2024 VIZIENT CONNECTIONS SUMMIT
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REFLECT | ADAPT | EVOLVE

Improving Mortality and Sepsis Care: Novel Approaches to EHR Optimization

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Learning Objectives

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- Discuss the methods employed to drive significant impacts on quality and patient outcomes, including improvements in sepsis best practice alerts.
- Identify the steps to create a user-friendly, automated EHR-tool that is incorporated into hospital notes to improve documentation practices, as well as how variables are selected and updated.

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AH Corporation

22 Home health and hospice agencies

56 Urgent care facilities

52 Hospital campuses in **NINE** states

1973 Year **AdventHealth** network was established

95,000+ **Team Members**

8 MILLION+ Patient interactions annually

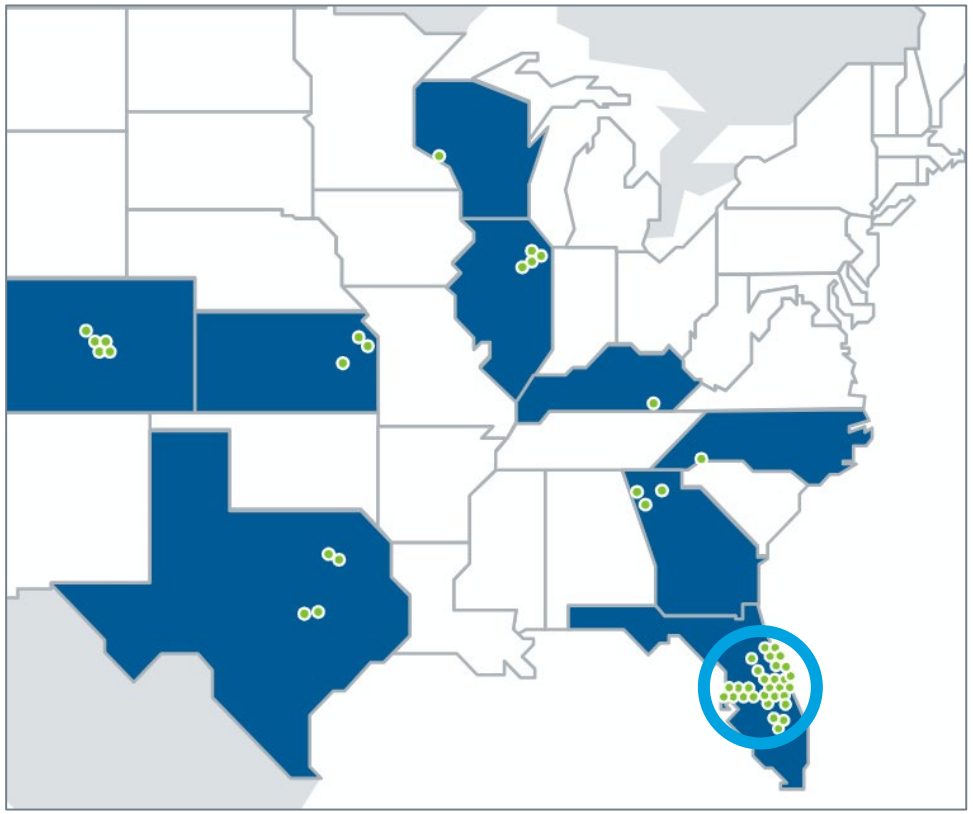
Central Florida

8 Hospitals

165,000 Inpatient Visits

510,264 Outpatient ED Registrations

3,260 Beds



Enterprise Principles

Recognitions

NATIONALLY RANKED
in 4 Adult Specialties
in 1 Children's Specialty

REGIONALLY RANKED
#2 in Florida
Recognized in Central Florida
#1 in Orlando

HIGH PERFORMING
in 6 Adult Specialties
in 15 Procedures/Conditions

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Overview

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Problem

Sepsis is challenging to identify due to its varied and nonspecific presentation. The complexity hinders timely diagnosis, complicates treatment protocols, and disrupts care coordination. This leads to an increase in LOS, mortality, and cost of care.

For AH CFD, the following were the ***baseline average figures*** from August 2022 - May 2023:

- **9.5%** Mortality rate
- **9.32 days** Length of Stay
- **31%** 3 Hour Bundle Compliance
- **$11M** Direct Cost Variance

Mission Actions

1. **OPTIMIZED SEPSIS DEFINITION, DIAGNOSIS, AND RESPONSE**
2. **ENHANCED TREATMENT, CARE COORDINATION, AND TRANSITIONS**
3. **IMPROVED EDUCATION, DOCUMENTATION, AND MEASUREMENT**

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The Vision to Success

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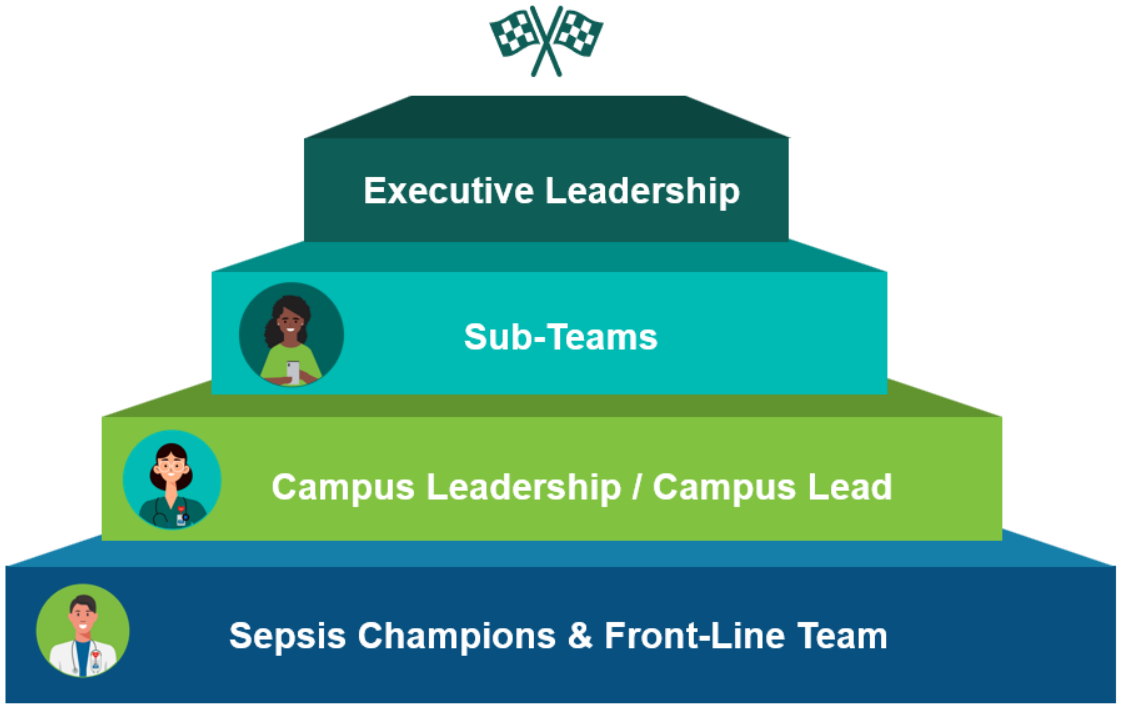
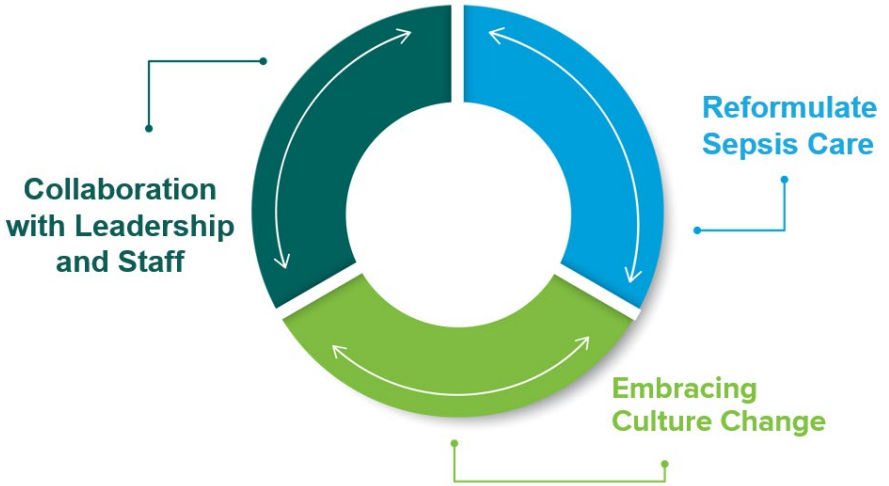
Expected Outcomes

- ↓ Variability in Care
- ↑ Regulatory Compliance
- ↓ Mortality
- ↓ Length of Stay
- ↓ Readmission





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Interventions

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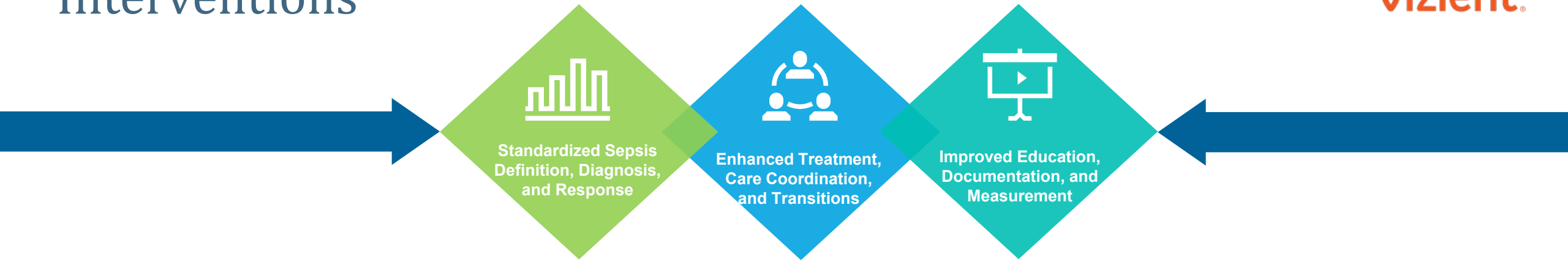
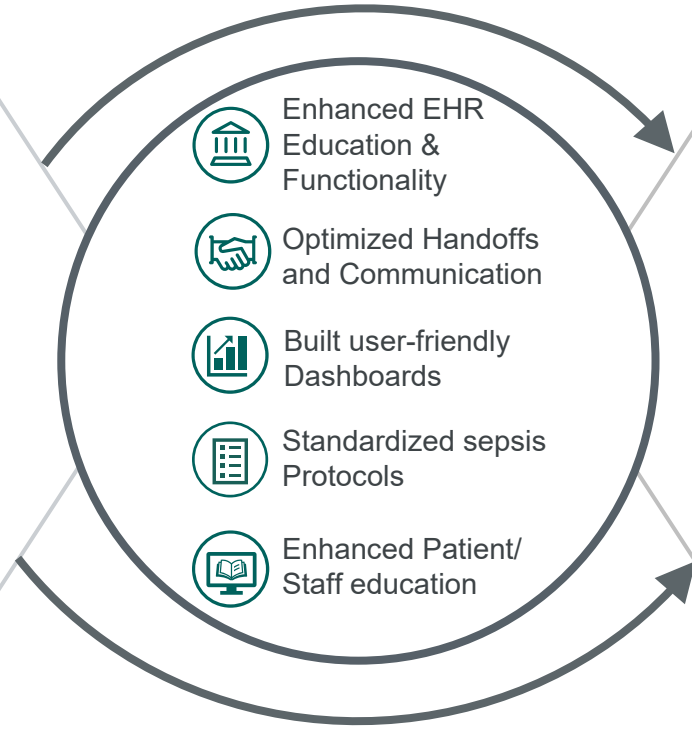


Key Project Deliverables

- Alert Configuration
- Enhanced Order sets
- “Advent Stance” Sepsis Definition

- Interdepartmental Notification and Response
- Care Team Roles & Responsibilities
- Hand-Offs and Transitions

- ‘Sepsis Booklet’ for patients
- Sepsis Public Awareness
- Nursing and Provider Education



Impact

Increased Outcome Performance

Enhanced Care Team Efficiency

Improved Patient Experience

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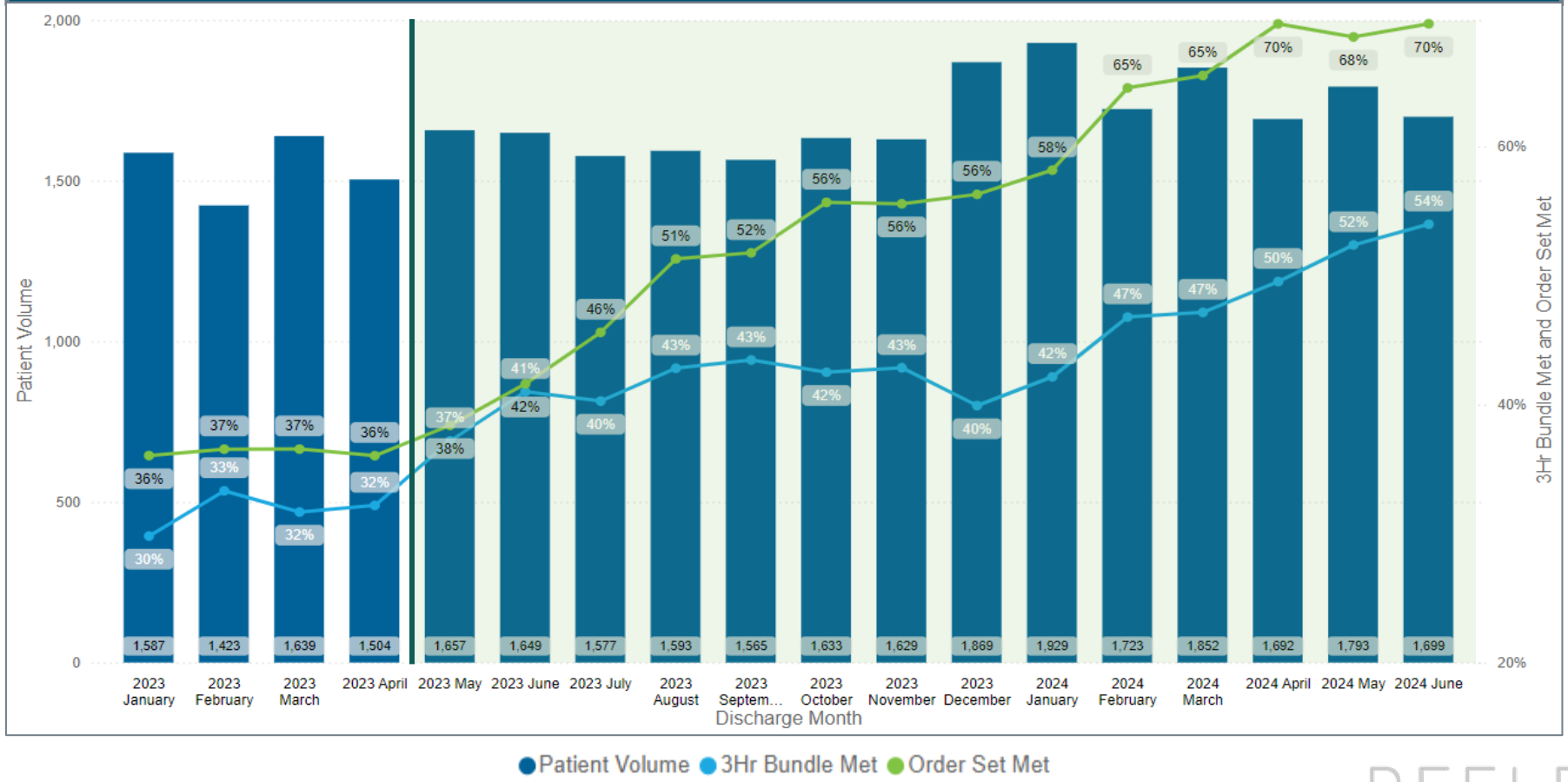
Implementation Results: Improved Process Measures

3 Hour Bundle Compliance, Order set Utilization by Discharge Month



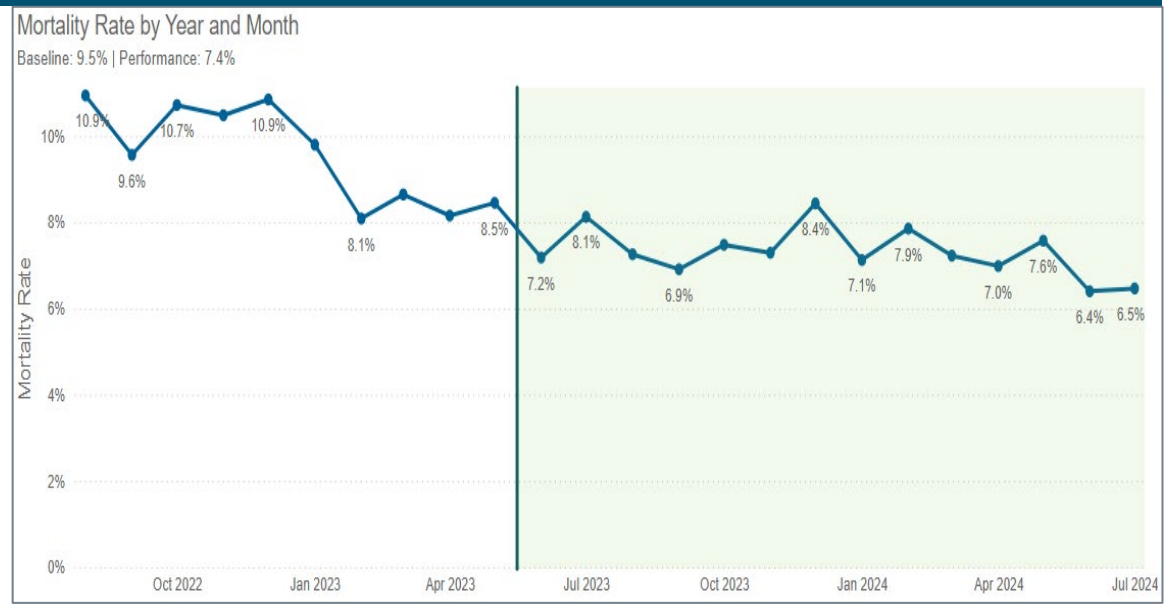
Data Source: CLINICAL | Sepsis Dashboard | AH - Clinical Review - Power BI| CFDS sepsis discharges| CFD | Sepsis Outcomes Tracking - Power BI Corporate Case Management Dashboard | Vizient | January 2023 – May 2024 | MS-DRG: 870-872

Implementation Results: Cost Avoidance

Sepsis Outcomes Tracking

Baseline Period from August 2022 to May 2023 | Performance Period from June 2023 to June 2024 | Population = Any Sepsis Diagnosis

Campus	Discharges (Baseline)	Discharges (Performance)	Days Avoided	Cost Avoided
Altamonte Springs	2398	3825	6693	$5.48M
Apopka	1014	1495	2167	$1.91M
Celebration	2201	3270	2465	$2.41M
East Orlando	2531	4003	4053	$3.69M
For Children	545	1440	3802	$3.63M
Kissimmee	1813	3032	4624	$3.87M
Orlando	5158	7132	8640	$8.24M
Winter Garden	469	936	305	$0.16M
Winter Park	1696	2614	2294	$1.92M
Total	**17825**	**27747**	**37049**	**$33.41M**



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Lessons Learned

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EHR Optimization Alone is Insufficient

Operational Leadership is Essential

Adoption Requires Time

Continuous Learning Process

Emphasizing Change Management

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Key Takeaways

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Optimize

Tracking, compliance, performance tools and processes

Make understanding and achieving process and outcome measures easy.

Ignite

Harness the power of team recognition and competition

Keep it fun with recognition, awards and gamification.

Teamwork

Cross functional collaboration

Ensure all stakeholders are at the table and ready to engage.

Oversight

C-Suite accountability & sustained efforts for performance

Organizational clarity on performance expectations is key.

Running the Marathon

"Achieving success isn't a sprint; it is a sustained effort that require constant training and enthusiasm."

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Weill Cornell Medicine | NewYork-Presbyterian | COLUMBIA

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How Can Documentation Practices Affect Mortality?

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# of Patients who died in-hospital

Care processes: Sepsis, CHF, MI, pneumonia

Quality processes: HAI, post-op complications

Affected by:

Palliative care / inpatient hospice

Early rapid response teams

Observed Mortality Rate

Expected Mortality Rate

Mortality Index

< 1

Age, Gender

Case mix

Affected by:

Chronic co-morbidities

Acuity of illness during hospitalization

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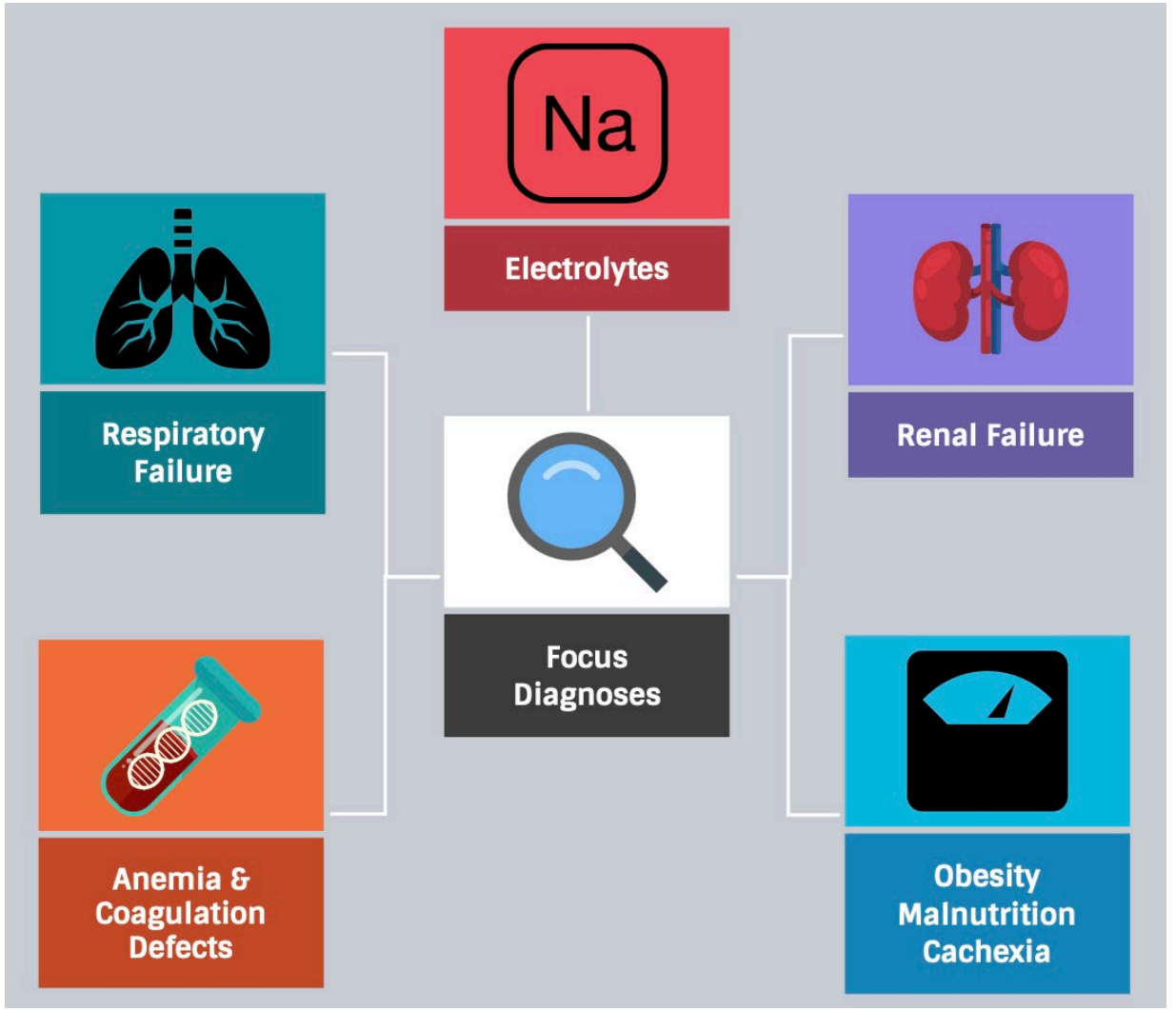
High Impact Diagnoses Captured at Hospital Admission



CDI Quality Admission EHR Tool: Initial Pilot Data

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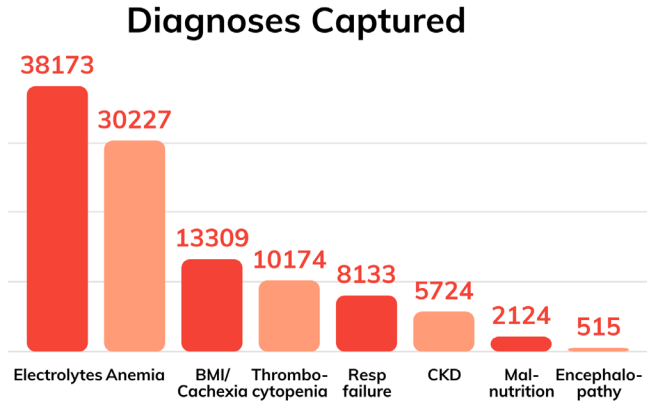
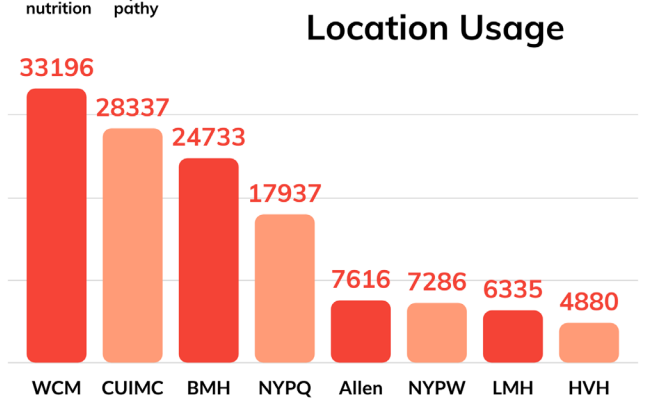
130,320
Total Uses
79,305 Triggers Present

38,150
Unique Encounters
30,580 Triggers Present

63,294
Diagnoses Captured*
*One or more diagnoses captured
**25,581 Unique encounter diagnoses captured*





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Real-Time Data Driven Feedback Improves Utilization

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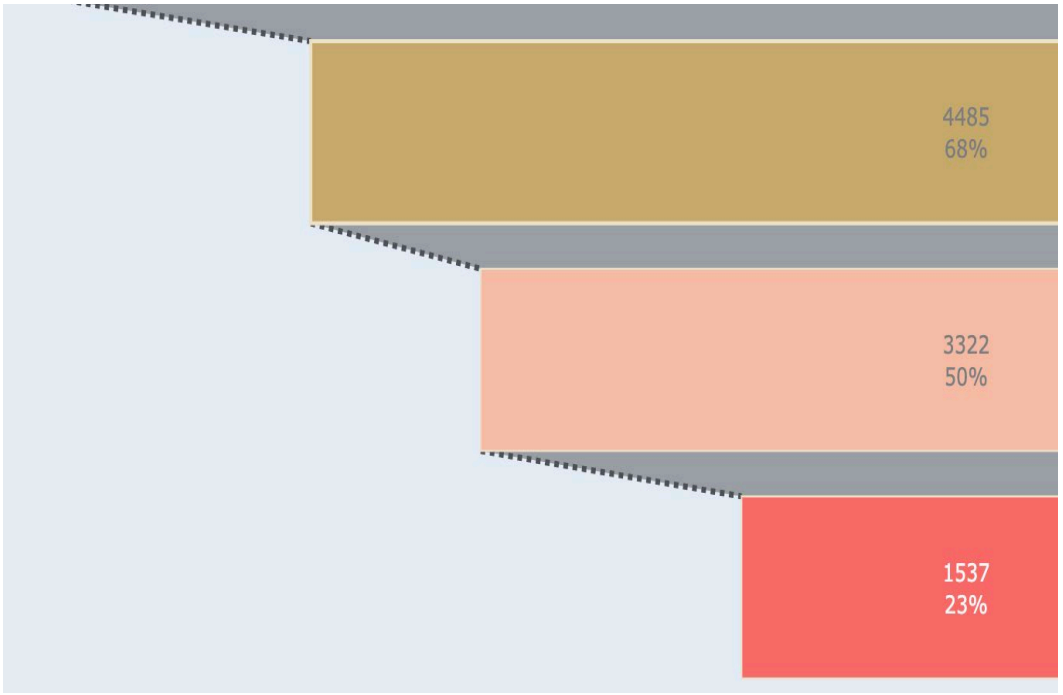
May 2023

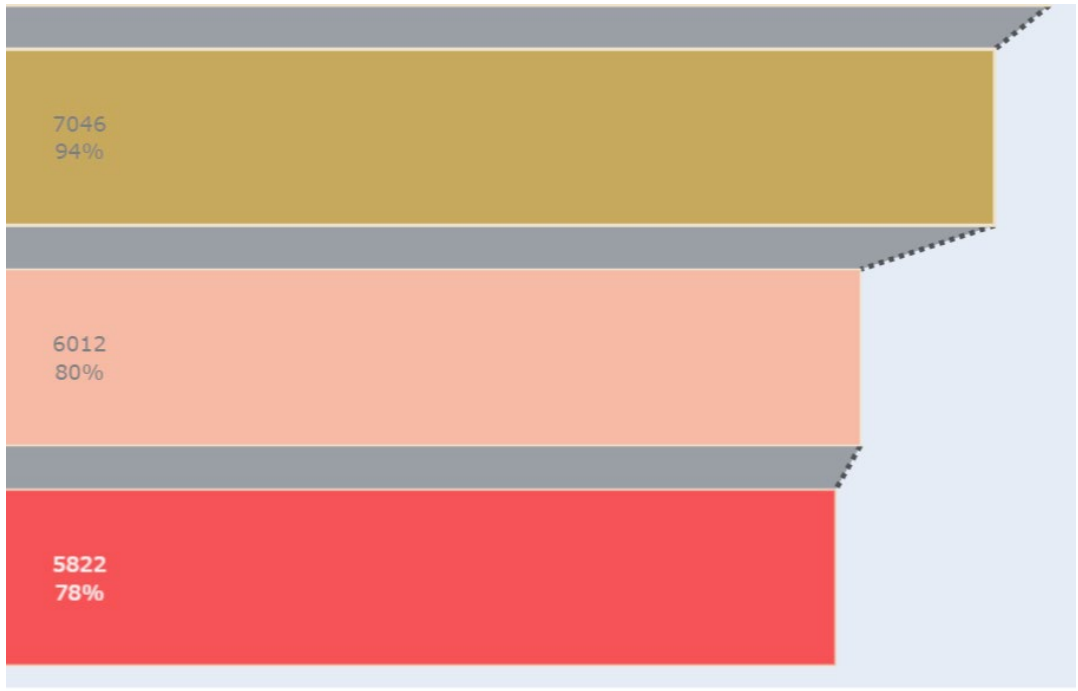


Note rate
68% → 94%

Trigger rate
50% → 80%

Deletion rate
27% → 2%

July 2023



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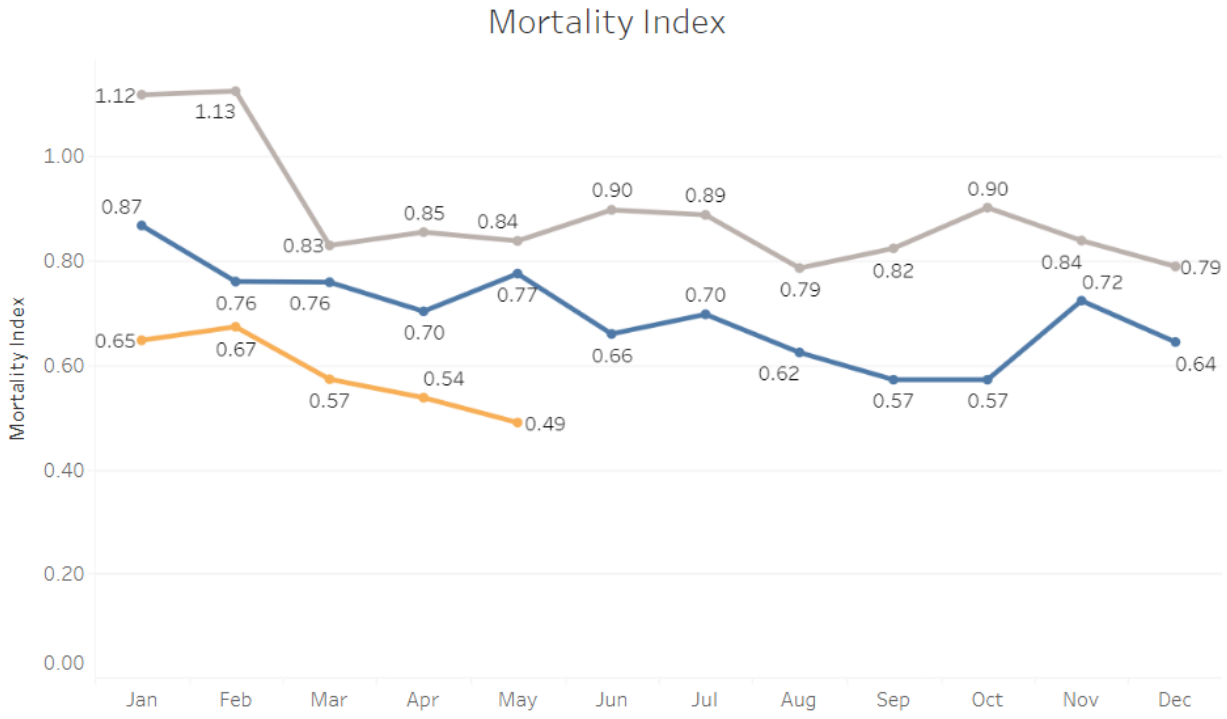
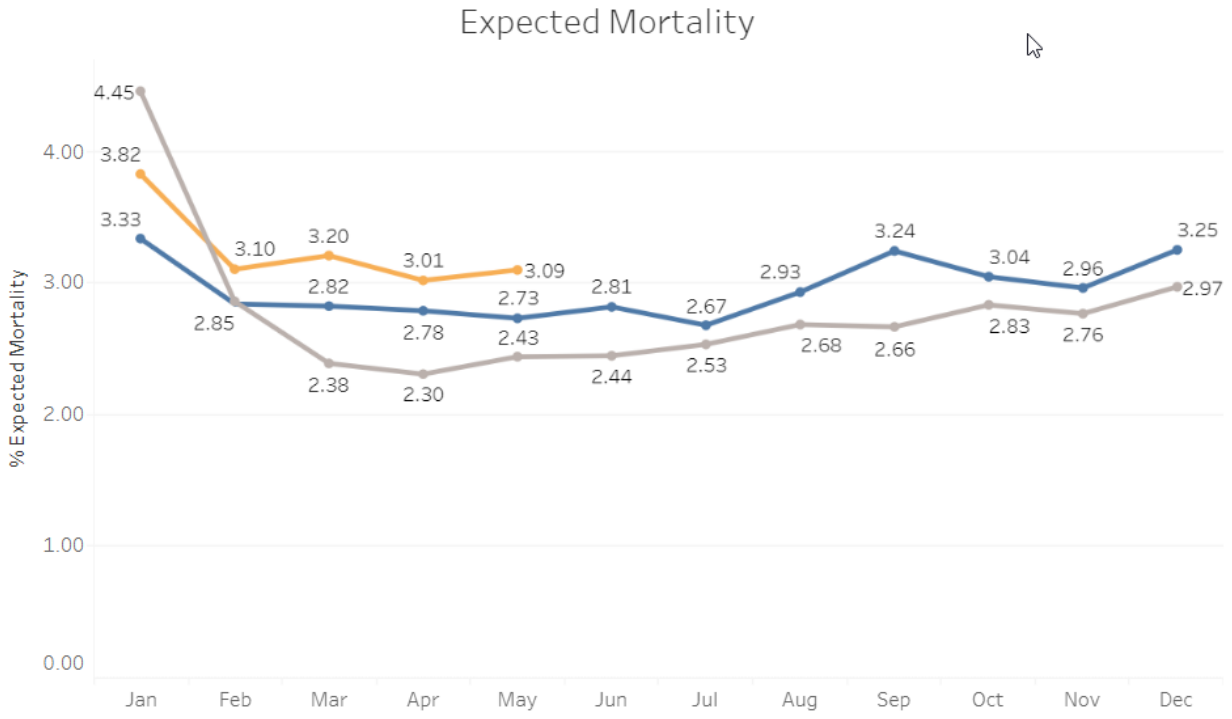
Improvement in Expected Mortality and Mortality Index After Implementation of the Automated EHR Tool





2022 2023 2024

Source: CDB (Jan 2023 – May 2024); Age ≥ 18; AMC Risk Model. NYPH excludes Queens, Hudson Valley. AMC Compare consists of Vizient Top Q&A Ranked Hospital, based on 2023 Q&A Rankings.

Lessons Learned

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- Selection of key variables is important
  - Impactful
  - Objective: amenable to rule-based criteria in the EHR
- Data driven implementation and iteration has led to a highly successful outcome and ongoing progress.

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Key Takeaways

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- Accurate documentation is important to reflect the high acuity of hospital patients and a precise expected mortality.
- Utilization of an automated EHR tool can improve diagnosis capture rates for key risk variables that contribute to important hospital metrics.
- Frequent iterations based on data-driven metrics and a robust CDI division can help improve diagnosis capture rates.

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Thank you

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- Sam Sarkissian, Lucy Zhang, Sijia Dong, David Chen & Analytics
- Xenia Frisby
- Lisa Linsangan
- And many others!

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Questions?

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