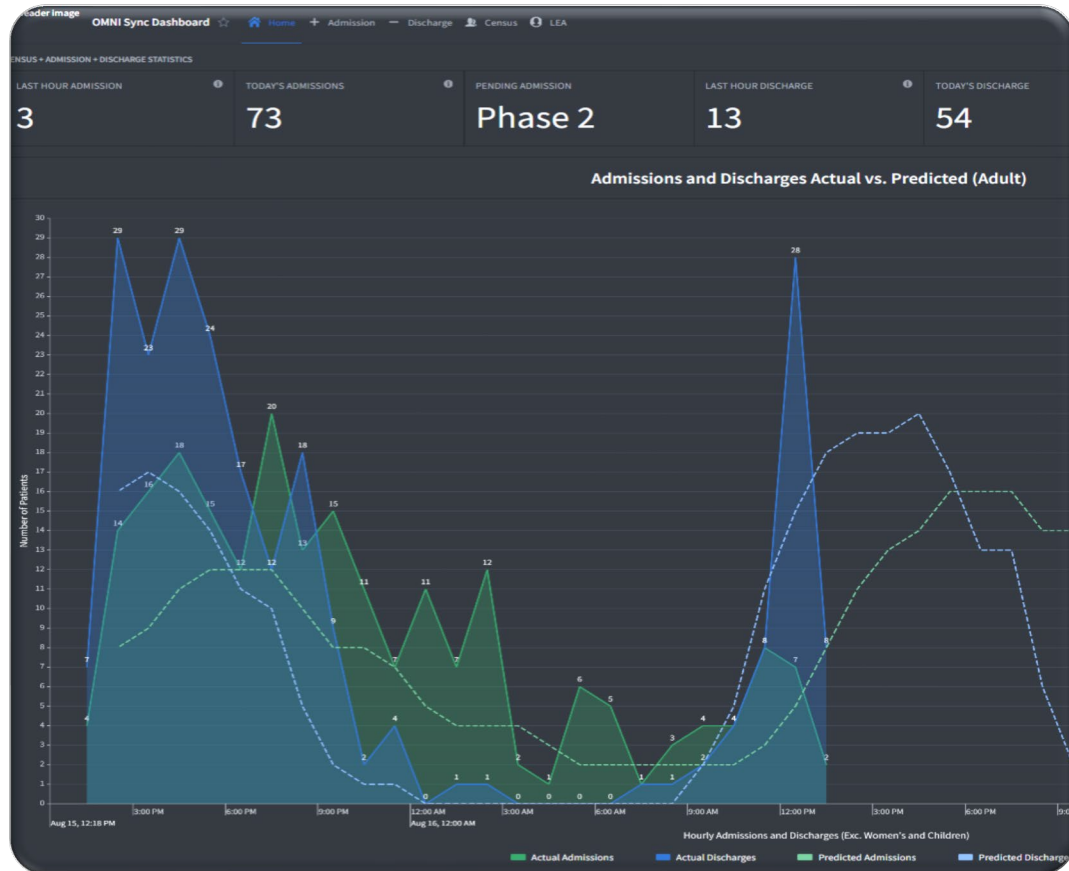
## Change Management



REFLECTION

# Right Patient, Right Place, First Time

## Next steps



1 **AI-generated predictions** of clinically appropriate departments and beds.

Provides proactive insight into patient flow and abstracts away cognitive burdens otherwise shouldered by bed planners.

2 **System-wide Care Coordination** for safe and efficient patient care.

Streamline care delivery by reducing and eliminating redundancy and delays for improved clinical outcomes and reduced overall cost of care

REFLECTION

# CC Bed Management

## The Why

### Challenge

Reactive decision making by bed planning team due to:

1. Lack of connection between the bed demand and staffing
2. Minimal visibility into daily bed demand
3. Manually collecting information throughout the day via several phone calls and text messaged

### Solution

Earlier and enhanced visibility into bed demand across the hospital to ultimately allow for increased admissions of transfer patients

# CC Bed Management Value



## Throughput Overview

Provides earlier visibility into bed need across GHM & HVTI (overview of inpatient bed need forecasts from ED, OR/PACU, Direct Admits, Transfers, and overview of forecasted Discharges), which allows bed managers to determine the optimal volume, admission time and specialty of transfer patients for the day.

## Transfer Planner

Automatic calculation of projected bed availability based on forecasts from patient flow overview, along with specialty and level of care information on transfer patients. Equips bed managers to decide whether to admit additional transfers.

## Hospital Inputs & Outputs

Provides high level, cross-departmental view of patients expected to need a bed. Gives bed managers more granular view (at patient-level) to inform bed planning process.

## Unit View

Allows bed managers to understand patient flow and highlight bed need at a unit level. Information is displayed on bed status, staffing levels, and patients expected to enter from the OR and to be discharged.

The screenshot displays the Palantir Gotham Hospital interface. At the top, there are navigation tabs: Home, Transfer Center, Units, Staff, and History. A notification banner at the top left reads: "Transfer Level Of Care Upgrade 1 urgent transfer request - level 1 automatically detected. Patient requires Pediatric Acute Care Unit bed." Below this, a "Unit Demand Imbalance" alert states: "2 additional Surgical Add-On cases predicted to enter Ortho Unit 4 with no bed availability. 2 discharge/transfer-off opportunities automatically identified." The main dashboard is divided into several sections:

- Hospital Pulse:** Shows Inpatient Census (Open: 10, 91% occupied; Blocked: 17, 2 staffing) and ED Census (Boarders: 38, Lobby: 5, Blocked: 3).
- Inpatient Inputs:**
  - Surgical:** 3 Forecasted Adults Remaining, 5 Received Beds.
  - Emergency Department:** 48 Forecasted Remaining ED Admits, 19 Given Inpatient Bed.
  - Direct Admits:** 11 In Direct Admit Log, 4 Admitted.
  - Hospital Transfers:** 9 In Hospital Transfer Log, 2 Admitted.
- Inpatient Outputs:**
  - Discharges:** 102 Forecasted, 35 Discharged.
  - Open Beds:** 12 Open.
  - Attainable Transfers:** 19 Available Beds for Transfer, 3 In Route.
- Transfer Planner:** A table showing patient details for transfer requests.
 

Patient Name	Service	Acuity Level	Request Time	Disposition
Watson, David	Orthopedics	Medurg	Mar 24, 2023, 6:00 AM	Telemedicine
Watts, Michael	Orthopedics	Medurg	Mar 24, 2023, 6:00 AM	Telemedicine
Tomble, Gavin	Cardiology	ICU	Mar 24, 2023, 6:00 AM	Transfer to SunLife Facility 3
Griffith, Alexandra	Orthopedics	ICU	Mar 24, 2023, 6:00 AM	Transfer to Main Facility
Stovall, Charlie	Neurology	Medurg	Mar 24, 2023, 6:00 AM	Telemedicine
Reilly, Reid	Cardiology	Medurg	Mar 24, 2023, 6:00 AM	Transfer to SunLife Facility 2
Ehrlich, Leif	Neurology	ICU	Mar 24, 2023, 6:00 AM	Transfer to Main Facility
Overly, Pearl	Orthopedics	ICU	Mar 24, 2023, 6:00 AM	Transfer to Main Facility
Edwards, Debbie	Orthopedics	ICU	Mar 24, 2023, 6:00 AM	Transfer to Main Facility
- Hospital Recommendations:** A map showing the location of Palantir Gotham Hospital and surrounding areas like Lakewood and South Park.

REFLECTION

# CC Bed Management Outcomes

## MAIN CAMPUS

~8.7%

Increase in daily hospital transfer volume

~6%

Reduction in daily PACU hold volume

~17.2%

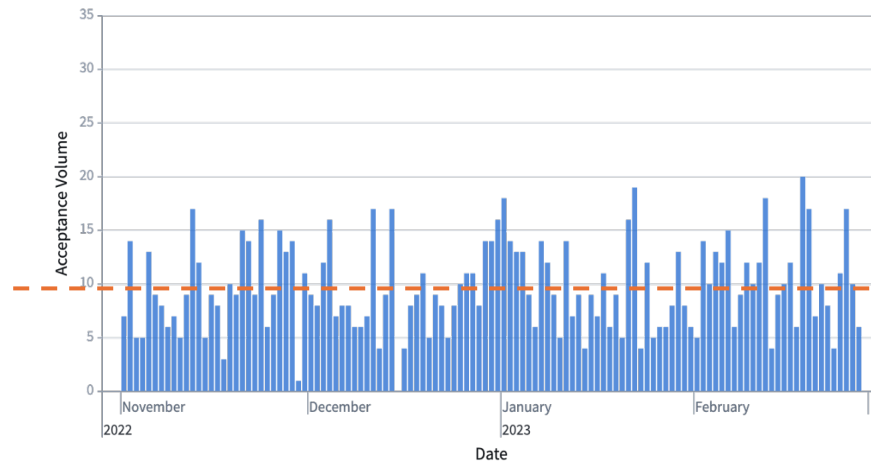
Reduction in avg ED hold time per ED admit

## EASTERN REGION

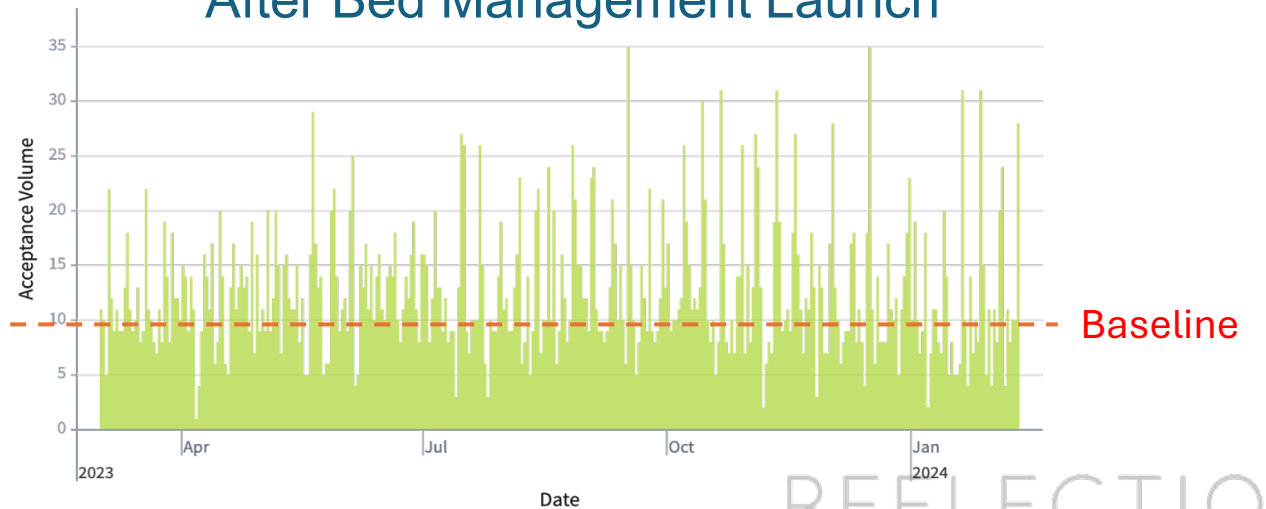
~38.5%

Increase in daily hospital transfer volume

### Before Bed Management Launch



### After Bed Management Launch



REFLECTION



# CC Bed Management Change Management



Executive Oversight throughout the Process

REFLECTION

# Lessons Learned

- Successful projects require expertise in both hospital operations and technology
- Effective change management is crucial; technology alone won't lead to operational change without workflow integration
- Fail fast and iterate: your first version is going to be wrong. Get it out there so you can start the real work of figuring out what's right.
- Tailor solutions to specific needs: hospitals vary in their patient throughput challenges and underlying causes

# Key Takeaways

- Understand what problem you are trying to solve
- Assemble a balanced team with all appropriate stakeholders
- Prioritize and resource the change management efforts
- Fail fast and iterate

Questions?



## Contact:

Jaimie Weber, [jweber@tgh.org](mailto:jweber@tgh.org)

Adrian Han-Miu, [hana6@ccf.org](mailto:hana6@ccf.org)

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REFLECTION

# Breakout Group Discussion

## **At your tables, please discuss the following:**

How is your organization deploying AI or other types of technology to improve throughput, redeploy the workforce or alleviate capacity issues? What have you been working on or considering in the near and long term to achieve sustainability?

Assign someone to report out for your table!

2024 VIZIENT CONNECTIONS SUMMIT

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# REFLECTION

REFLECT | ADAPT | EVOLVE

# Appendix

# The Vizient COO Network Team



Michael D. Busch, FACHE  
*Vice President*  
Vizient  
[michael.busch@vizientinc.com](mailto:michael.busch@vizientinc.com)



Katie Elia, MHA  
*Senior Director*  
Vizient  
[katherine.elia@vizientinc.com](mailto:katherine.elia@vizientinc.com)



Terri Mariani  
*Networks Manager*  
Vizient  
[terri.mariani@vizientinc.com](mailto:terri.mariani@vizientinc.com)



# Continue the Conversation on the Vizient Community

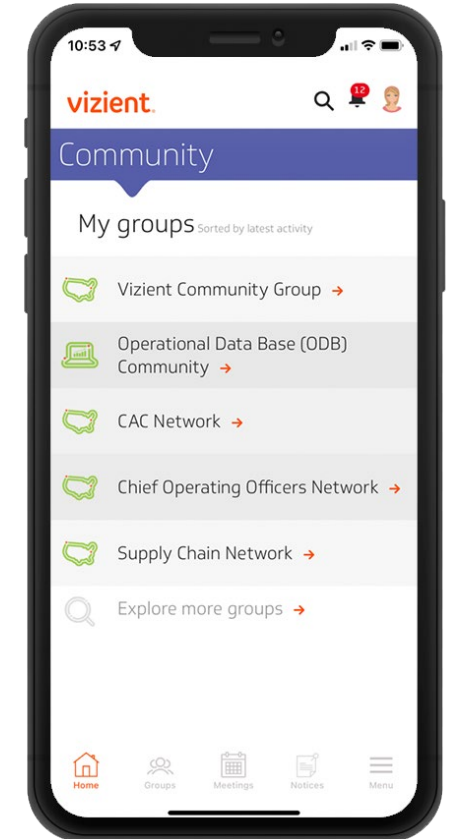
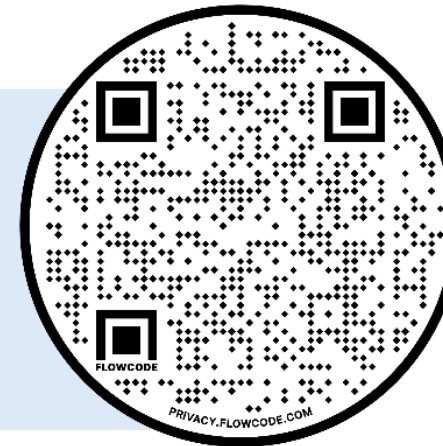


Access the power of the Vizient Community in the palm of your hand! With the new mobile app:

- Easy to log in – biometrics unlocks the app
- Quickly review push and in-app notifications – don't rely on emails
- Tap from the member profile to call or email directly
- Create a query, respond to peers and more

## Next steps:

- Scan the QR code or search for 'Vizient Community' in your app store to download and log in
- Stay connected and network with peers on the go



REFLECTION

# 2024-2025 Performance Improvement plan

**Key**

- Financial Sustainability
- Care Delivery Excellence
- Profitable Growth

	2024			2025											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Workforce</b>															
Building a Diverse Workforce Collaborative															
Leadership Well-being															
<b>Mortality</b>															
Advancing Sustainable Clinical Education Sepsis Bundle Collaborative															
<b>Readmissions</b>															
Reducing Readmissions During the Inpatient Stay Collaborative															
Risk Reduction Strategies During Discharge Planning Collaborative															
Engage Post-Acute Partners Collaborative															
<b>Capacity/LOS</b>															
Developing an Actionable Capacity Plan Collaborative															
Eliminating Discharge Delays Collaborative															
<b>Pharmacy</b>															
Pharmacy Revenue Cycle Benchmarking Survey															
Anticoagulation Reversal Collaborative															
Medication Safety															
<b>Spend Management</b>															
Preference Card Management Collaborative															
Value Analysis Optimization Benchmarking Survey															
Adopting Pulse Field Ablation Afib Collaborative															
Early AI Adoption in Supply Chain Benchmarking Survey															
<b>Other</b>															
Pediatric Mental Health Collaborative															
Use of Artificial Intelligence in Patient Care Benchmarking Survey															
Systemwide Quality Structure Benchmarking Survey															
Patient Safety Indicators and Clinical Documentation Collaborative															
Optimizing Revenue Quality															
Patient/Consumer Experience															

Note= Subject to change