2023 VIZIENT CONNECTIONS SUMMIT
TOGETHER
we will soar
SEPT. 18–21, 2023
WYNN, LAS VEGAS
vizient.

Learning Objectives

- Explain successful strategies to facilitate improved documentation by targeting specific diagnosis opportunities at the service line level.
- Describe a multidisciplinary approach to track, trend and enumerate the value of CDI, coding and quality partners in the PSI-90 exclusion process within a complex, multihospital health system.
- Explain steps in identifying hospital-acquired conditions (HAC) and perioperative complications.

Leveraging the CDB to Improve Quality & Accountability metrics

Tracy Ferro MSN, RN, CCDS, *Corporate CDI Program Director in System Quality at the Medical University of South Carolina (MUSC) Health System*

Aubrie Booth MSN, RN, CCDS, CCM, *CDI Manager, Charleston Division at the Medical University of South Carolina (MUSC) Health System*

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.

An individual is considered to have a relevant financial relationship if the educational content an individual can control is related to the business lines or products of the ineligible company.

No one in a position to control the content of this educational activity has relevant financial relationships with ineligible companies.

Leveraging the CDB to Improve Quality & Accountability metrics

Tracy Ferro MSN, RN, CCDS, *Corporate CDI Program Director in System Quality at the Medical University of South Carolina (MUSC) Health System*

Aubrie Booth MSN, RN, CCDS, CCMS, *CDI Manager Charleston Division the Medical University of South Carolina (MUSC) Health System*

MUSC BY THE NUMBERS

The Only Comprehensive Academic Health System in South Carolina

1.6+ MILLION
Patient Encounters Annually

100,000+
Accountable Care Organization Members

South Carolina's only Comprehensive Academic Health and Science Center

46
Counties

25,000+
Employees

1,400+
Physicians

4.7+ BILLION
Total Operating Expenses

3.6+ BILLION
Total Assets

5.6 BILLION
Total Economic Impact

16
Hospitals

785+
Care Locations

Telehealth Center of Excellence

Employee Demographics

15% leaders are under-represented minorities (URM)

81% of workforce identify as female

32% of workforce identify as racial/ ethnic minority

2,744
Licensed Beds

10
Pharmacies

6
COLLEGES

3,264
STUDENTS

918
RESIDENTS & FELLOWS

298 MILLION
Research funding

NCI- Designated Cancer Center
and
Largest bio medical research in South Carolina

we will soar

vizient

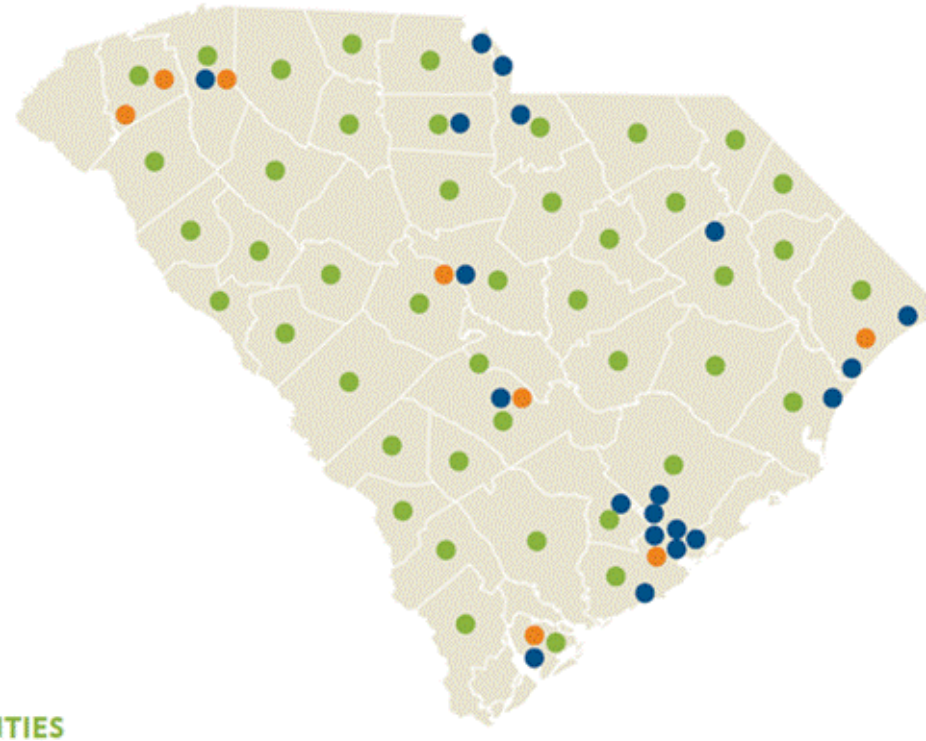
GROWTH AND IMPACT

CLINICAL LOCATIONS

- Beaufort
- Charleston
- Chester
- Columbia
- Daniel Island
- Florence
- Fort Mill
- Goose Creek
- Greenville
- Indian Land
- Lancaster
- Mount Pleasant
- Mullins
- Murrells Inlet
- Myrtle Beach
- North Charleston
- Orangeburg
- Pawleys Island
- Seabrook Island
- Summerville

RESEARCH LOCATIONS

- Beaufort
- Charleston
- Clemson
- Columbia
- Greenville
- Myrtle Beach
- Orangeburg
- Pickens



TELEHEALTH-CONNECTED COUNTIES

- Abbeville
- Aiken
- Allendale
- Anderson
- Bamberg
- Barnwell
- Beaufort
- Berkeley
- Calhoun
- Charleston
- Cherokee
- Chester
- Chesterfield
- Clarendon
- Colleton
- Darlington
- Dillon
- Dorchester
- Edgefield
- Fairfield
- Florence
- Georgetown
- Greenville
- Greenwood
- Hampton
- Horry
- Jasper
- Kershaw
- Lancaster
- Laurens
- Lee
- Lexington
- Marion
- Marlboro
- McCormick
- Orangeburg
- Pickens
- Richland
- Saluda
- Spartanburg
- Sumter
- Union
- Williamsburg
- York

CLINICAL LOCATIONS

RESEARCH LOCATIONS

TELEHEATH-CONNECTED COUNTIES

The Why

- MUSC Health expansion created opportunities for systemization and alignment
- Systemwide opportunity exists for improvement in LOS index; both the O and the E
- Service lines requesting service specific documentation improvement opportunities (to aid improvement of the E)

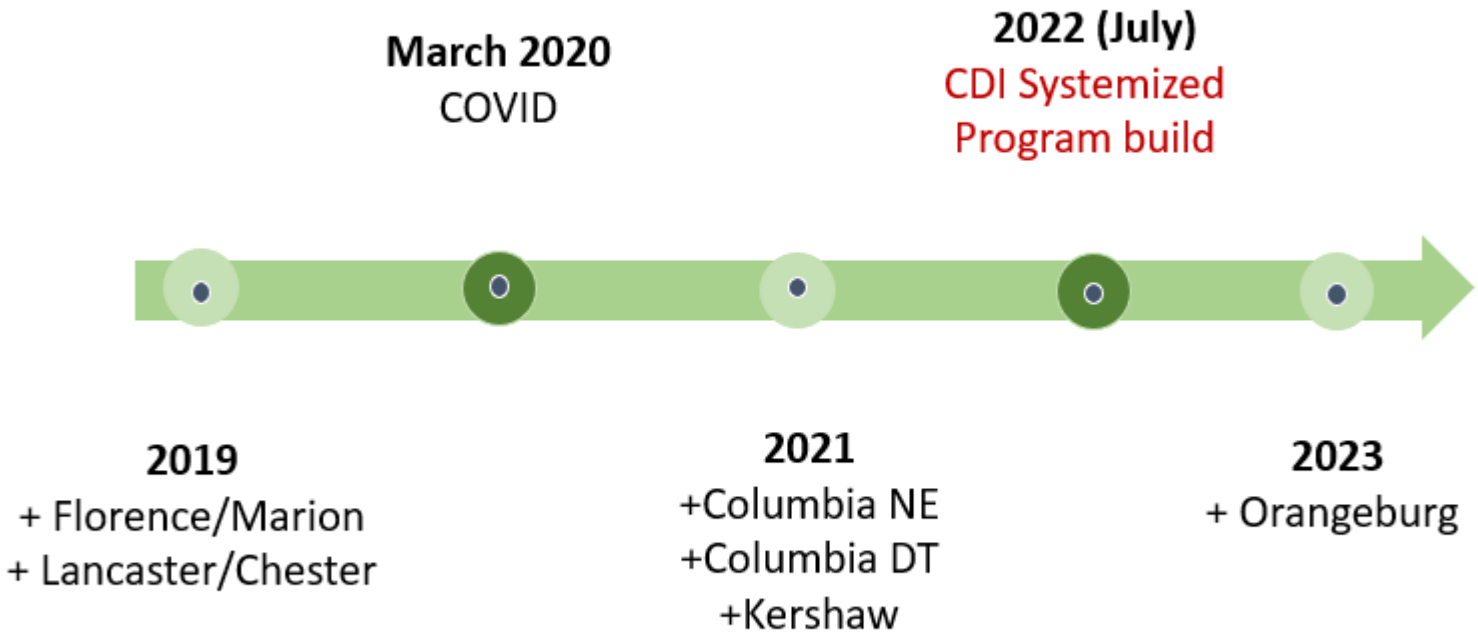
Systemization and alignment

July 2022 → CDI department systemized

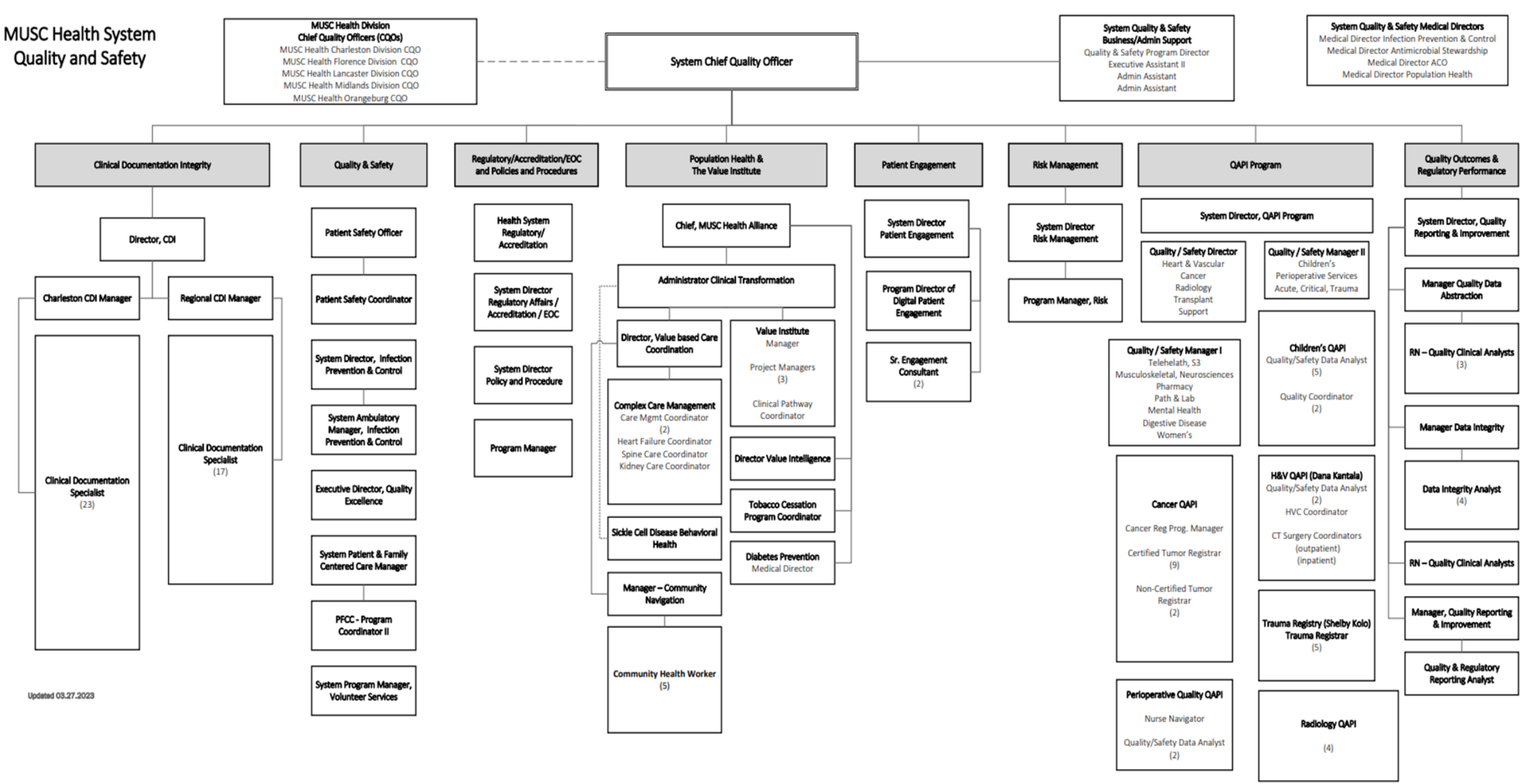
- Systemized under Corporate CDI Program Director (under System Quality)
- Increased staff ~ 1,200 discharges per FTE (goal ~100% CDI coverage (excluding psych, rehab, mother/baby/NICU)
- Acquired Performance Data Monitoring Reporting

CDI Systemization

- Systemized under Corporate CDI Program Director (under System Quality)
- Increased staff ~ 1,200 discharges per FTE (goal ~100% CDI coverage (excluding psych, rehab, mother/baby/NICU)
- Acquired Performance Data Monitoring Reporting



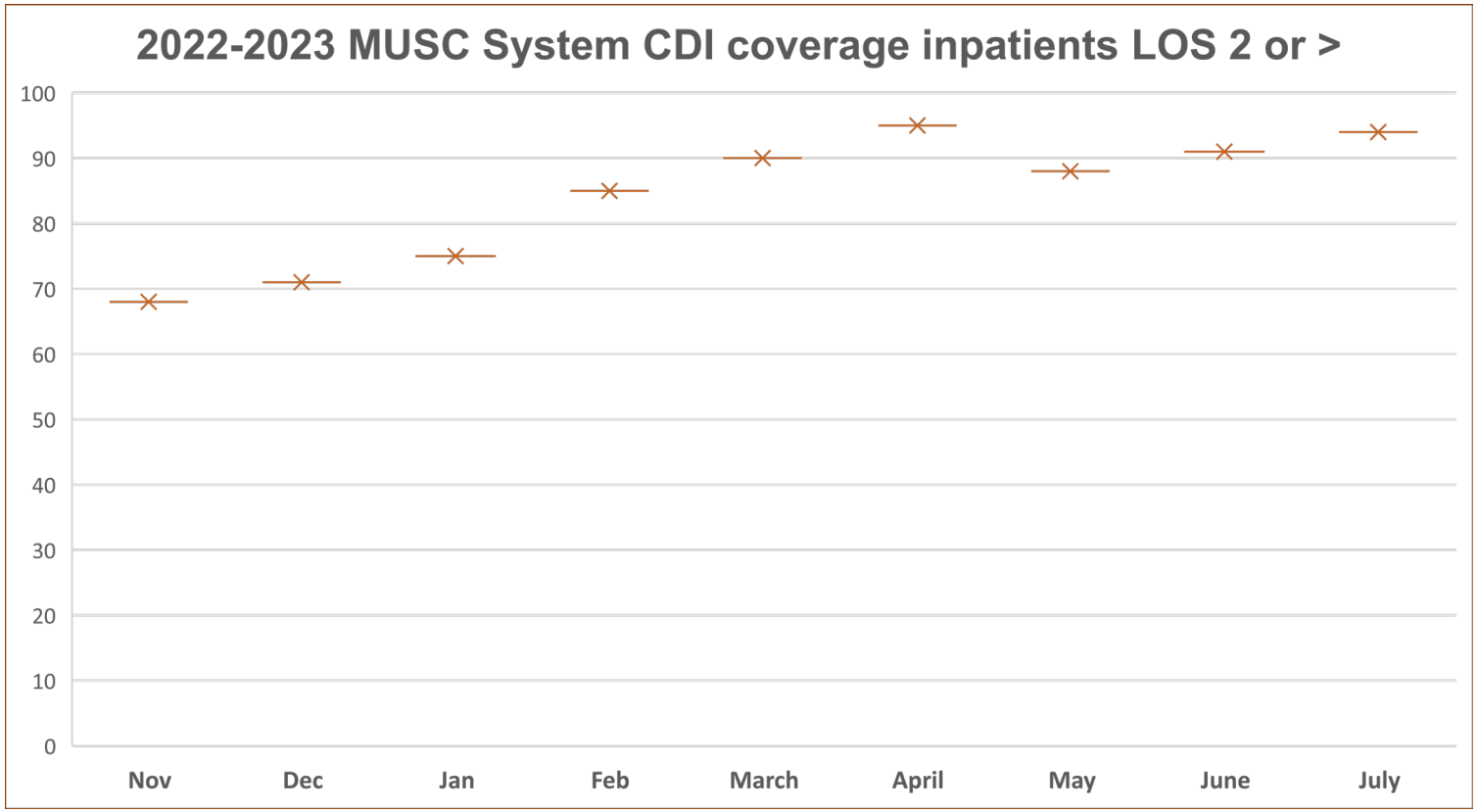
MUSC Health System Quality and Safety



Updated 03.27.2023

CDI Systemization

Results - CDI Coverage improvements



Source: MUSC Internal encoder reporting

CDI Systemization

Results – CMI improvement

	Charleston MU	Florence MC	Chester MC	Providence	Marion MC	Kershaw	Lancaster
July21-June22 CMI w/o COVID	2.2594	1.6725	1.5625	1.8451	1.3729	1.3621	1.5022
July22-June23 CMI w/o COVID	2.3020	1.6946	1.5537	1.7679	1.3531	1.3819	1.5398

Financial Impact due to queries	June/July 2023, annualized
MUSC Hospital system (excluding Orangeburg division)	$17,874,307.80

Source: MUSC Performance Data reporting dashboard and Internal encoder reporting

LOS index improvement opportunity

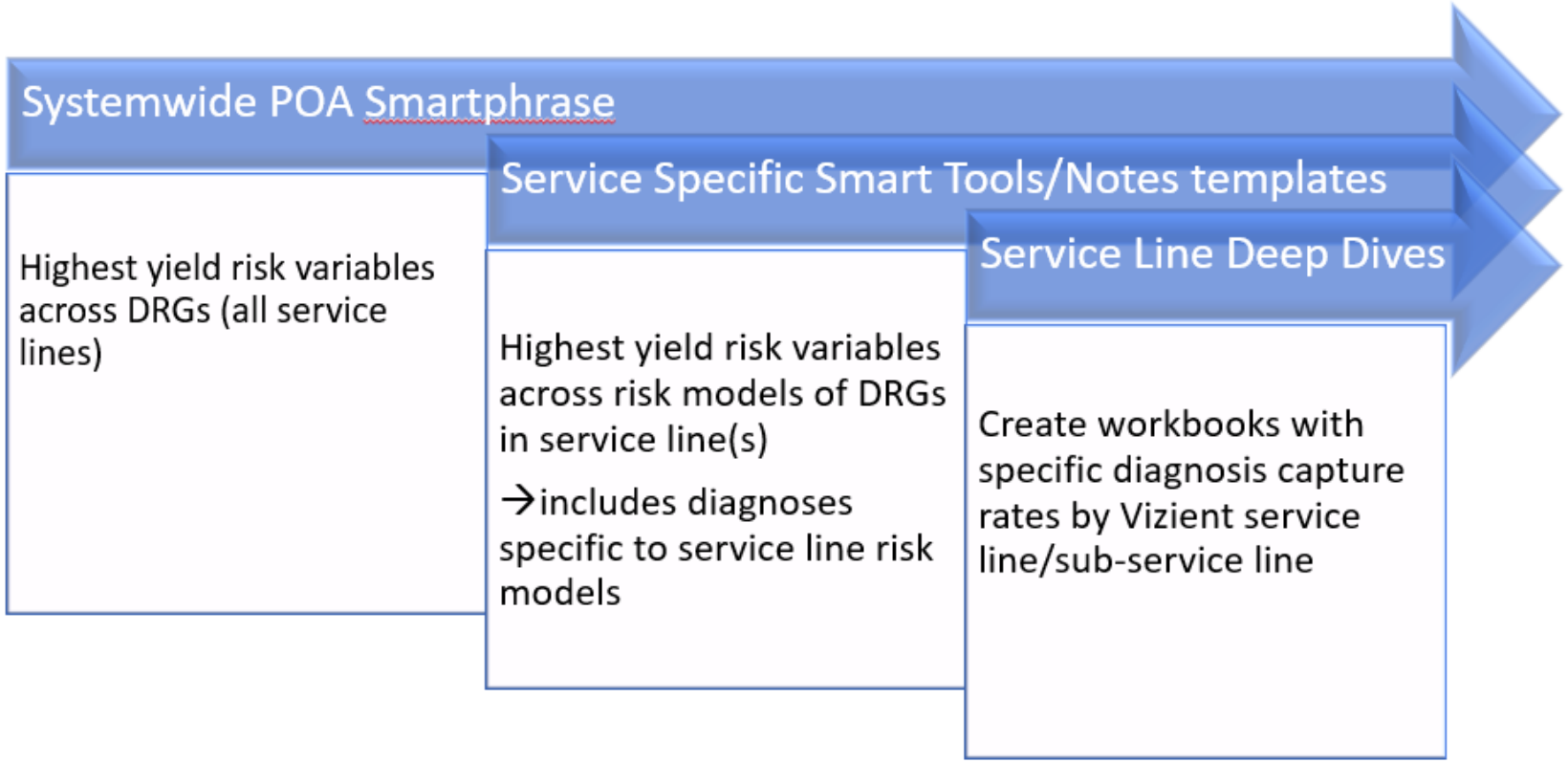
2022 Comprehensive Academic Medical Center Quality and Accountability
MUSC Health Charleston Performance Scorecard

Star rating	Overall rank	Overall score
★★★	71 / 107	48.56%

	Unit of Measure	Q&A year			2022 Scoring Performance
		2020	2021	2022	
		Metric performance (Z-Score)			
LOS - Neurology	O/E Ratio	1.07 (0.62)	1.11 (0.63)	1.08 ▲ (0.28)	

Source: Vizient Q & A Report card 2022

LOS index improvement opportunity



Increase expected LOS

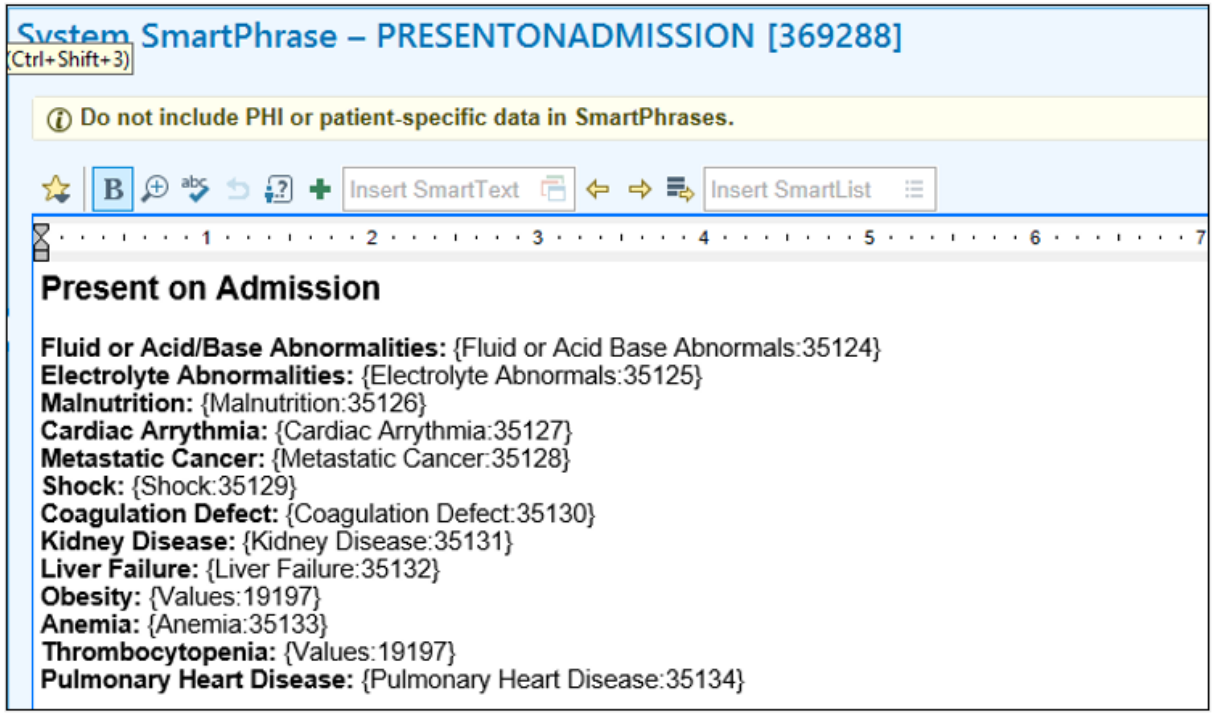
LOS index improvement opportunity

Pros:

- Targets increasing expected LOS
- Derived from most frequently seen risk variable diagnoses across multiple risk models including the Vizient “Big 3”: AKI, F&E, malnutrition
- For use MUSC systemwide

Cons

- Generally applicable/lacks individuality
- Use of SmartPhrase not currently measurable



Service specific deep dives

- Neurology (created Neuro ICCE Smart Tool for their notes)
- Neurosurgery (created Neuro ICCE Smart Tool for their notes)
- Hematology/Oncology (working on service specific template)
- Spinal Surgery (using POA Smart Phrase)
- Joint Replacement (using POA Smart Phrase)
- GI/GI Surgery (using POA Smart Phrase)
- Heart and Vascular (using POA Smart Phrase)

MUSC Neurology workbook

% Capture of malnutrition (any) diagnosis	Q3, 2021	Q4, 2021	Q1, 2022	Q2, 2022	Q3 2022	Q4 2022	Q1, 2023
MUSC	5.00%	5.71%	5.6	5.93%	5.41%	6.20%	8.30%
Vizient CAMC	6.73%	6.76%	6.46	5.90%	6.23%	6.49%	8.41%

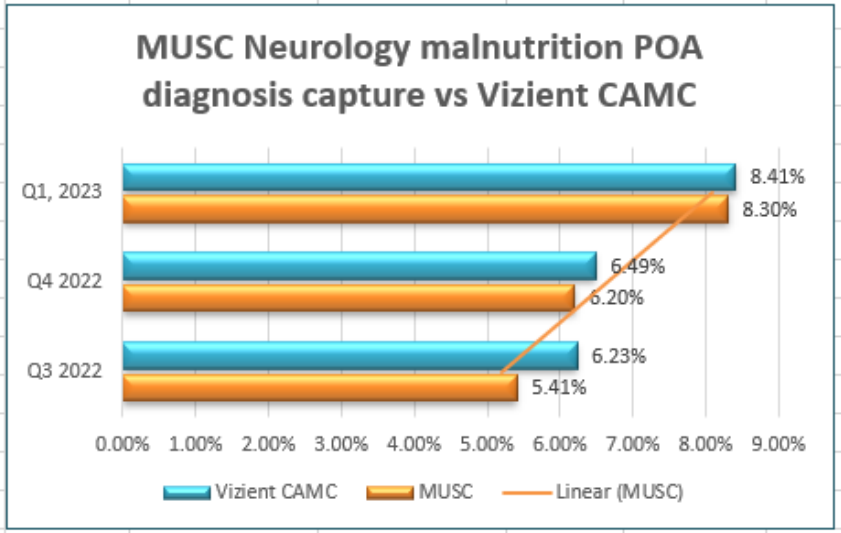
Q1, 2022	total	malnutrition diagnoses	% capture
MUSC- Neurology	482	27	5.60%
Vizient CAMC	43,961	2,838	6.46%

Q2, 2022	total	malnutrition diagnoses	% capture
MUSC- Neurology	540	32	5.93%
Vizient CAMC	47,887	2,827	5.90%

Q3, 2022	total	malnutrition diagnoses	% capture
MUSC- Neurology	499	27	5.41%
Vizient CAMC	47,479	2,957	6.23%

Q4, 2022	total	malnutrition diagnoses	% capture
MUSC- Neurology	508	33	6.50%
Vizient CAMC	46,499	3,017	6.49%

Q1, 2023	total	malnutrition diagnoses	% capture
MUSC- Neurology	530	44	8.30%
Vizient CAMC	46,153	3,883	8.41%



Step by step:

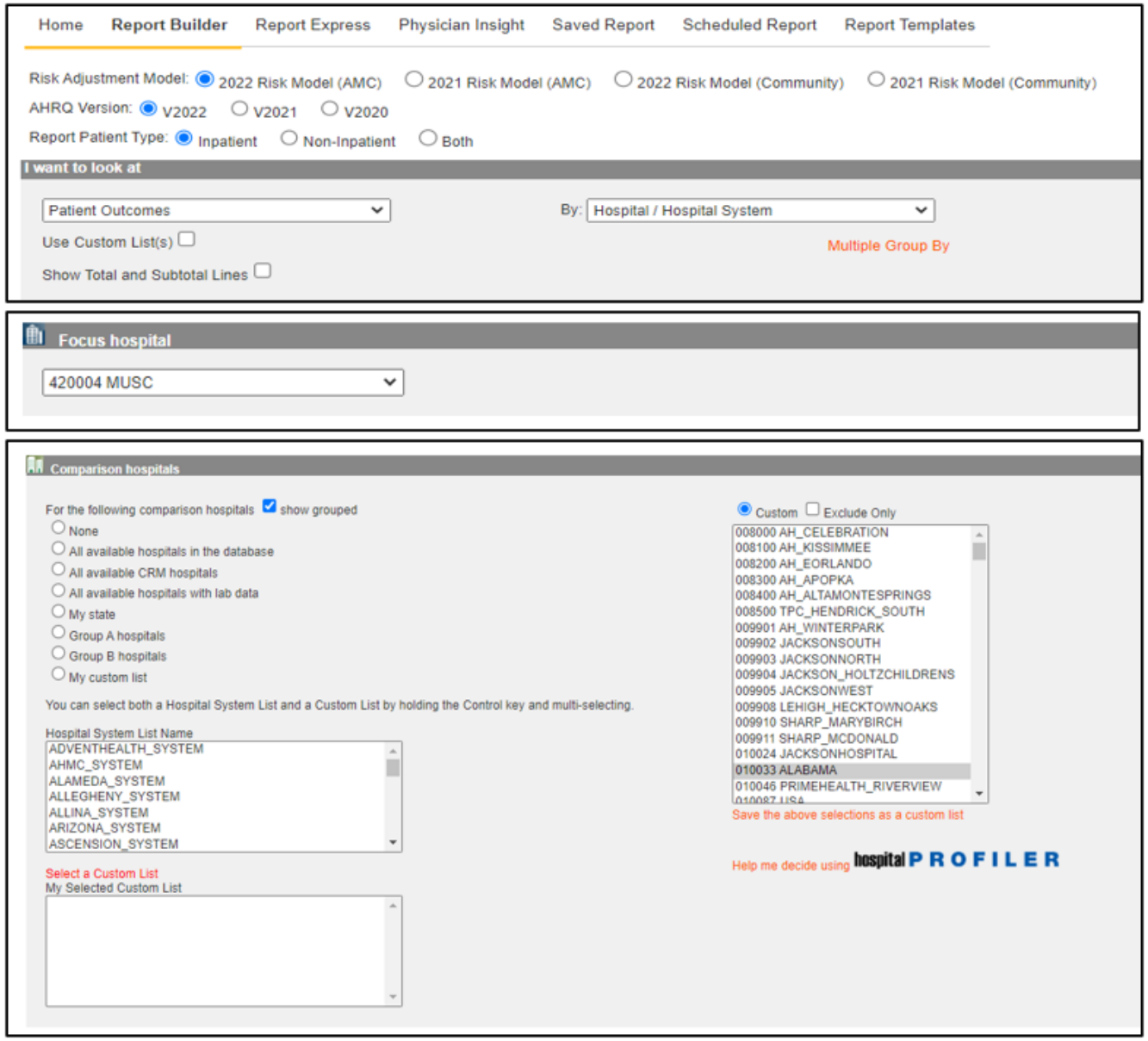
Select the most frequent / highest weighted variables in the focus DRGs/service line/sub-service line -example DRGs 52-69, 80/81, 91-103 for Vizient Neurology Service Line

MSDRG	Model Group	Model Group Description	Variable	Variable Description	Beta Mort	Beta LOS
61, 62, 63	22	Adult: Ischemic stroke, precerebral occlusion or transient	LOS	Acute Renal Failure		0.148
61, 62, 63	22	Adult: Ischemic stroke, precerebral occlusion or transient	Mort	AMI	0.659	
61, 62, 63	22	Adult: Ischemic stroke, precerebral occlusion or transient	LOS	Amyloidosis		0.231
61, 62, 63	22	Adult: Ischemic stroke, precerebral occlusion or transient	LOS	Anemia		0.096
61, 62, 63	22	Adult: Ischemic stroke, precerebral occlusion or transient	LOS	Anemia in Chronic Disease		0.147
61, 62, 63	22	Adult: Ischemic stroke, precerebral occlusion or transient	Mort/LOS	Aspiration Pneumonitis	0.955	0.341
61, 62, 63	22	Adult: Ischemic stroke, precerebral occlusion or transient	LOS	Autoimmune/Inflammatory Disease (Except Lupus & Rheumatoid		0.186
61, 62, 63	22	Adult: Ischemic stroke, precerebral occlusion or transient	LOS	Blood Loss Anemia		0.216
61, 62, 63	22	Adult: Ischemic stroke, precerebral occlusion or transient	LOS	Cardiac Arrhythmia		0.054
61, 62, 63	22	Adult: Ischemic stroke, precerebral occlusion or transient	LOS	Cardiomyopathy		0.115
61, 62, 63	22	Adult: Ischemic stroke, precerebral occlusion or transient	LOS	CHF		0.096
61, 62, 63	22	Adult: Ischemic stroke, precerebral occlusion or transient	LOS	Coagulation Defect		0.117
61, 62, 63	22	Adult: Ischemic stroke, precerebral occlusion or transient	LOS	COVID-19		0.191
61, 62, 63	22	Adult: Ischemic stroke, precerebral occlusion or transient	LOS	Delirium and Altered Mental Status		0.124
61, 62, 63	22	Adult: Ischemic stroke, precerebral occlusion or transient	LOS	Dementia		0.129
61, 62, 63	22	Adult: Ischemic stroke, precerebral occlusion or transient	LOS	Discharge Status = SNF/LTC		0.529
61, 62, 63	22	Adult: Ischemic stroke, precerebral occlusion or transient	Mort/LOS	DNR w/o Vent > 96 Hours or ECMO	2.761	-0.098
61, 62, 63	22	Adult: Ischemic stroke, precerebral occlusion or transient	LOS	Drug/Alcohol Withdrawal		0.390
61, 62, 63	22	Adult: Ischemic stroke, precerebral occlusion or transient	LOS	DVT		0.355
61, 62, 63	22	Adult: Ischemic stroke, precerebral occlusion or transient	LOS	Encephalopathy		0.197
61, 62, 63	22	Adult: Ischemic stroke, precerebral occlusion or transient	LOS	Female, Age <55		-0.097
61, 62, 63	22	Adult: Ischemic stroke, precerebral occlusion or transient	LOS	Fluid & Electrolyte Disorders		0.120
61, 62, 63	22	Adult: Ischemic stroke, precerebral occlusion or transient	LOS	Heart Block		0.072
61, 62, 63	22	Adult: Ischemic stroke, precerebral occlusion or transient	LOS	Housing & Economic Circumstances (SDOH)		0.192

Source: Internally formatted Vizient 2022 Comprehensive Academic Medical Center Mortality and LOS Risk Models

Step by step:

- Select appropriate Risk Model (year/AMC or Community)
- Patient Outcomes
- Choose time frame desired (quarter/year)
- Select Focus hospital
- Select appropriate compare group using hospital profiler (select “show grouped”)



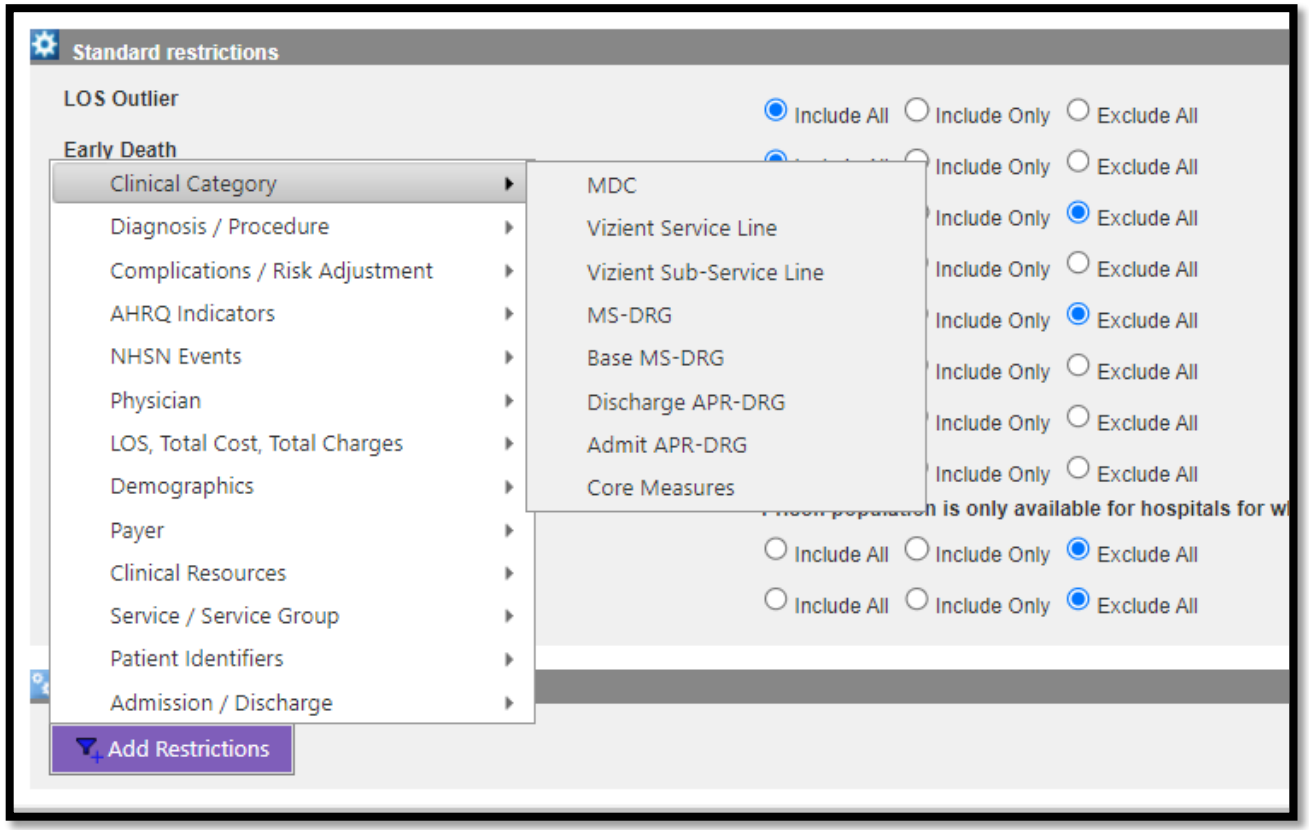
Source: Vizient CDB

Step by step:

- Add restriction for Service line/Sub-service line or DRGs for your area of focus
- Run report to attain *total* number of cases:
  - *your focus hospital*
  - *cohort group*

Example:

Q1, 2023	Total Cases
MUSC- Neurology	530
Vizient Q&A 2022 CAMC	46,153



Source: Vizient CDB

Step by step:

- Add restriction: Any diagnosis/diagnoses in the desired risk variable category
- Run report to attain *total* number of cases with diagnosis capture:
  - *your focus hospital*
  - *cohort group*

Example:

Q1, 2023	total	malnutrition diagnoses		% capture
MUSC- Neurology	530	44		8.30%
Vizient CAMC	46,153	3,883		8.41%

Source: Vizient CDB

Advanced Restriction - Any Diagnosis

OPERATOR	Include Only
ICD SET TYPE	ICD-9 / ICD-10
ANY DIAGNOSIS SEARCH TEXT	malnutrition — Search

ALL	CODE	DESCRIPTION	CATEGORY	SUBCATEGORY	SUBCLASSIFICATION
☑	E43	E43 - Unspecified severe protein-calorie malnutrition			
☑	E44	E44 - Protein-calorie malnutrition of moderate and mild degree			
☑	E440	E440 - Moderate protein-calorie malnutrition			
☑	E441	E441 - Mild protein-calorie malnutrition			
☐	E45	E45 - Retarded development following protein-calorie malnutrition			
☑	E46	E46 - Unspecified protein-calorie malnutrition			
☐	E64	E64 - Sequelae of malnutrition and other nutritional deficiencies			
☐	E640	E640 - Sequelae of protein-calorie malnutrition			
☐	M833	M833 - Adult osteomalacia due to malnutrition			

Add Selections

If selected ICD 9 or ICD 10 codes are more than 10,000 characters, please save as custom list.

Selected ICD9 Values

Selected ICD10 Values

E43,E44,E440,E441,E46

Clear ICD9 Selections | Clear ICD10 Selections

APPLY PRESENT ON ADMISSION (POA) FLAG

- 7-Not Reported to Vizient
- 8-Invalid Value Reported to Vizient
- E-Unreported/Not used, exempt from POA reporting (1,E)
- N-No, not present at the time of inpatient admission
- U-Unknown, documentation is insufficient to determine if condition is POA
- W-Clinically undetermined, provider is unable to clinically determine whether condition was POA or n
- Y-Present at the time of inpatient admission

Source: Vizient CDB

Home | Report Builder | Report Express | Physician Insight | **Saved Report** | Scheduled Report | Report Templates

Delete Selected Reports

April

Gastroenterology

Gyn/Onc

Lancaster

Laura

MSK

Neuro ICCE

SELECT ALL (FOR DELETION)	REPORT NAME ▼	REPORT TITLE ▼	
☐	Neurology TOTALS	Patient Outcomes By Hospital / Hospital System	
☐	SDOH Neurology	Patient Outcomes By Hospital / Hospital System	
☐	SDOH Neurosx	Patient Outcomes By Hospital / Hospital System	
☐	NeuroSx thrombocytop enia	Patient Outcomes By Hospital / Hospital System	
☐	Neurology Mg/phos	Patient Outcomes By Hospital / Hospital System	
☐	Neurology cerebral e dema/compression of brain	Patient Outcomes By Hospital / Hospital System	
☐	Neurology hypo/hyper Na+	Patient Outcomes By Hospital / Hospital System	
☐	Neuro hypo/hyperK+	Patient Outcomes By Hospital / Hospital System	
☐	Neurology obesity/ov erweight	Patient Outcomes By Hospital / Hospital System	
☐	Neurology dysphagia	Patient Outcomes By Hospital / Hospital System	
☐	Neurology cachexia/f rail/chronic fatigue	Patient Outcomes By Hospital / Hospital System	
☐	Neurology malnutriti on	Patient Outcomes By Hospital / Hospital System	
☐	NeuroSx Mg/phos	Patient Outcomes By Hospital / Hospital System	
☐	NeuroSx hypo/hyper N a+	Patient Outcomes By Hospital / Hospital System	
☐	NeuroSx hypo/hyperK+	Patient Outcomes By Hospital / Hospital System	
☐	NeuroSx obesity/over weight	Patient Outcomes By Hospital / Hospital System	
☐	NeuroSx dysphagia	Patient Outcomes By Hospital / Hospital System	
☐	NeuroSx cachexia/fra il/chronic fatigue	Patient Outcomes By Hospital / Hospital System	
☐	NeuroSx TOTALS	Patient Outcomes By Hospital / Hospital System	

Source: Vizient CDB

MUSC Neurology workbook

% Capture of malnutrition (any) diagnosis	Q3, 2021	Q4, 2021	Q1, 2022	Q2, 2022	Q3 2022	Q4 2022	Q1, 2023
MUSC	5.00%	5.71%	5.6	5.93%	5.41%	6.20%	8.30%
Vizient CAMC	6.73%	6.76%	6.46	5.90%	6.23%	6.49%	8.41%

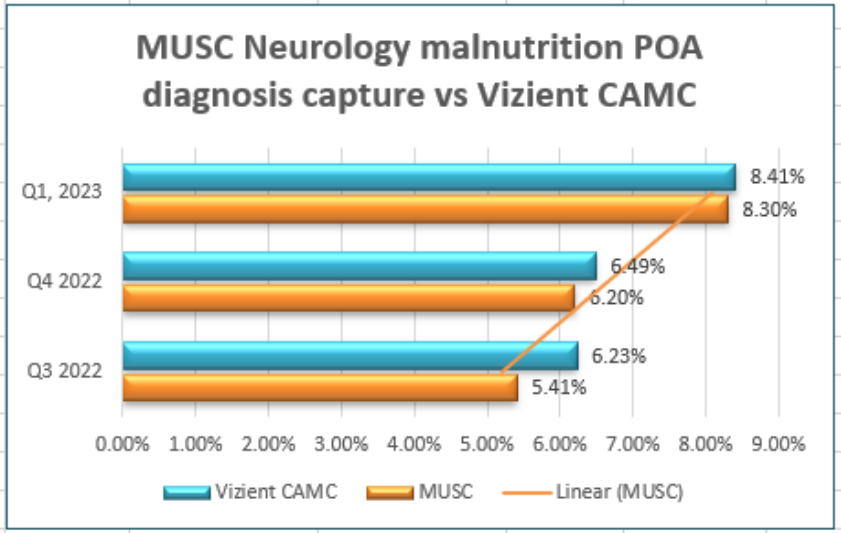
Q1, 2022	total	malnutrition diagnoses		% capture
MUSC- Neurology	482	27		5.60%
Vizient CAMC	43,961	2,838		6.46%

Q2, 2022	total	malnutrition diagnoses		% capture
MUSC- Neurology	540	32		5.93%
Vizient CAMC	47,887	2,827		5.90%

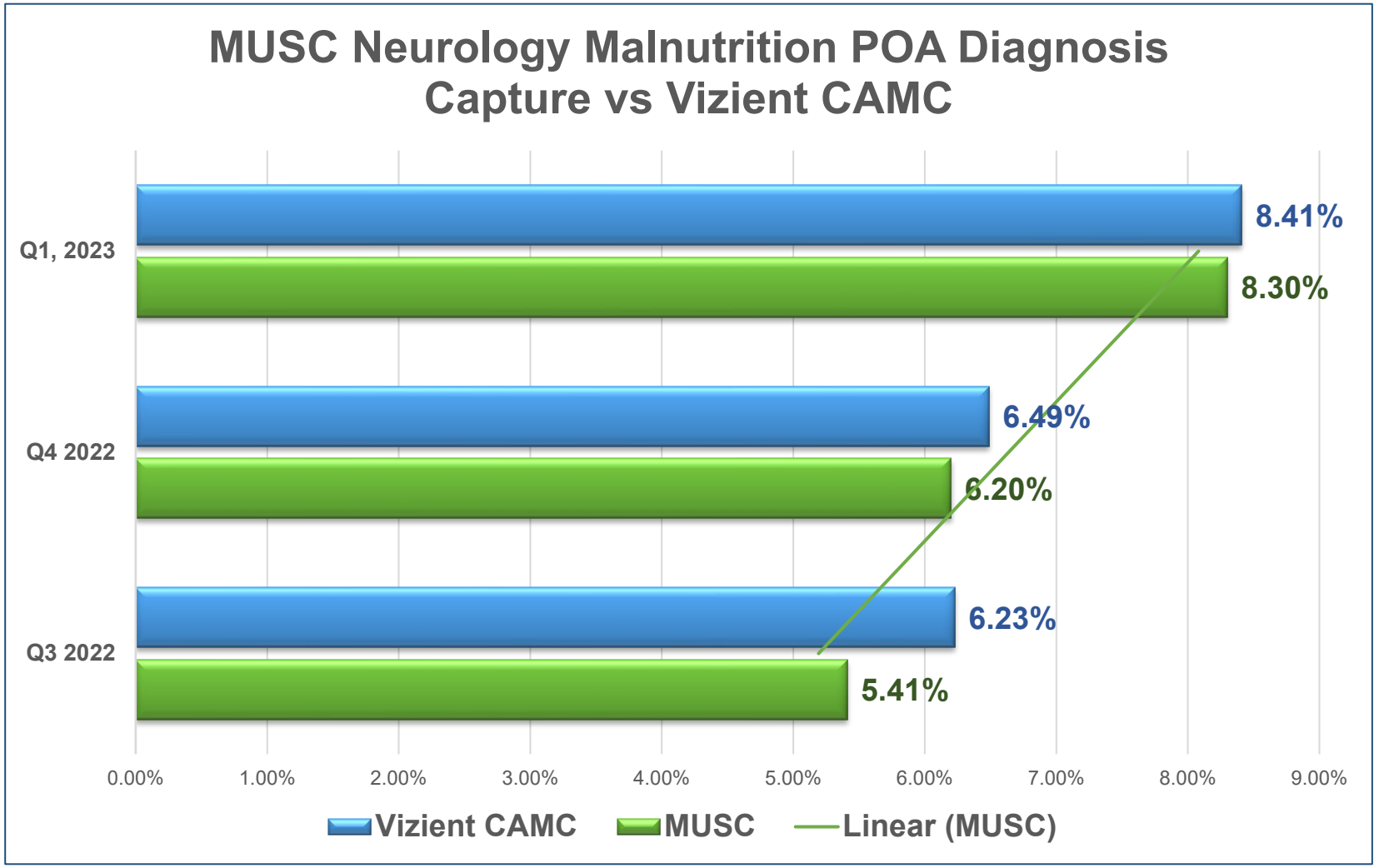
Q3, 2022	total	malnutrition diagnoses		% capture
MUSC- Neurology	499	27		5.41%
Vizient CAMC	47,479	2,957		6.23%

Q4, 2022	total	malnutrition diagnoses		% capture
MUSC- Neurology	508	33		6.50%
Vizient CAMC	46,499	3,017		6.49%

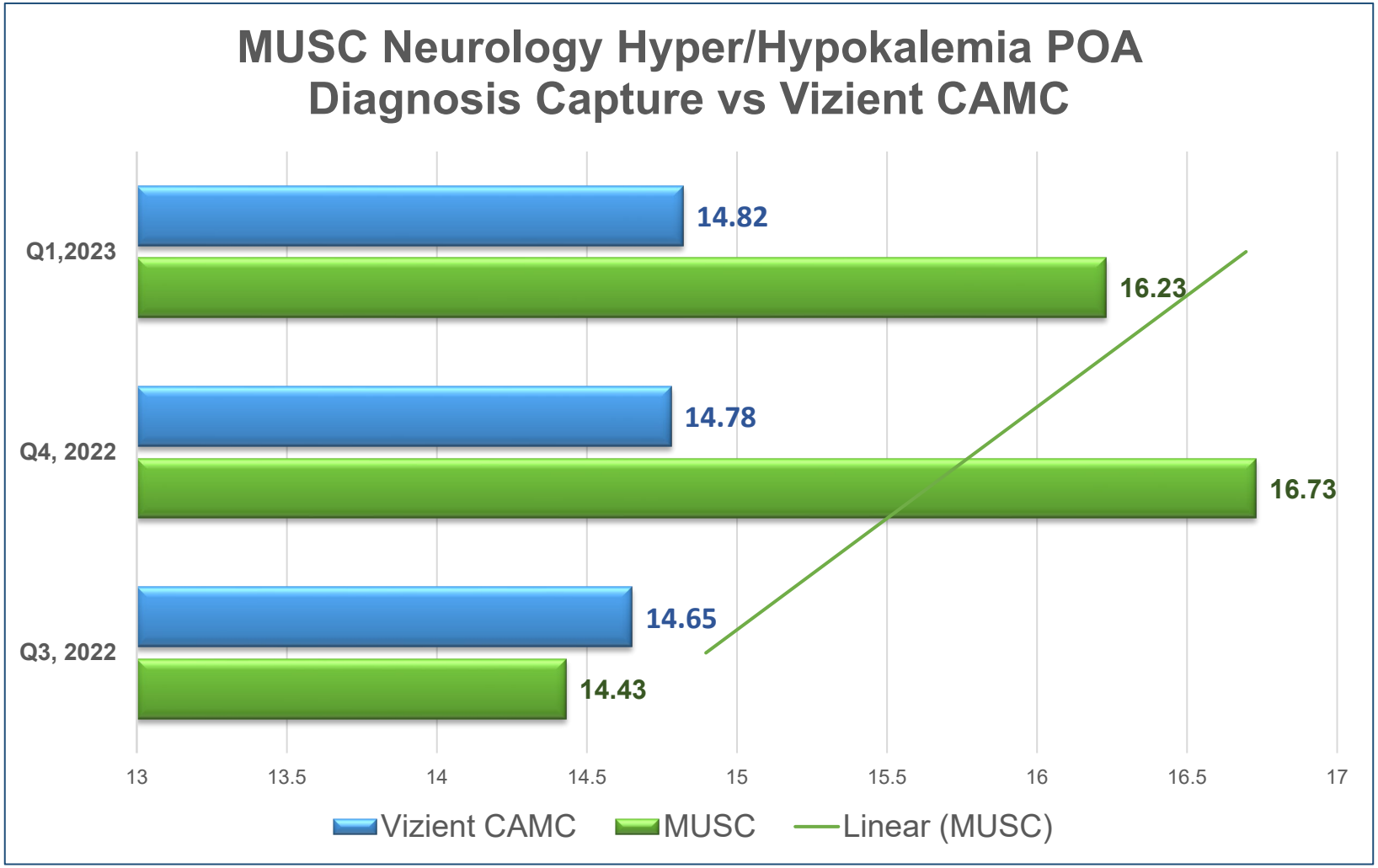
Q1, 2023	total	malnutrition diagnoses		% capture
MUSC- Neurology	530	44		8.30%
Vizient CAMC	46,153	3,883		8.41%



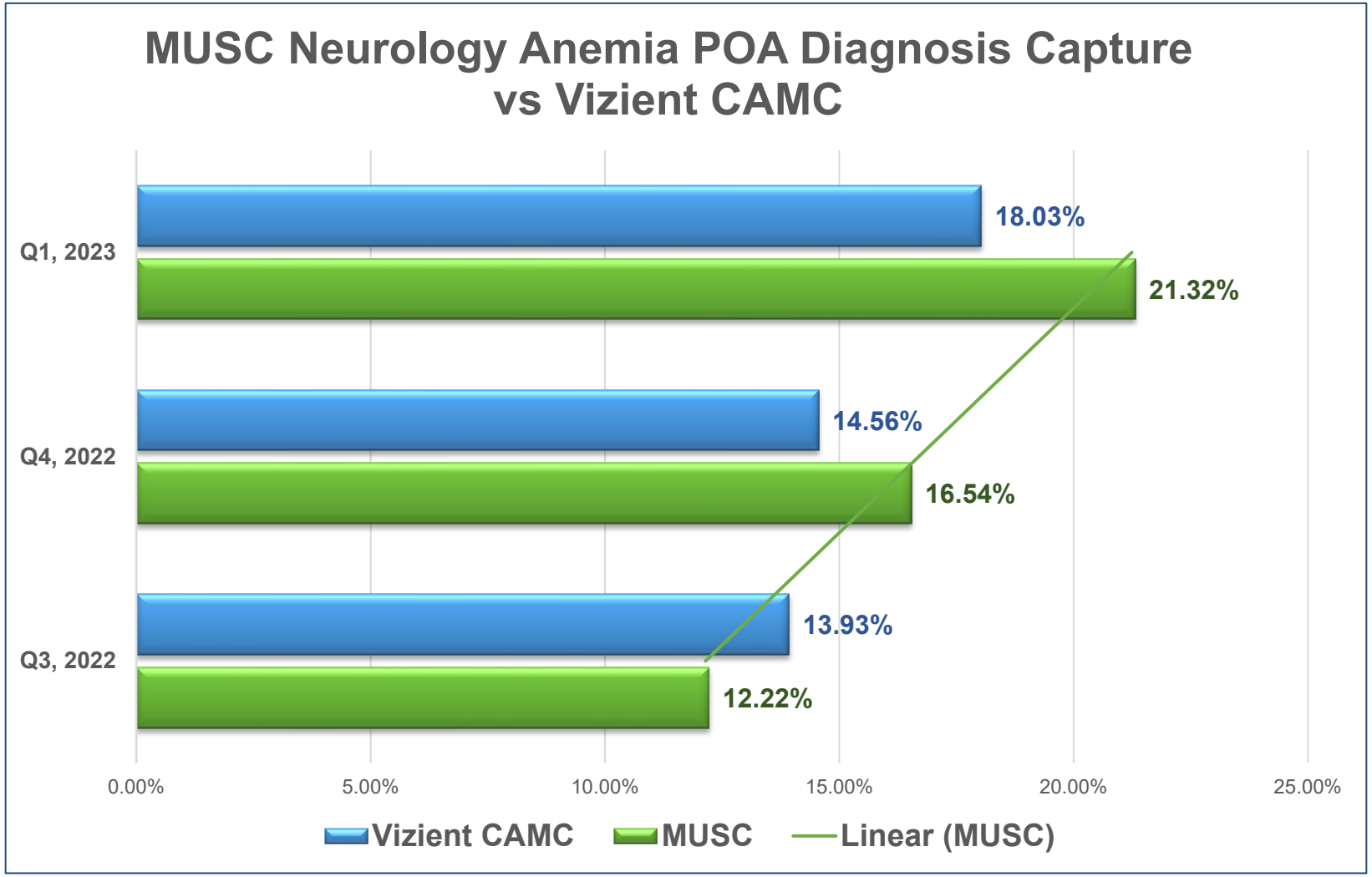
Source: MUSC Internally created spreadsheet



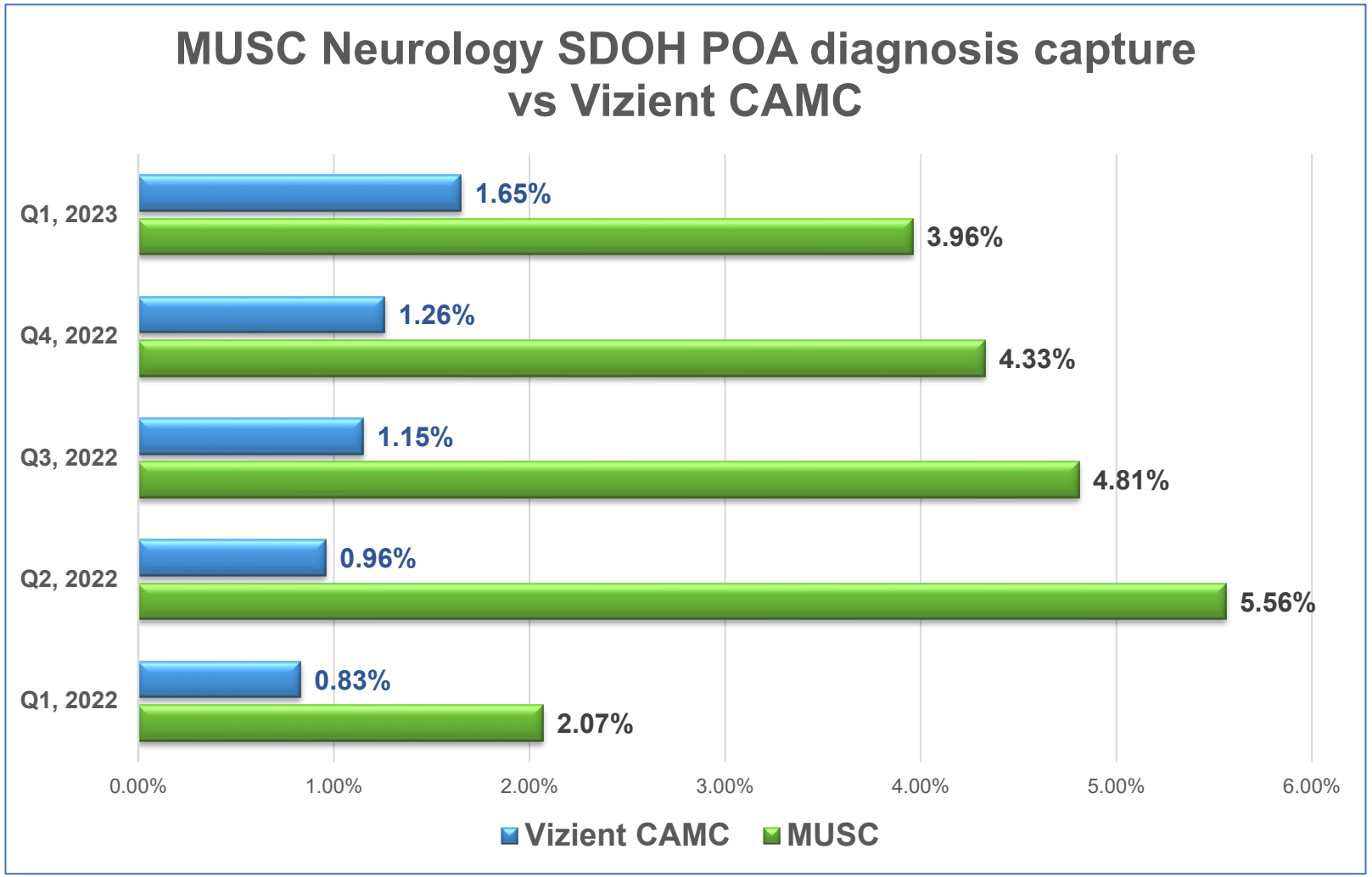
Source: MUSC Internally created spreadsheet



Source: MUSC Internally created spreadsheet



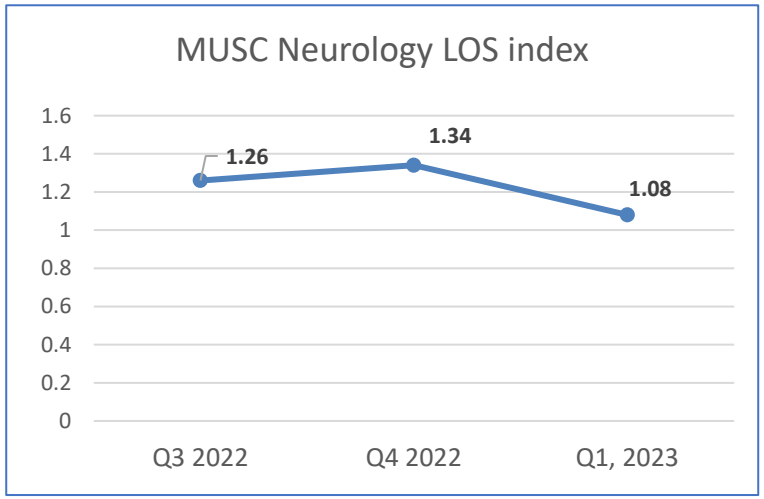
Source: MUSC Internally created spreadsheet

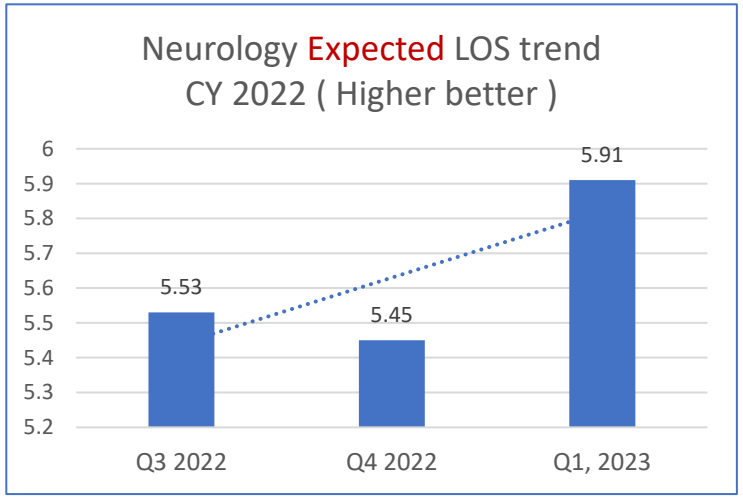


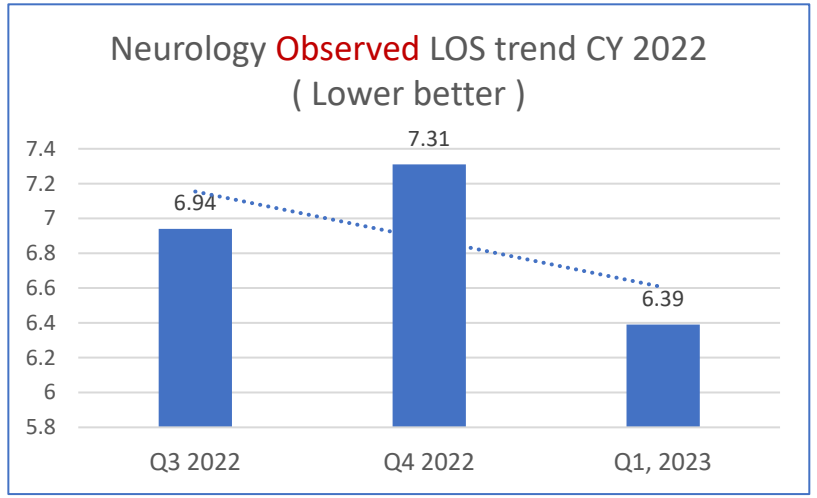
Source: MUSC Internally created spreadsheet

LOS index improvement opportunity
Results

MUSC Neurology Improvement in LOS index; both the O and the E



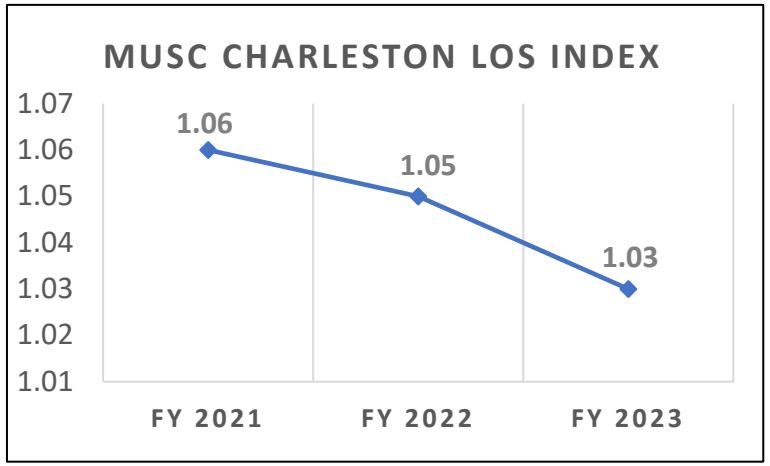


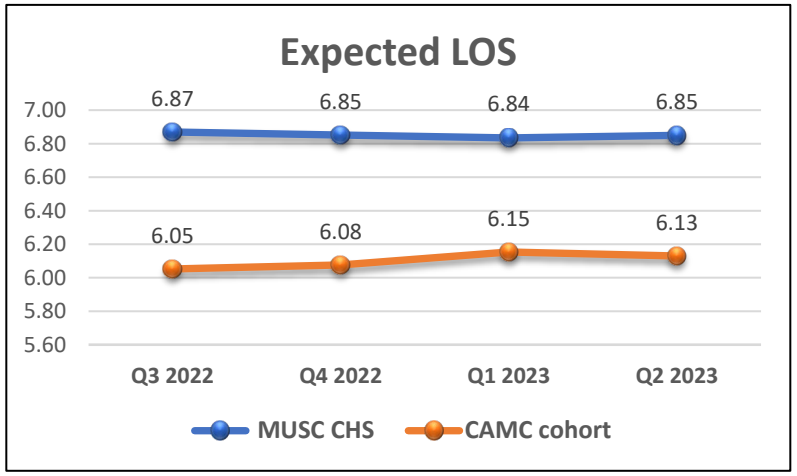


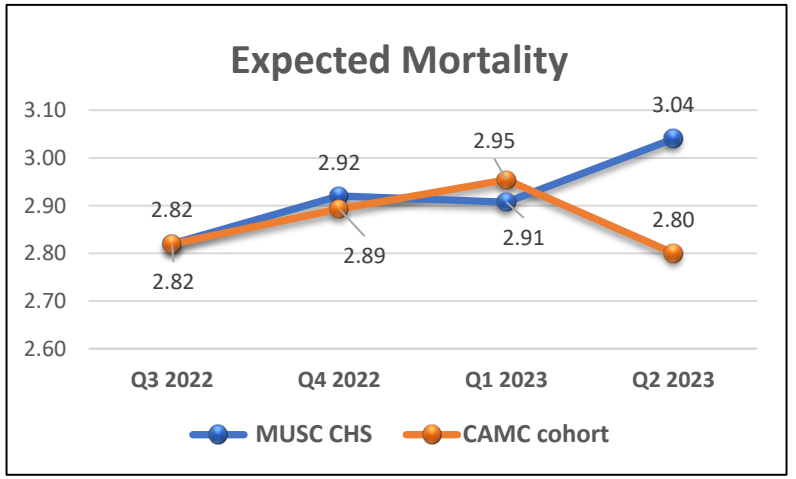
Source: Data derived from Vizient CDB

LOS index improvement opportunity
Results

MUSC Charleston Improvement in LOS index; both the O and the E







Source: Data derived from Vizient CDB

PSI-90 Exclusion Systemization

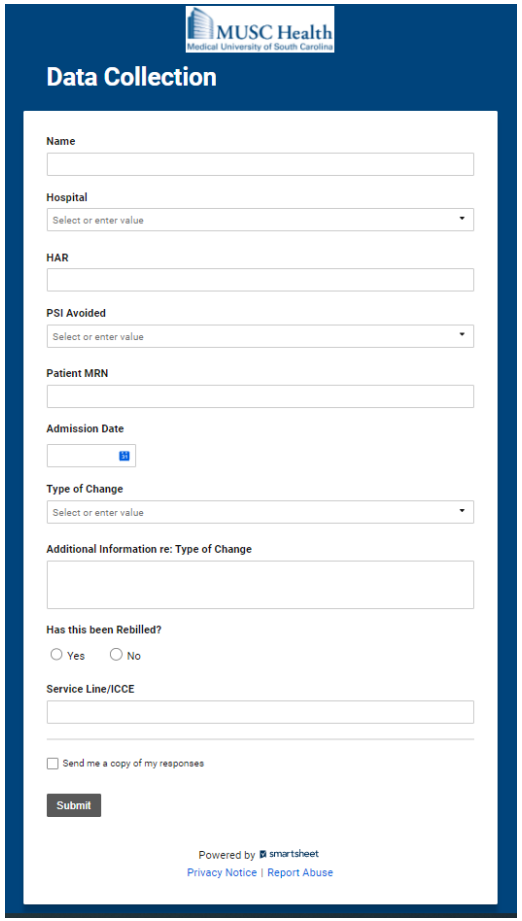
The Why

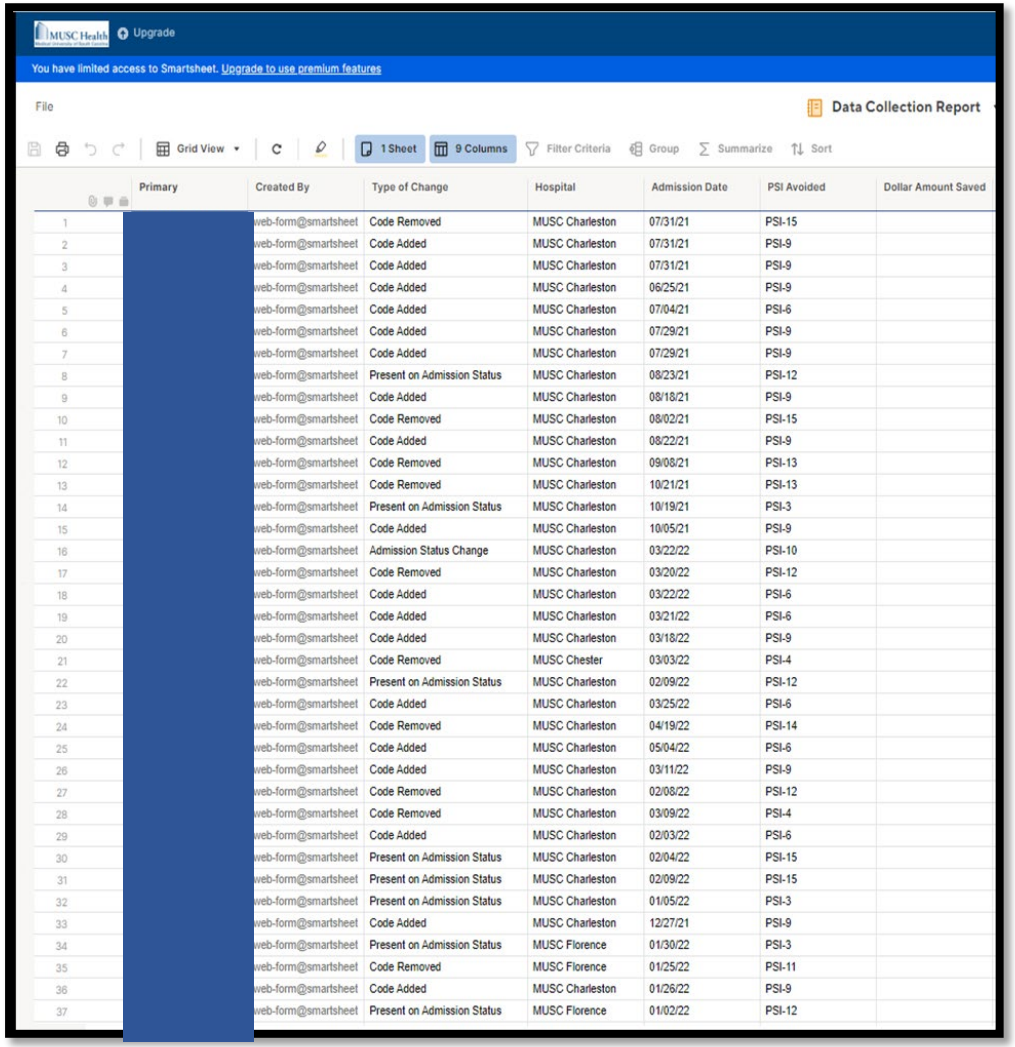
- Opportunity to increase the accuracy of our internal and external data and outcomes related to PSI – 90 and to reduce penalties incurred
- Lacked systemized process for PSI-90 exclusion tracking and trending
- Lacked process to enumerate CDI value in PSI-90 exclusion work
- No process by which to verify excluded PSIs were truly excluded

PSI-90 Exclusion Systemization
Project Goals

- Created SmartSheet for all PSI exclusion data entry & reporting capability
- Stood up monthly PSI-90 workgroup to standardize PSI exclusion work across the system

PSI-90 Exclusion Systemization
Project Goals





	Primary	Created By	Type of Change	Hospital	Admission Date	PSI Avoided	Dollar Amount Saved
1		web-form@smartsheet	Code Removed	MUSC Charleston	07/31/21	PSI-15	
2		web-form@smartsheet	Code Added	MUSC Charleston	07/31/21	PSI-9	
3		web-form@smartsheet	Code Added	MUSC Charleston	07/31/21	PSI-9	
4		web-form@smartsheet	Code Added	MUSC Charleston	06/25/21	PSI-9	
5		web-form@smartsheet	Code Added	MUSC Charleston	07/04/21	PSI-6	
6		web-form@smartsheet	Code Added	MUSC Charleston	07/29/21	PSI-9	
7		web-form@smartsheet	Code Added	MUSC Charleston	07/29/21	PSI-9	
8		web-form@smartsheet	Present on Admission Status	MUSC Charleston	08/23/21	PSI-12	
9		web-form@smartsheet	Code Added	MUSC Charleston	08/18/21	PSI-9	
10		web-form@smartsheet	Code Removed	MUSC Charleston	08/02/21	PSI-15	
11		web-form@smartsheet	Code Added	MUSC Charleston	08/22/21	PSI-9	
12		web-form@smartsheet	Code Removed	MUSC Charleston	09/08/21	PSI-13	
13		web-form@smartsheet	Code Removed	MUSC Charleston	10/21/21	PSI-13	
14		web-form@smartsheet	Present on Admission Status	MUSC Charleston	10/19/21	PSI-3	
15		web-form@smartsheet	Code Added	MUSC Charleston	10/05/21	PSI-9	
16		web-form@smartsheet	Admission Status Change	MUSC Charleston	03/22/22	PSI-10	
17		web-form@smartsheet	Code Removed	MUSC Charleston	03/20/22	PSI-12	
18		web-form@smartsheet	Code Added	MUSC Charleston	03/22/22	PSI-6	
19		web-form@smartsheet	Code Added	MUSC Charleston	03/21/22	PSI-6	
20		web-form@smartsheet	Code Added	MUSC Charleston	03/18/22	PSI-9	
21		web-form@smartsheet	Code Removed	MUSC Chester	03/03/22	PSI-4	
22		web-form@smartsheet	Present on Admission Status	MUSC Charleston	02/09/22	PSI-12	
23		web-form@smartsheet	Code Added	MUSC Charleston	03/25/22	PSI-6	
24		web-form@smartsheet	Code Removed	MUSC Charleston	04/19/22	PSI-14	
25		web-form@smartsheet	Code Added	MUSC Charleston	05/04/22	PSI-6	
26		web-form@smartsheet	Code Added	MUSC Charleston	03/11/22	PSI-9	
27		web-form@smartsheet	Code Removed	MUSC Charleston	02/08/22	PSI-12	
28		web-form@smartsheet	Code Removed	MUSC Charleston	03/09/22	PSI-4	
29		web-form@smartsheet	Code Added	MUSC Charleston	02/03/22	PSI-6	
30		web-form@smartsheet	Present on Admission Status	MUSC Charleston	02/04/22	PSI-15	
31		web-form@smartsheet	Present on Admission Status	MUSC Charleston	02/09/22	PSI-15	
32		web-form@smartsheet	Present on Admission Status	MUSC Charleston	01/05/22	PSI-3	
33		web-form@smartsheet	Code Added	MUSC Charleston	12/27/21	PSI-9	
34		web-form@smartsheet	Present on Admission Status	MUSC Florence	01/30/22	PSI-3	
35		web-form@smartsheet	Code Removed	MUSC Florence	01/25/22	PSI-11	
36		web-form@smartsheet	Code Added	MUSC Charleston	01/26/22	PSI-9	
37		web-form@smartsheet	Present on Admission Status	MUSC Florence	01/02/22	PSI-12	

Source: MUSC Internally

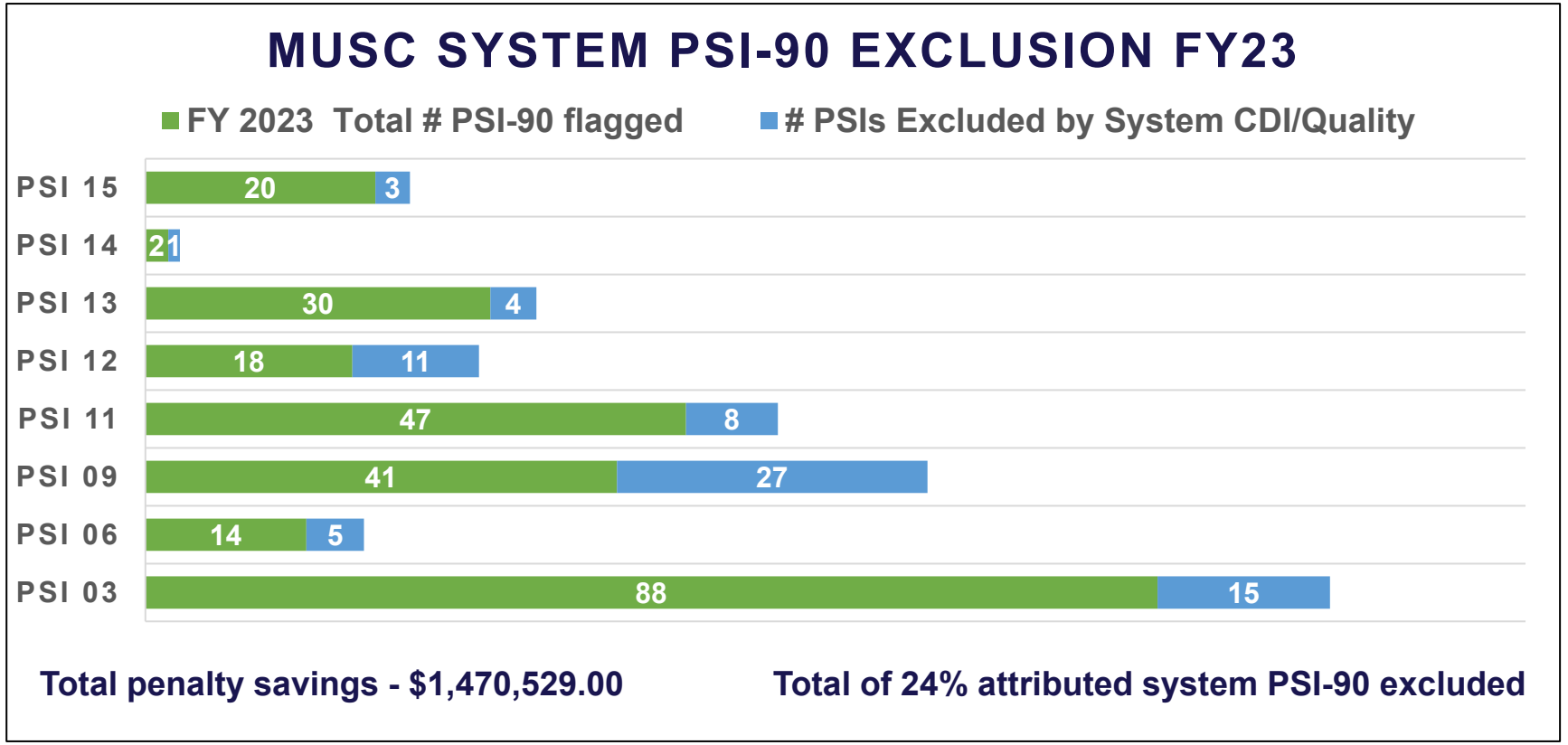
PSI-90 Exclusion Systemization
Smartsheet

1. **Quality control** → Use Smartsheet data to compare excluded PSI-90 against internal dashboard (Vizient derived data)

2. **Track/trend** → Use Smartsheet reports to collate CDI/Quality exclusions by service line, provider, date, type of exclusion.

3. **Enumerate value**→ Use Vizient derived PSI penalty $ amount to allocate financial value to CDI exclusion work

PSI-90 Exclusion Systemization
Results



Source: MUSC Internally created spreadsheet; derived using Vizient PSI exclusion $ values

Lessons Learned

- Deep dive workbooks are manual and time intensive ; currently cannot be scheduled
- Save each report individually
- Many risk variable (diagnosis) opportunities between service lines are similar
- Add spot for “none applicable” to smart phrase to broaden usage
- For PSI-90 exclusion tracking, verify all fields necessary to incorporate into tracking system. (We added ‘nursing unit’ about 1 year after inception → in hindsight we should have added at beginning)

Key Takeaways

- You can't fix everything at once; focus on priorities of customer base.
- Harness any engagement by customer base. Documentation education and training opportunities often intersect with other projects.
- Enumerate your value!!

Questions?

Contact:

Tracy Ferro, ferrot@musc.edu

Aubrie Booth, boota@musc.edu

This educational session is enabled through the generous support of the Vizient Member Networks program.

2023 VIZIENT CONNECTIONS SUMMIT
TOGETHER
we will soar
SEPT. 18–21, 2023
WYNN, LAS VEGAS
vizient.

DOWNSTATE
HEALTH SCIENCES UNIVERSITY

Reducing Patient Safety Indicator 90 (PSI90) by Improving Documentation and Coding

Mohamed Rami Nakeshbandi, MD, MHA, FACP, *Chief Quality Officer, SUNY Downstate Health Science University*

Abdul Rehman, MD, MPH, FRSPH, *Process Improvement Clinical Specialist, SUNY Downstate Health Science University*

we will soar

vizient.

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.

An individual is considered to have a relevant financial relationship if the educational content an individual can control is related to the business lines or products of the ineligible company.

No one in a position to control the content of this educational activity has relevant financial relationships with ineligible companies.

DOWNSTATE
HEALTH SCIENCES UNIVERSITY

Reducing Patient Safety Indicator 90 (PSI90) by Improving Documentation and Coding

Mohamed Rami Nakeshbandi, MD, MHA, FACP, *Chief Quality Officer, SUNY Downstate Health Science University*

Abdul Rehman, MD, MPH, FRSPH, *Process Improvement Clinical Specialist, SUNY Downstate Health Science University*

we will soar

vizient.

SUNY Downstate Health Science University

- The only academic medical center in Brooklyn
- 342 Bed Safety net Hospital
- Population:
  - Diverse
  - Minorities
  - Multiple comorbidities
  - Lower SDOH
- Payor Mix:
  - 44% Medicaid
  - 41% Medicare

DOWNSTATE
HEALTH SCIENCES UNIVERSITY

HRO Journey Milestones

Jan 2021
Mission
Vision
Values

Apr 2021
Safety Daily Huddles

Dec 2021
SSE Analysis

Jan 2022
Leadership
Development

May 2022
Executive
Leadership
Rounding

Nov 2021
We Act
PI Methodology

DOWNSTATE
HEALTH SCIENCES UNIVERSITY

HRO Journey Milestones

SUNY Downstate Health Sciences University

Mission

As the only health sciences university hospital in Brooklyn, we are devoted to achieving health equity in our communities through provision of outstanding patient care, research and education.

Vision

To be the best place to get care and the best place to give care.

Values

We Care.

Welcoming to All
Equity
Collaboration
Accountability
Respect
Excellence

WE ACT

UHD Performance Improvement Methodology

WE Define

- Define the Problem
- Set Goal & Targets
- Identify team members
- Business Case
- Scope of the project
- Current State/Process Map

TRANSFORM

- Implement improvements and changes
- Develop a plan to sustain improvement
- Collect data to sustain improvements over time

EXAMINE

- Develop a data collection plan
- Collect Data

ANALYZE

- What is the data telling you?
- Identify ROOT CAUSEs

CHANGE

- Develop Improvement Plan to address ROOT CAUSES
- Make necessary changes
- Future State/Process Map

Patient Safety Indicator 90 (PSI 90)

PSI 90 combines the smoothed indirectly standardized morbidity ratios (observed/expected ratios) from selected AHRQ PSIs, including some Hospital Acquired Conditions and Peri-operative complications

INDICATOR	HARM WEIGHT	VOLUME WEIGHT	COMPONENT WEIGHT
PSI 3 Pressure Ulcer Rate	0.3080	0.1048	0.1641
PSI 6 Iatrogenic Pneumothorax Rate	0.1381	0.0457	0.0321
PSI 8 In Hospital Fall With Hip Fracture Rate	0.1440	0.0194	0.0142
PSI 9 Postoperative Hemorrhage or Hematoma Rate	0.0570	0.1526	0.0442
PSI 10 Postoperative Acute Kidney Injury Requiring Dialysis Rate	0.3584	0.0310	0.0564
PSI 11 Postoperative Respiratory Failure Rate	0.2219	0.2125	0.2397
PSI 12 Perioperative Pulmonary Embolism or Deep Vein Thrombosis Rate	0.1557	0.2318	0.1835
PSI 13 Postoperative Sepsis Rate	0.3102	0.1384	0.2182
PSI 14 Postoperative Wound Dehiscence Rate	0.1441	0.0170	0.0125
PSI 15 Abdominopelvic Accidental Puncture or Laceration Rate	0.1474	0.0468	0.0351

Source: 2018 State inpatient Databases, Healthcare Cost and Utilization Program, Agency for Healthcare Research and Quality. 2013-2014 Medicare Fee-for-Service claims data

Patient Safety Indicator 90 (PSI 90)

CMS Programs

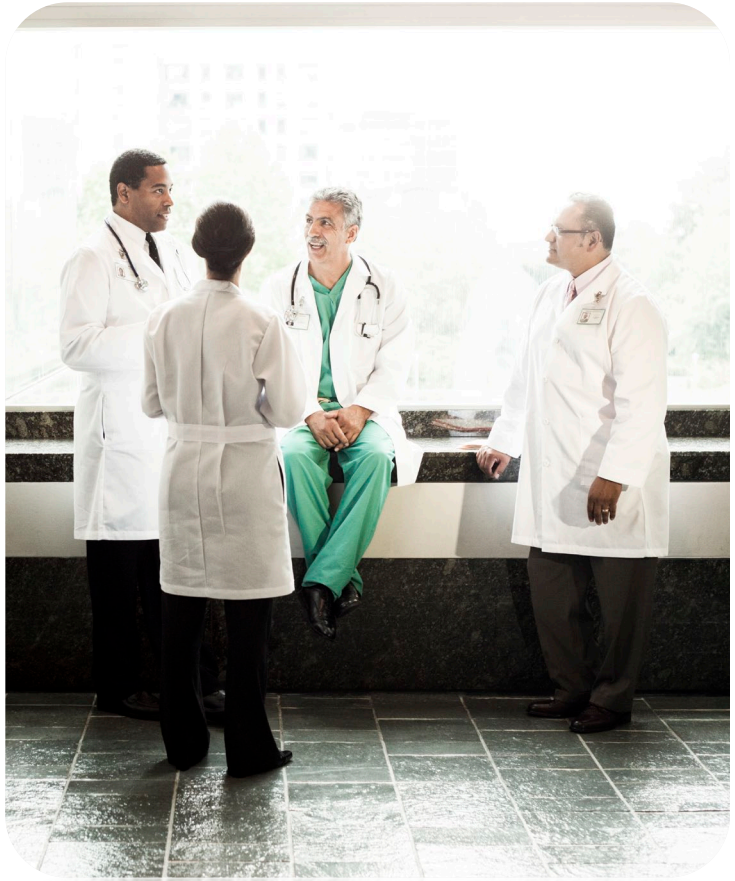
Leapfrog
Hospital Safety Grade

CMS HACRP

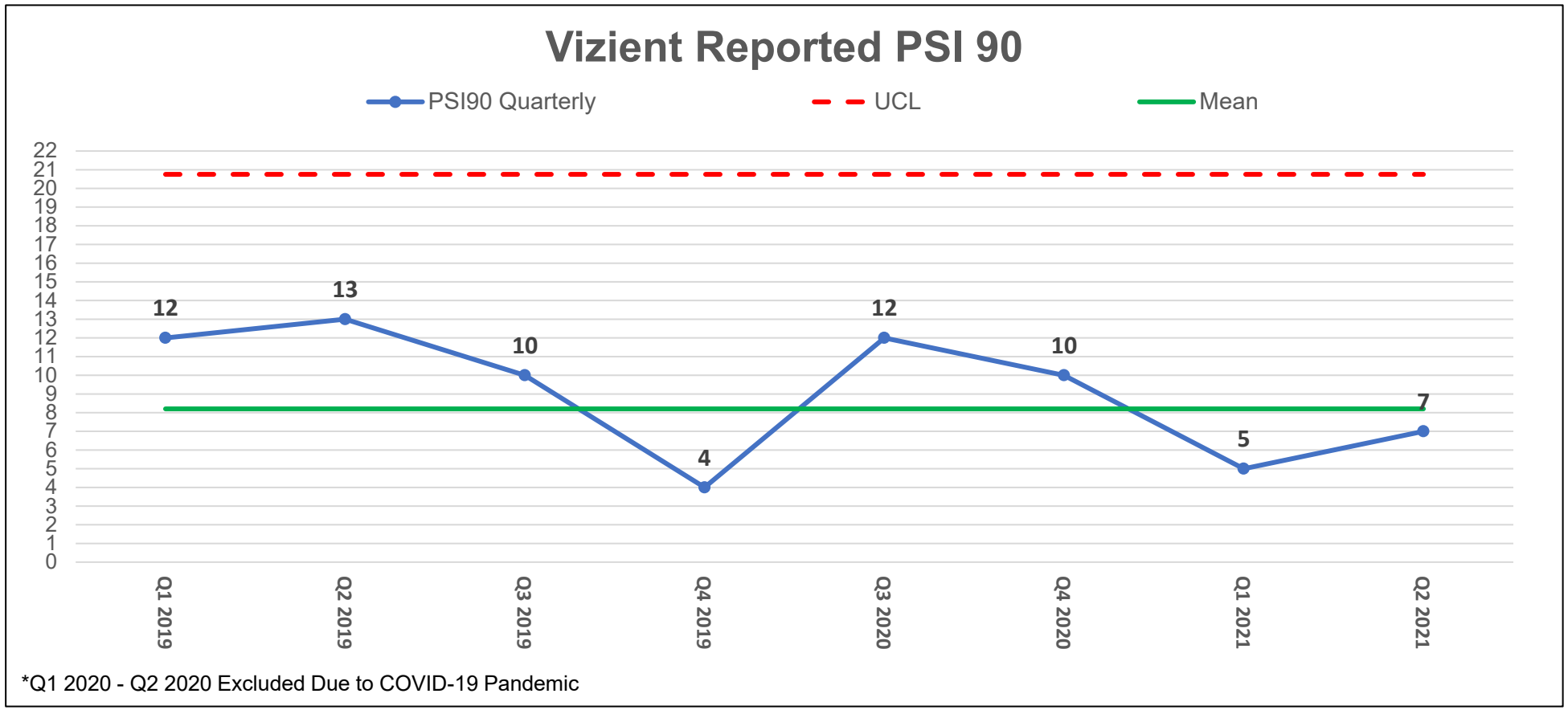
CMS VBP

We Define

- **Goal Statement:**
  - Reduce PSI 90 metric by 50% within 12 months
- **Team Members:**
  - Executive Sponsor: Chief Quality Officer
  - Team Leader: Director of Quality and Process Improvement
  - Members:
    - Performance Improvement (PI) Specialists
    - Clinical Documentation Improvement (CDI) team
    - Health Information Management (HIM) team
    - Data Analytics team
    - Nursing
    - Surgery physicians

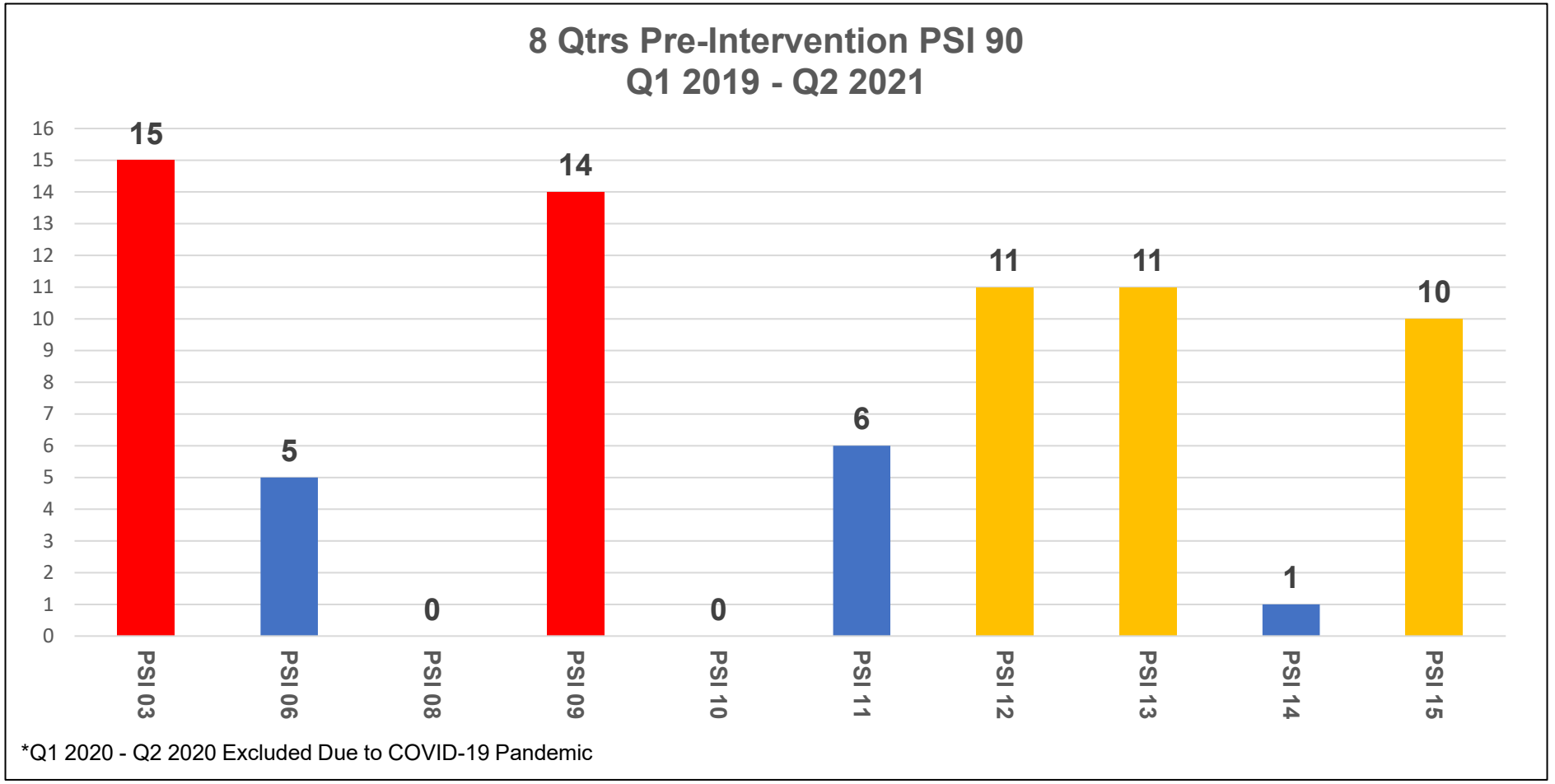


Examine

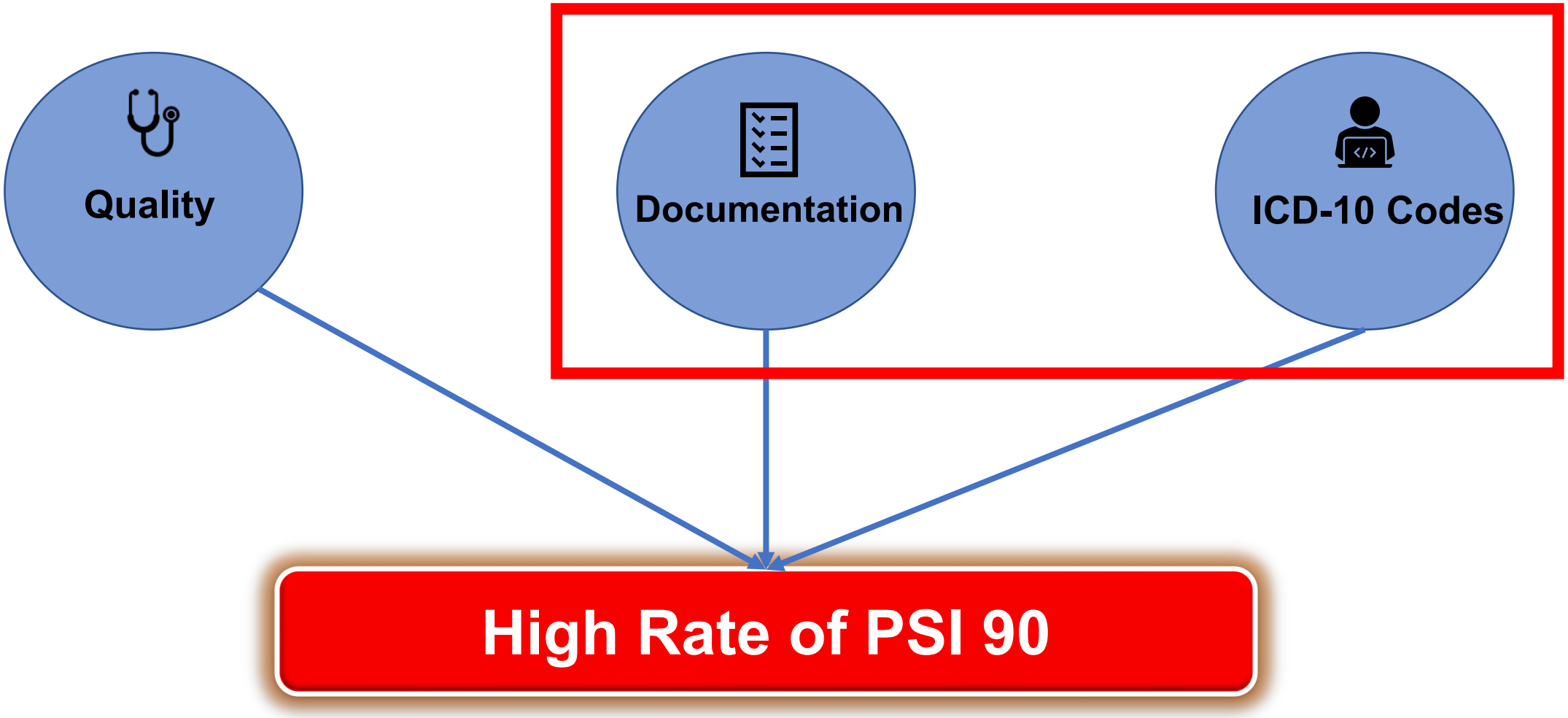


*Q1 2020 - Q2 2020 Excluded Due to COVID-19 Pandemic

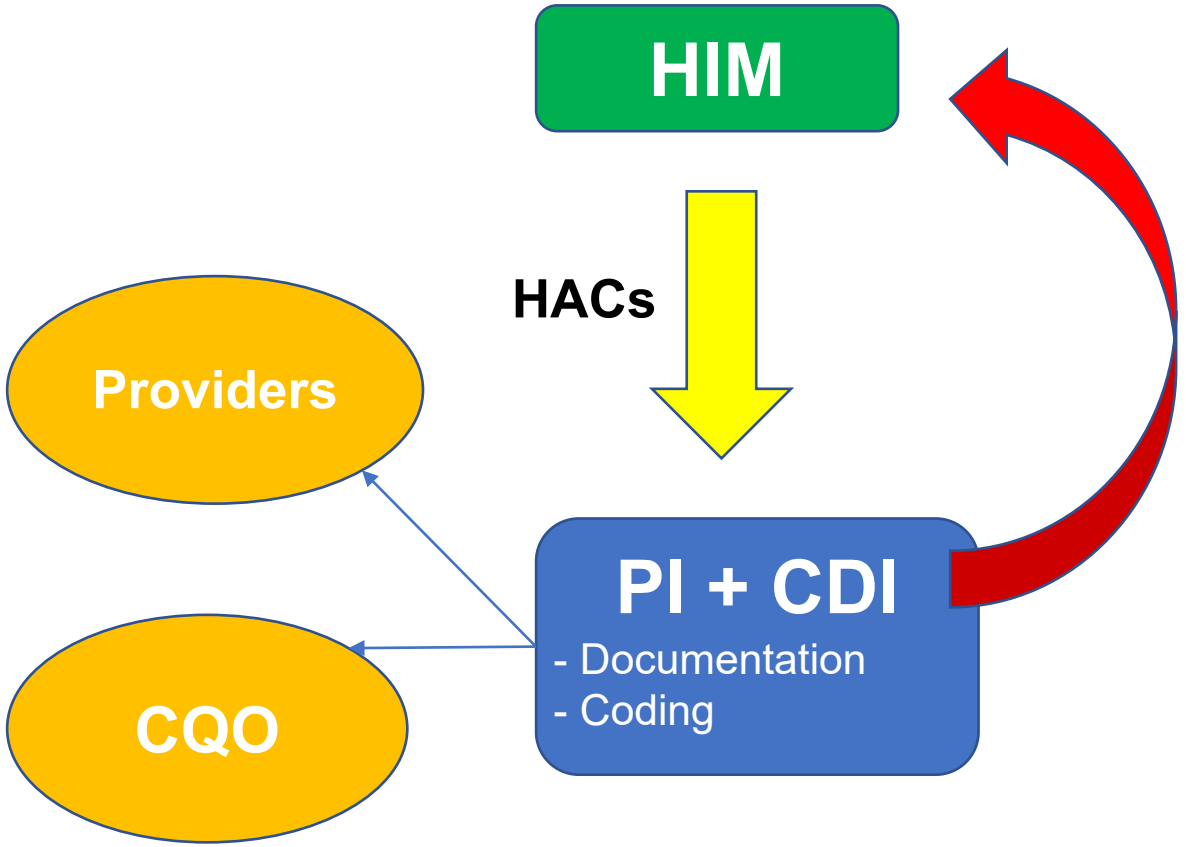
Examine


8 Qtrs Pre-Intervention PSI 90
Q1 2019 - Q2 2021
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
15
5
0
14
0
6
11
11
1
10
PSI 03
PSI 06
PSI 08
PSI 09
PSI 10
PSI 11
PSI 12
PSI 13
PSI 14
PSI 15
*Q1 2020 - Q2 2020 Excluded Due to COVID-19 Pandemic

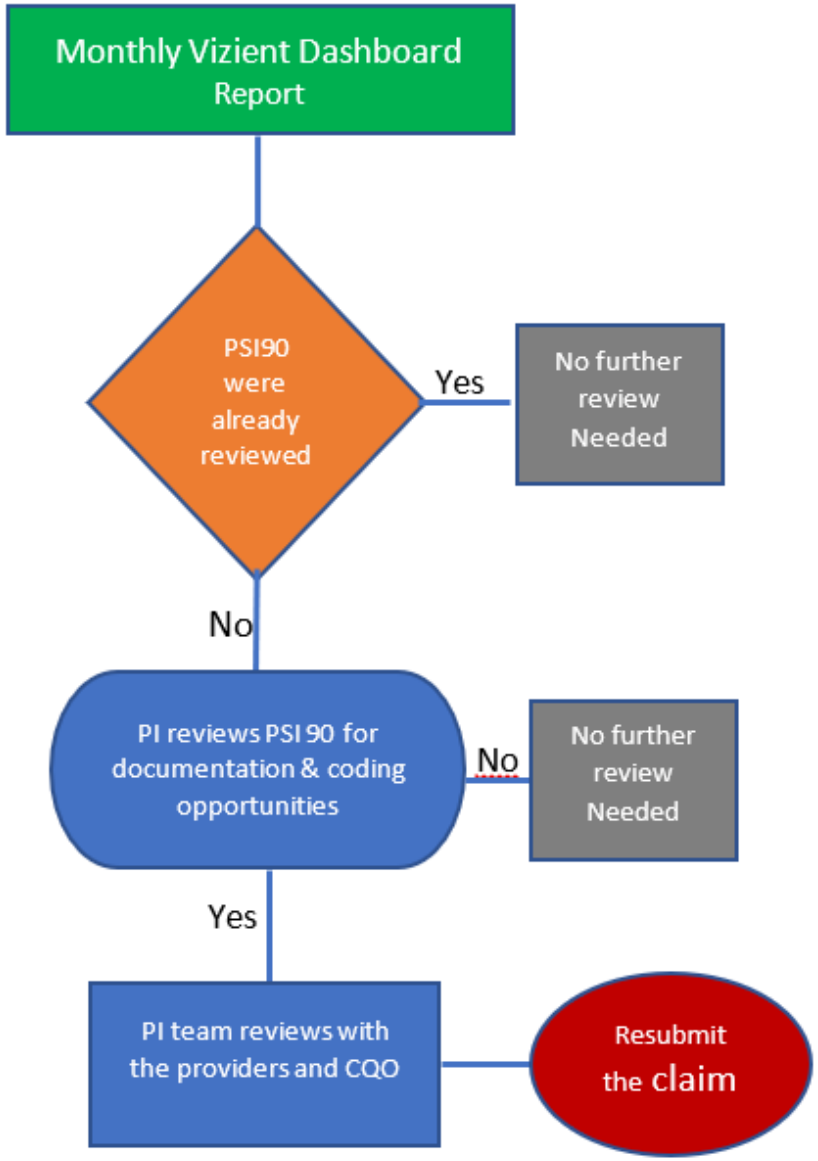
Analyze



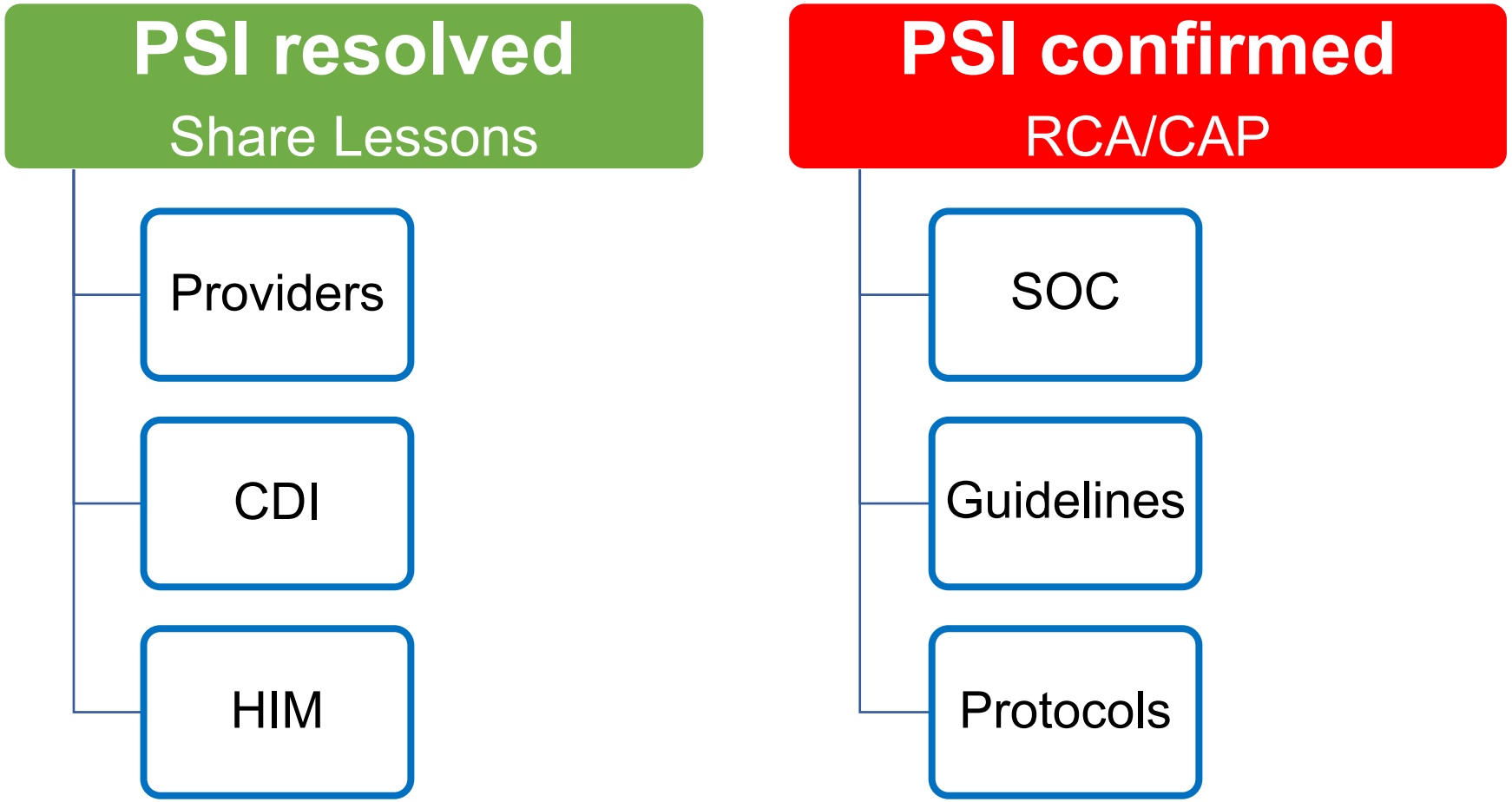
Change



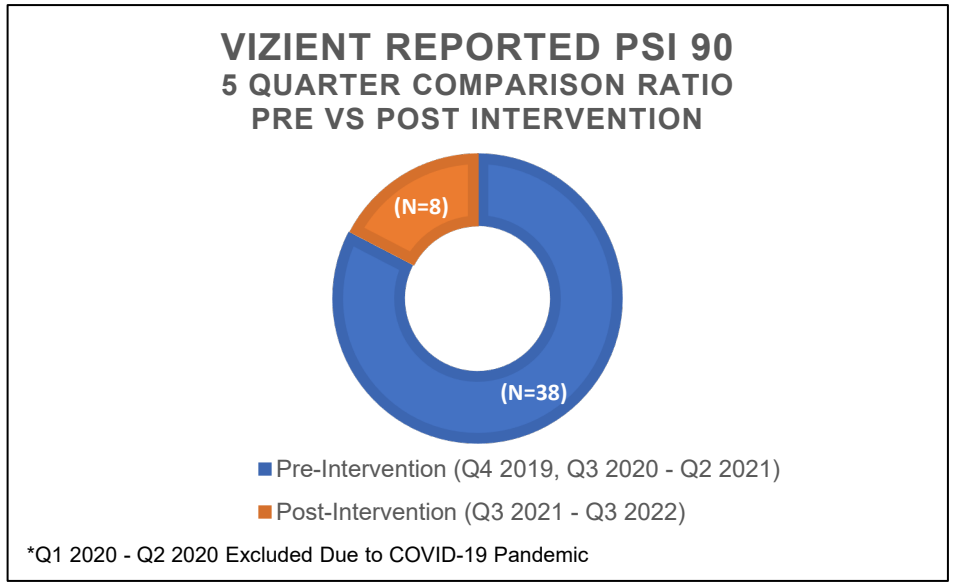
Change


Monthly Vizient Dashboard Report
PSI90 were already reviewed
Yes
No further review Needed
No
PI reviews PSI 90 for documentation & coding opportunities
No
No further review Needed
Yes
PI team reviews with the providers and CQO
Resubmit the claim

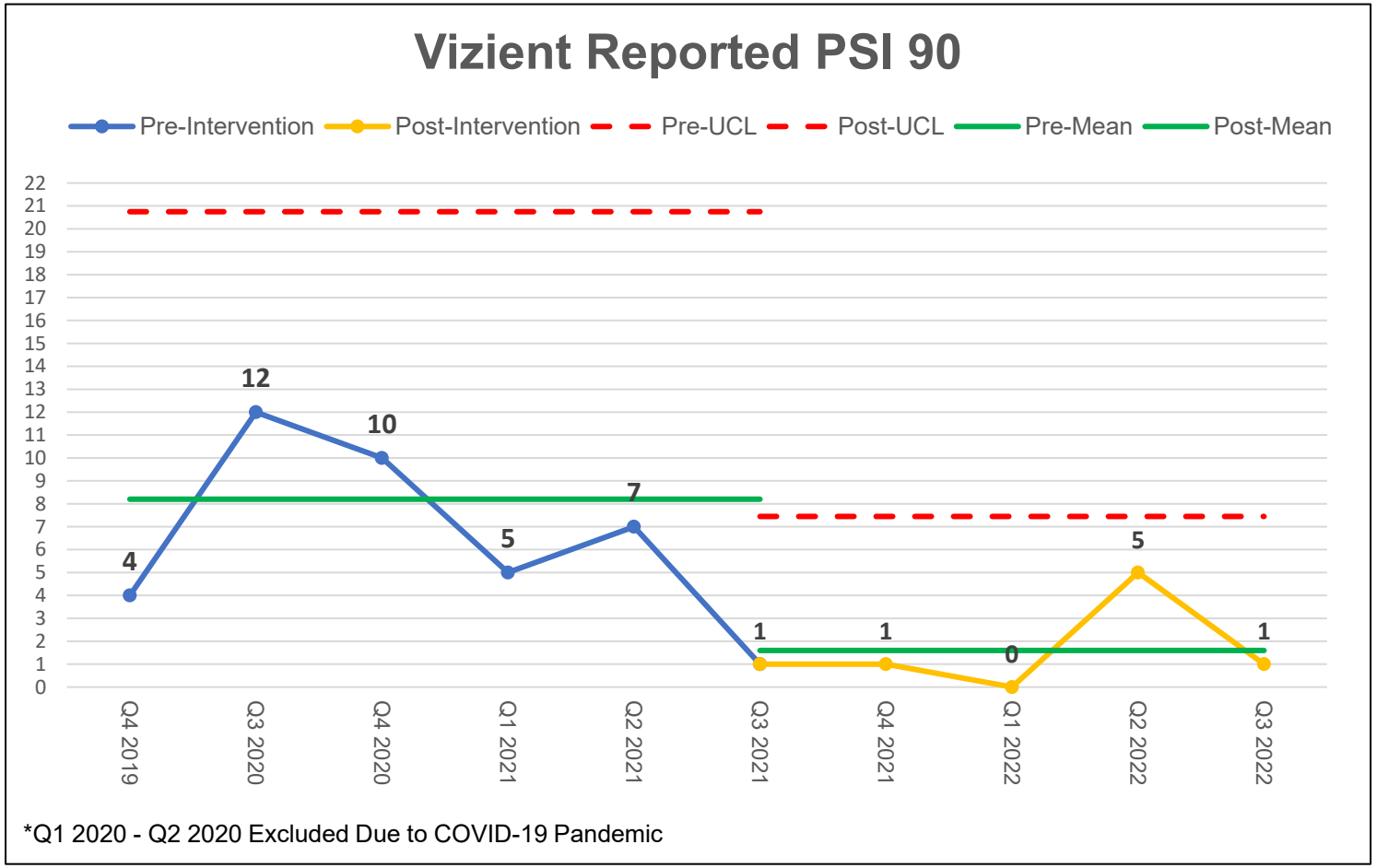
Change


PSI resolved
Share Lessons
Providers
CDI
HIM
PSI confirmed
RCA/CAP
SOC
Guidelines
Protocols

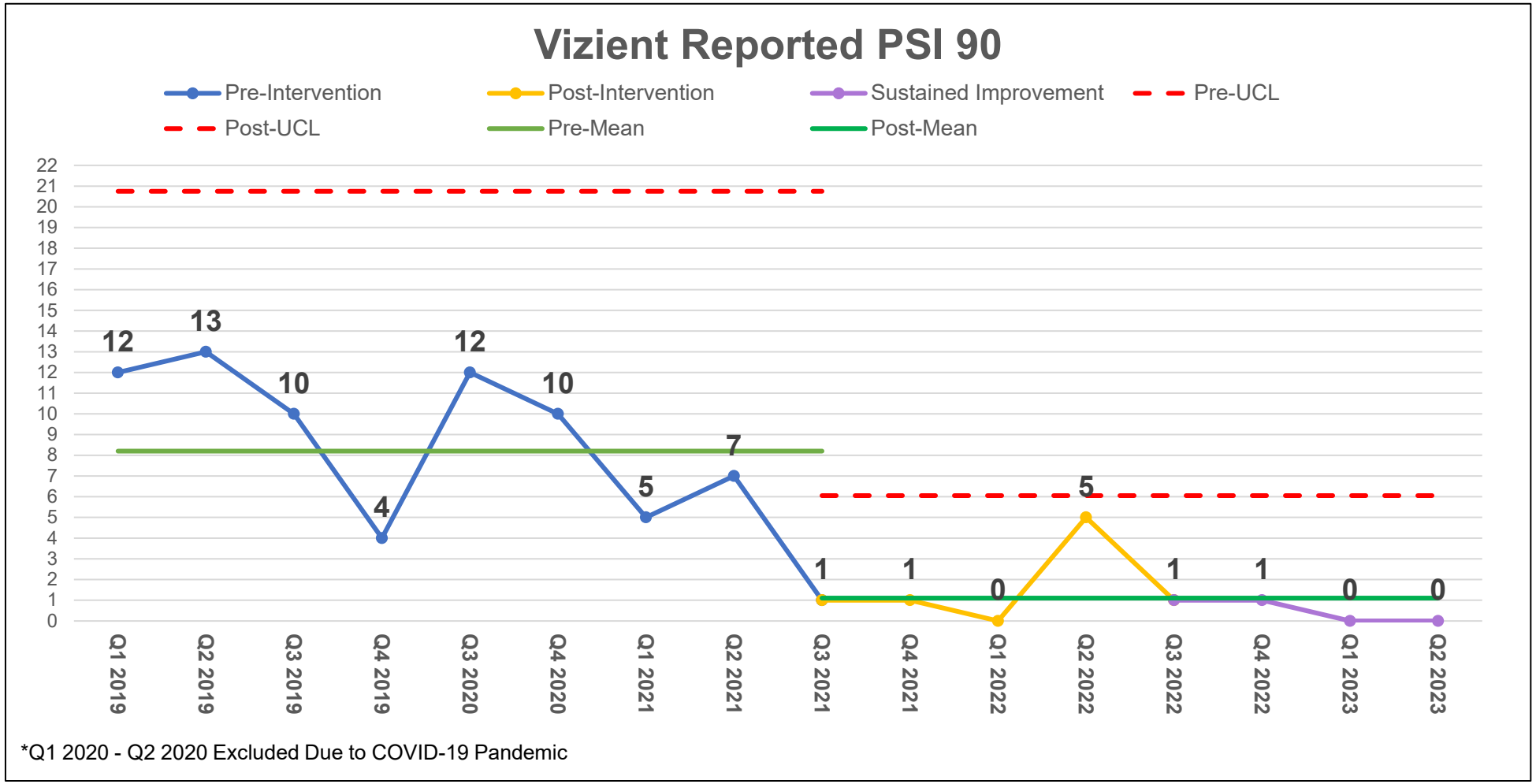
Results



78.9% Total Reduction in PSI90



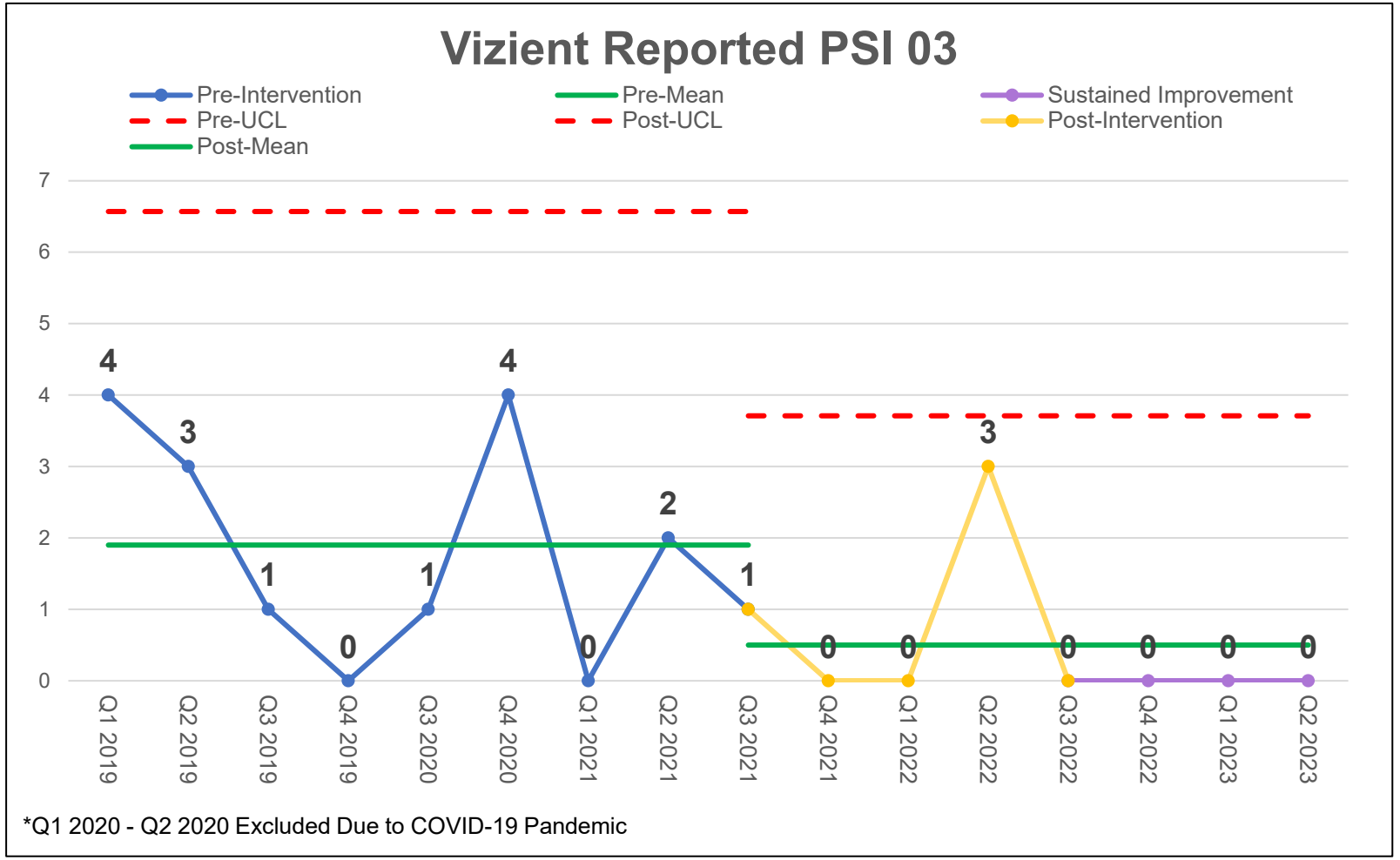
Results - Sustainability



*Q1 2020 - Q2 2020 Excluded Due to COVID-19 Pandemic

Results

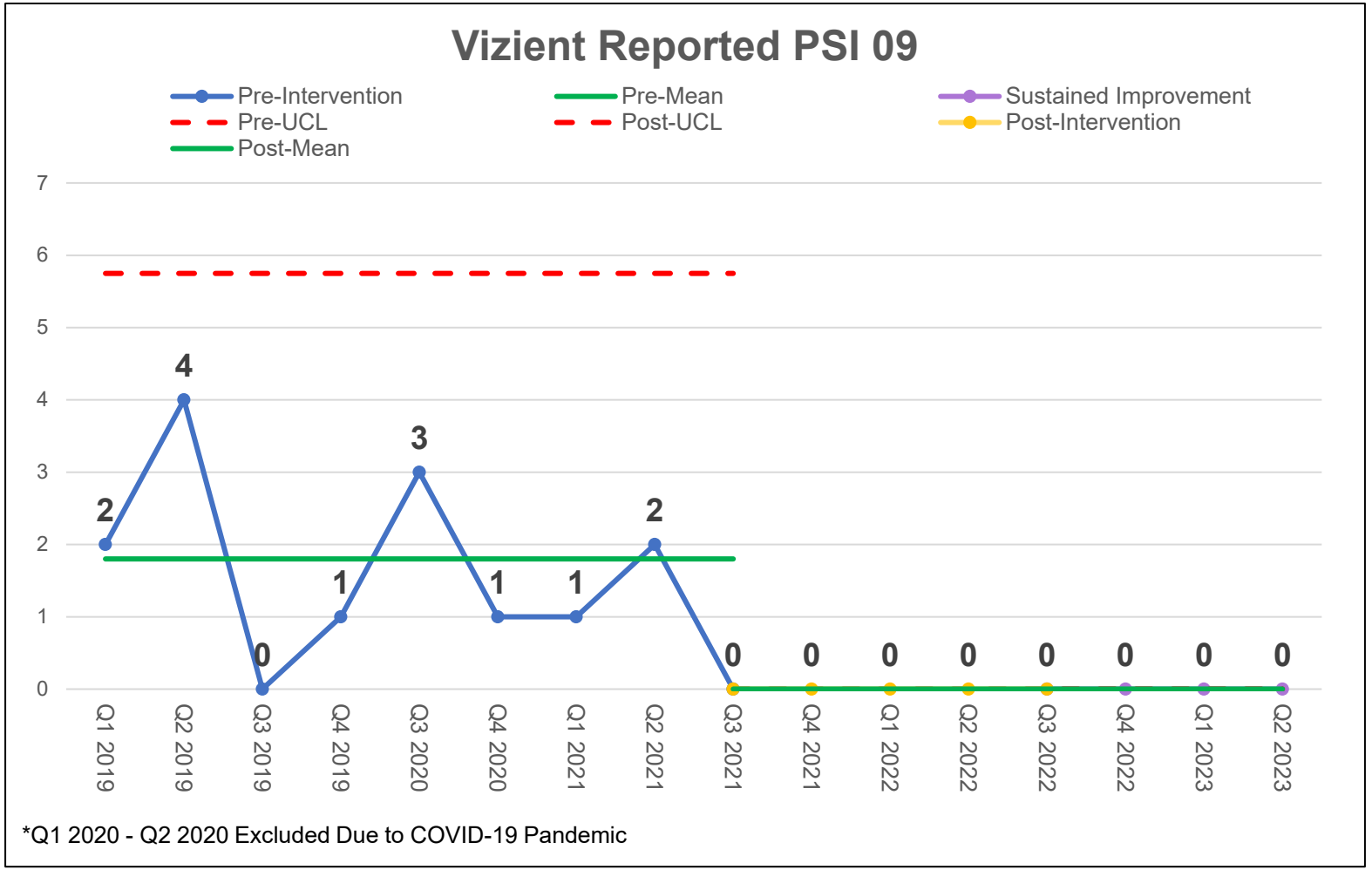
PSI 03 Pressure Ulcer Rate



*Q1 2020 - Q2 2020 Excluded Due to COVID-19 Pandemic

Results

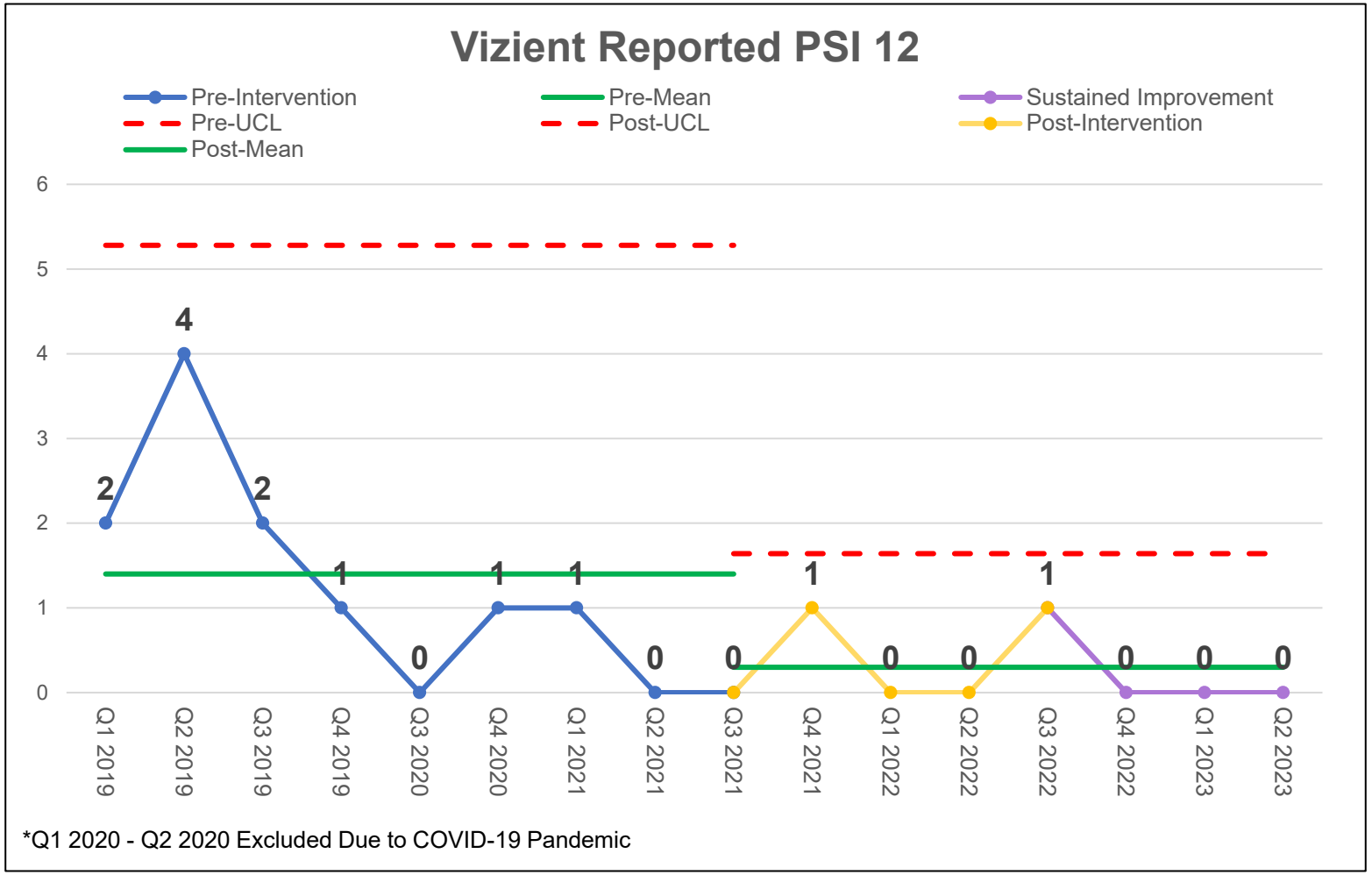
PSI 09 Postoperative Hemorrhage or Hematoma Rate



*Q1 2020 - Q2 2020 Excluded Due to COVID-19 Pandemic

Results

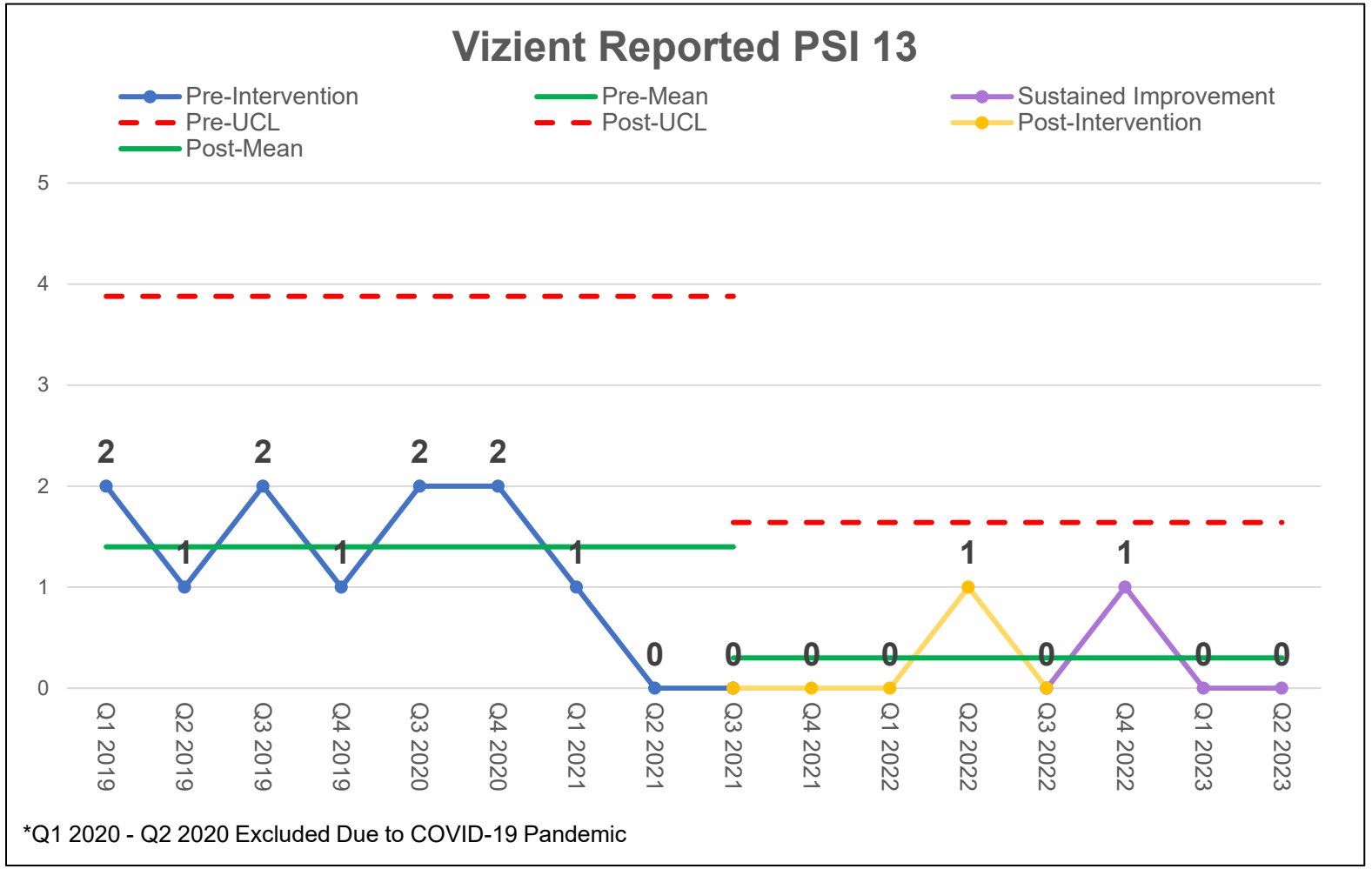
PSI 12: PE/DVT Rate



*Q1 2020 - Q2 2020 Excluded Due to COVID-19 Pandemic

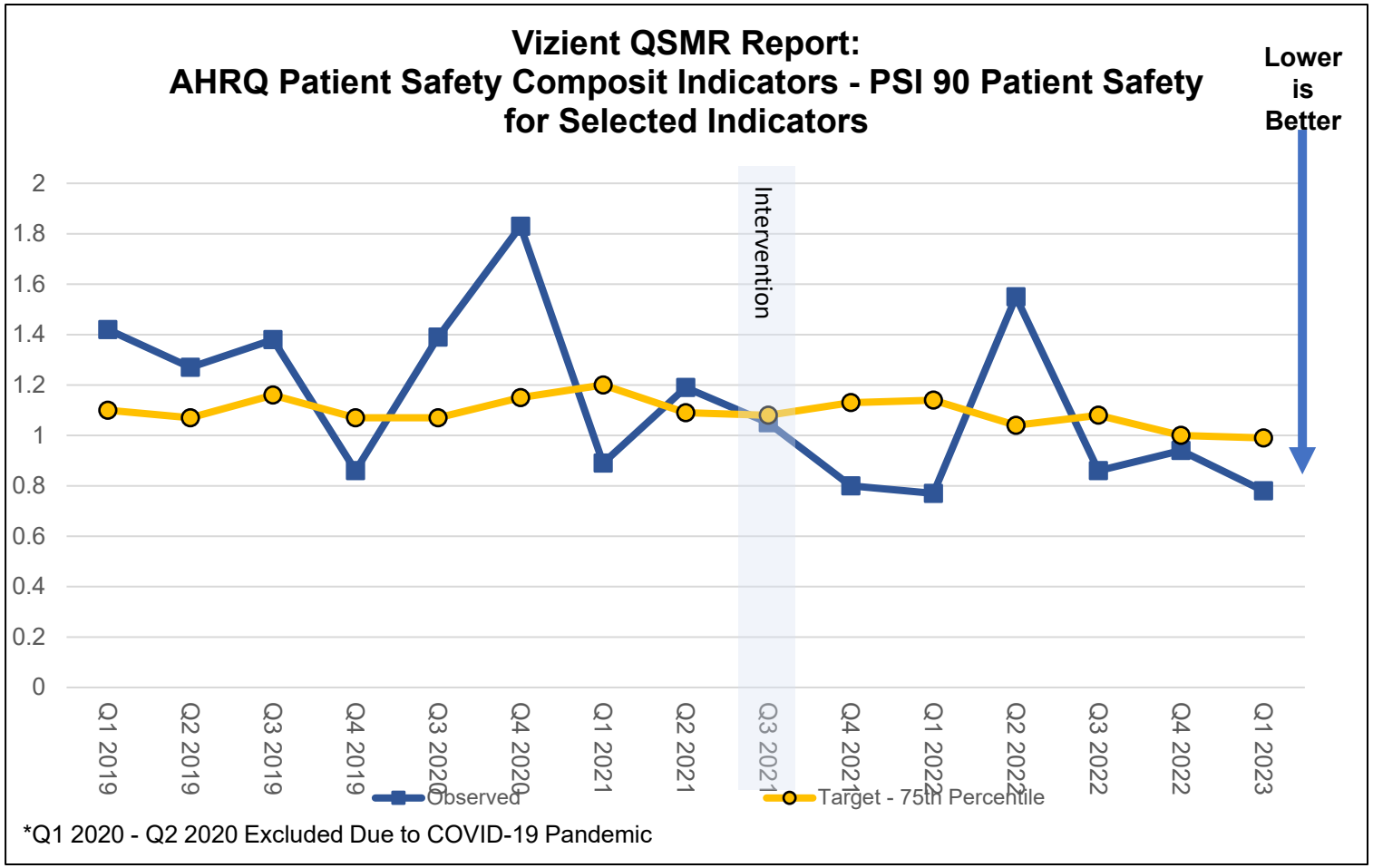
Results

PSI 13 Postoperative Sepsis Rate

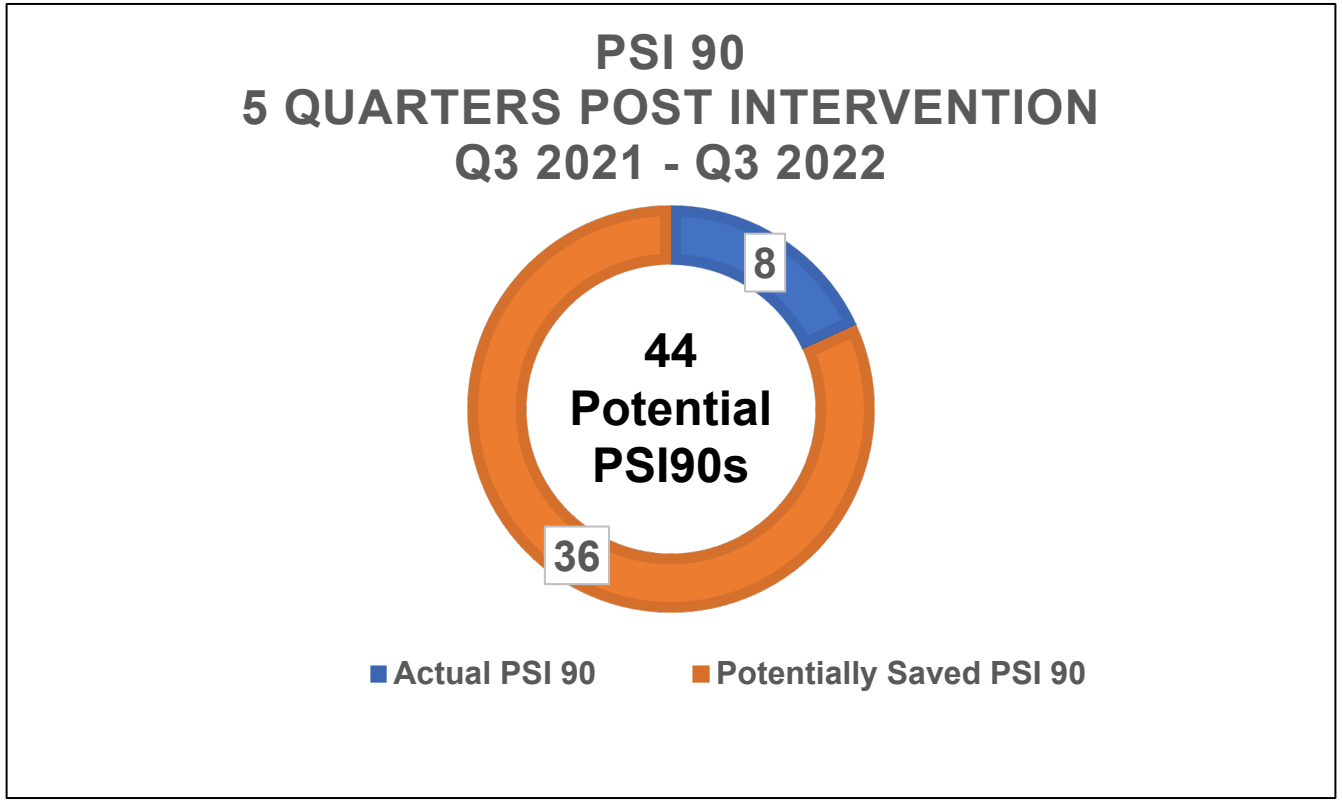


*Q1 2020 - Q2 2020 Excluded Due to COVID-19 Pandemic

Results


Vizient QSMR Report:
AHRQ Patient Safety Composit Indicators - PSI 90 Patient Safety for Selected Indicators
Lower is Better
Intervention
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Q1 2019
Q2 2019
Q3 2019
Q4 2019
Q3 2020
Q4 2020
Q1 2021
Q2 2021
Q3 2021
Q4 2021
Q1 2022
Q2 2022
Q3 2022
Q4 2022
Q1 2023
Observed
Target - 75th Percentile
*Q1 2020 - Q2 2020 Excluded Due to COVID-19 Pandemic

Results


PSI 90
5 QUARTERS POST INTERVENTION
Q3 2021 - Q3 2022
8
44
Potential
PSI90s
36
Actual PSI 90
Potentially Saved PSI 90

Examples of Interventions

- Documentation and coding of pressure injuries as POA when patient presented with pressure injuries was an exclusion criteria for PSI-03
- Documentation and coding of anticoagulation was an exclusion criteria of PSI-09
- Documentation and coding of infection POA was an exclusion criteria of PSI-13
- PE was in the differential diagnosis but was never confirmed by imaging or any other test (PSI-12)
- Appropriately coding lung biopsy as part of a procedure was an exclusion criteria for PSI-06
- Documentation and coding for Pleural Effusion is an exclusion criteria for PSI-06
- Documentation and coding of chronic Pulmonary Embolism is not part of the inclusion criteria for PSI-12

Lessons Learned

- Involving all the players from the start
- Having CDI team focus on quality as they focus on revenue cycle when they review documentation and coding
- Having CDI training for members of the PI team

Key Takeaways

- PSI 90 is a major patient safety indicator
  - Publicly reported metric
  - Financial attachment

- Ensuring appropriate documentation and coding is a critical step to reduce PSI 90
  - Improve quality of care
  - Reduce HACs and perioperative complications

- Following similar process to improve Mortality Index by improving Expected Mortality

Questions?

DOWNSTATE
HEALTH SCIENCES UNIVERSITY

Contact:

Mohamed Rami Nakeshbandi, Mohamed.nakeshbandi@downstate.edu

This educational session is enabled through the generous support of the Vizient Member Networks program.