



# Think Tank: Gen AI Solutions for Better Revenue Cycle Outcomes

May 19, 2025

HFMA Texas State Annual Conference

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- SVP of Revenue Cycle Operations and Deployments at AKASA
- 25-year career in revenue cycle
- National and regional health systems, as well as numerous care settings and specialties



# Today's agenda

1. From automation to GenAI
2. GenAI 101: Why it matters
3. How GenAI is rewriting the playbook
4. Realtalk at the tables
5. Top takeaways and next moves

Where is your organization currently in its generative AI journey within the revenue cycle?



1. Just starting to explore
2. Purchased a tool but not deployed yet
3. In implementation process
4. One or more tools deployed and in active use



What is the most significant pain point in your mid-cycle (particularly CDI and coding)?

1. Registration accuracy denials
2. Coding and clinical denials
3. Appeal writing / overturning denials
4. Staffing and inability to fill open roles

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- *Evolution of automation*
- *RPA*
- *AI and ML*



ABOUT

60%

of health care financial leaders  
consider RPA to be a form of AI.

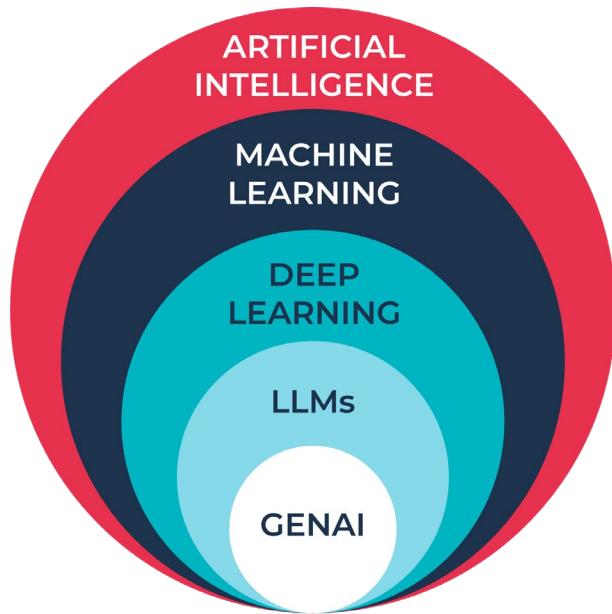
**It's *not*.**

Source: HFMA survey of ~600 CFOs and revenue cycle leaders at health systems across the U.S.



# A look at AI disciplines

**Artificial Intelligence** is computer systems able to perform tasks that normally require human intelligence, such as visual perception, speech recognition, decision-making, and language translation.



**Machine Learning (ML)** studies the ability to improve performance based on experience. Instead of programming the computer, you teach it by showing it examples of what you want to do.

**Deep learning** is ML using deep neural networks. It teaches computers how to process data like humans do.

**Large language models (LLMs)** are a type of AI model that can understand complex language and reasoning at human levels. LLM foundation models are trained on massive piles of books, articles, and web resources. If something is written in human language, an LLM can interpret and model it.

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# Mid-cycle offers fast, efficient margin gains

**68%** of healthcare leaders  
believe that DRG optimization  
*is not a solved problem*

Source: 2023 DRG Optimization Survey

**MID-CYCLE:**  
The one area  
fully in your  
control

# A new era of technology emerges: Generative AI

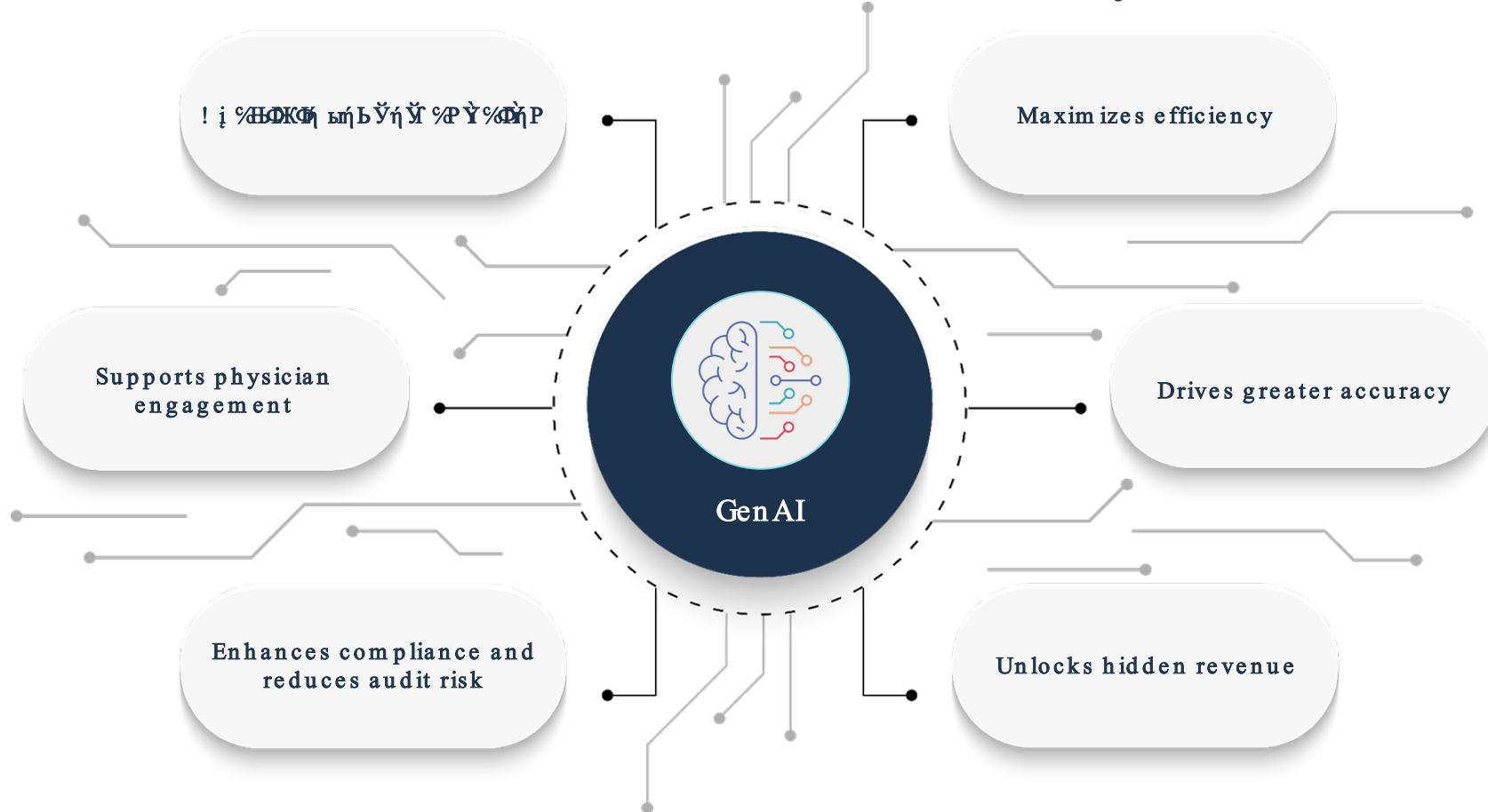
Generative AI (GenAI) understands complex language and reasoning, using patterns from vast amounts of data to predict and generate text in a human-readable format.



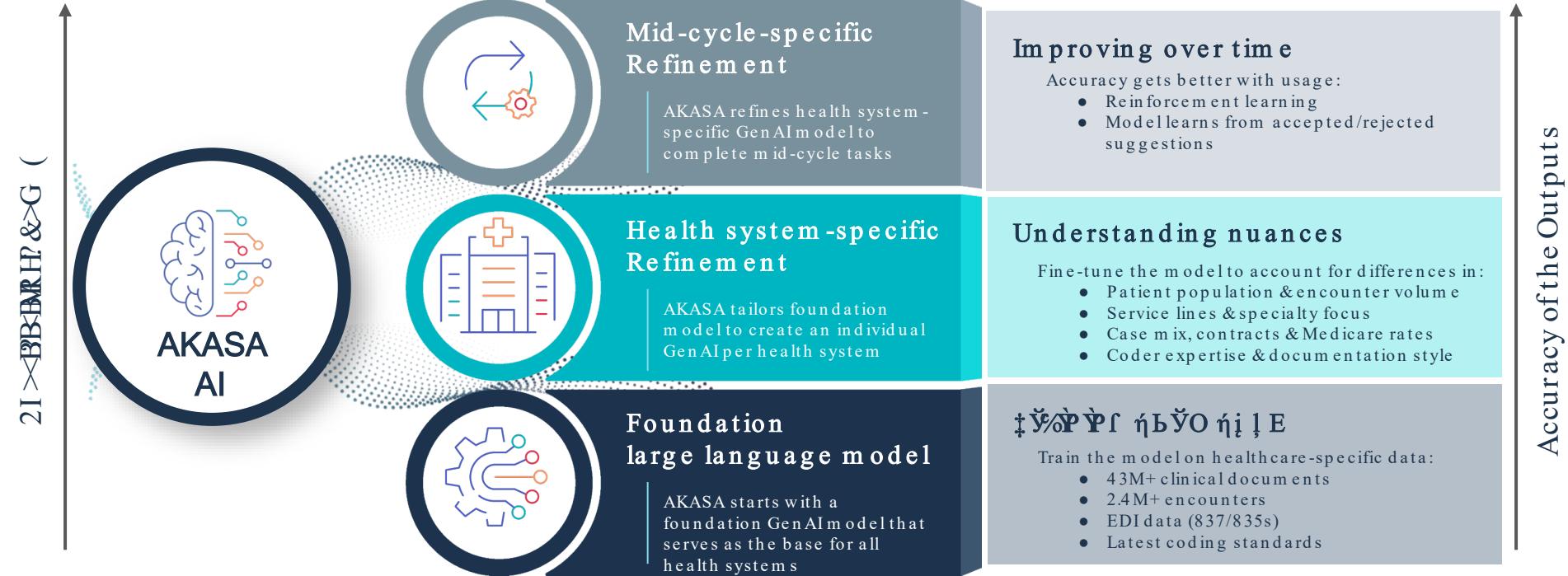
GenAI Unlocks the Clinical Record

SEPSIS  $\neq$  NOT SEPSIS

# What GenAI can do for the mid-cycle



# Tailoring a GenAI model



# GenAI surfaces top opportunities

## Encounter List

Priority	Confidence	Encounter ID	MS-DRG	APR-DRG	SOI	ROM	New Indicators	Patient Name	Discharge Date	Coded Date	Assignee	Status	Comments
1	97%	00012354	057 > 056	042	2 > 3	2 > 3	MCC HCC CC	Novinski, Olivia	06/07/2024, 6:55PM EST	06/08/2024, 1:33PM EST	Jana Nitz...	Not Reviewed	
2	95%	00123226	346 > 345	788	2 > 3	1 > 2	CC PSI Exclusion SDOH	Andrew, Gerlach	02/14/2024, 11:12PM CDT	02/14/2024, 11:12PM CDT	Vera Lowe	Not Reviewed	
3	97%	00123494	988 > 987	567 > 566	2 > 3	1 > 2	MCC HCC SDOH	Paulette, Gaylord	02/13/2024, 10:43PM CDT	02/13/2024, 10:43PM CDT	Leland Da...	Not Reviewed	
4	95%	01344785	348 > 345	345	2 > 3	1 > 2	CC HCC	Jason, Kozey	02/13/2024, 8:44PM EST	02/13/2024, 8:44PM EST	Margie Pr...	Processing	
5	94%	02344522	875 > 874	543	3 > 4	2 > 3	SDOH	Stephen, Moen	02/13/2024, 8:44PM EST	02/13/2024, 8:44PM EST	Brandon...	Processing	
6	94%	03445597	873 > 872	878	1 > 2	1 > 2	HCC HAC Exclusion PSI	Dallas, Leffler	02/13/2024, 10:43PM CDT	02/13/2024, 10:43PM CDT	Hilda Mc...	Processing	
7	88%	03556657	342 > 340	662 > 661	2 > 3	1 > 2	MCC HCC SDOH	Santos, Nienow	02/10/2024, 1:43PM EST	02/10/2024, 1:43PM EST	Claudia K...	Processing	
8	82%	03777832	543 > 541	431 > 430	1 > 2	2 > 3	SDOH	Miss Jay, Little	02/10/2024, 1:43PM EST	02/10/2024, 1:43PM EST	Elsie Kozey	Processing	
9	92%	03455576	763 > 762	322 > 321	2 > 3	3 > 4	PSI Exclusion SDOH	Wilbert, Runolffsson	02/10/2024, 10:47PM EST	02/10/2024, 10:47PM EST	Peter Kin...	Processing	

Dashboard of identified opportunities, including comprehensive opportunity review of impacts to DRGs and quality indicators

# Gen AI findings backed by evidence

Patient: Novinski, Olivia (F) MRN 12345 Edit Encounter  
ID: 6910828828 Facility: Saint Damian Visit: Inpatient Type: Specialty Care Admission: 05/30/2024 Discharge: 06/07/2024 (Home) Assignee: Jana Nitzsche

Comments Activity Feedback

Documents: 9 Search and select to view.

Discharge Summary Last Updated: 06/07/24 6:55PM EST  
Signed By: Wesley Haynes MD Author: Wesley Haynes MD

PHYSICIAN HOSPITAL DISCHARGE SUMMARY  
Provider: Wesley Haynes, MD  
Patient: Novinski, Olivia  
Patient ID: 6910828  
Sex: Female  
Attachment Control Number: E2597818  
Date of Admission: 05/30/2024  
Date of Discharge: 06/07/2024

HOSPITAL DISCHARGE DX  
• A81.01 Variant Creutzfeldt-Jakob disease  
• N17.0 Acute kidney failure with tubular necrosis

HISTORY OF PRESENT ILLNESS  
A 48-year-old woman, married, a housekeeper, who has suffered from some symptoms including depressed mood, loss of appetite, insomnia, and mutism that started two months ago without any significant stressor. Some medications including fluphenazine decanoate, venlafaxine, sodium valproate, duloxetine, olanzapine and trihexyphenidyl had been prescribed by a neurologist in an outpatient clinic. Gradually, in addition to ataxia, slowness of movements, dysarthria, rigidity, uncontrollable movements of the limbs, and loss of performance occurred to the extent that she was unable to do her own household chores. Sometimes, she stares at a point and screamed horribly. Following the receipt of moderate, symptoms such as rigidity have exacerbated; and due to the decreased levels of consciousness, the patient was referred to the emergency room for further evaluation and treatment.

Codes: 9 New suggestions blue, user selected gold, original selected pink. Use checkbox to include.

All (9) Diagnosis (5) Procedure (4) Restore Codes

Admitting Diagnosis  
R413 Other amnesia

ICD-10-CM Codes (Diagnosis) - 5

Code	Description	POA	Indicators	SOI	ROM	Actions
A81.01	Variant Creutzfeldt-Jakob disease	Y	HCC	0	0	<input checked="" type="checkbox"/>
N17.0	Acute kidney failure with tubular necrosis	Y	MCC HCC	3	3	<input type="button" value="+"/> <input type="button" value="Delete"/>

MS-DRG Impact SOI ROM  
057 > 056 2 > 3 2 > 3

Justification  
The patient's medical record indicates a diagnosis of acute kidney failure with tubular necrosis. More...

Direct Quotes To add a quote, select text on document  
Acute kidney failure w/tubular necrosis  
Discharge Summary Wesley Haynes, MD, 06/07/24 6:55 PM  
acute kidney failure w/tubular necrosis

Gen AI shows its work, with justifications, exact quotes, and direct links to the documentation

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## ICD-10-CM Codes (Diagnosis) - 5

Code	Description	POA	Indicators	SOI	ROM	Actions
★ A81.01	Variant Creutzfeldt-Jakob disease	Y	HCC	0	0	<input checked="" type="checkbox"/> <span>⋮</span>
N17.0	Acute kidney failure with tubular necrosis	Y	MCC HCC	3	3	<span>+</span> <span>□</span> <span>⋮</span> <span>▲</span>

MS-DRG Impact SOI ROM  
057 > 056 2 > 3 2 > 3

### Justification

The patient's medical record indicates a diagnosis of acute

**Direct Quotes** To add a quote, select text on document

Acute kidney failure w/tubular necrosis

Discharge Summary Wesley Haynes, MD, 06/07/24 6:55 P

acute kidney failure w/tubular necrosis

Discharge Summary Wesley Haynes, MD, 06/07/24 6:55 P

F02.84 Dementia in other diseases Y

### Discharge Summary

Last Updated: 06/07/24 6:55PM EST

Signed By: Wesley Haynes MD Author: Wesley Haynes MD

### HOSPITAL DISCHARGE PHYSICAL FINDINGS

Physical examination at the time of admission revealed a thin, pleasant female in mild respiratory distress. She had no adenopathy. She had decreased breath sounds three fourths of the way up on the right side. The left lung was mostly clear although there were a few scattered rales. Cardiac examination revealed a regular rate and rhythm without murmurs. She had acute kidney failure w/tubular necrosis.

### HOSPITAL DISCHARGE STUDIES SUMMARY

A chest x-ray showed a large pleural effusion on the right.

### HOSPITAL COURSE

The patient was admitted. A CT scan was performed which showed a possibility that the lung was trapped by

GenAI empowers coding staff to quickly review findings and validate additional opportunity capture

# Boost CDI efficiency with effective prioritization and real-time collaboration

The screenshot displays a software interface for managing CDI worklists. At the top, there are buttons for 'Encounters' (highlighted with a red box), 'All', 'To code', 'To query' (selected), and 'Completed'. Below this is a search bar for 'Received date', 'Start date', 'End date', 'Status: All', and 'Search by Encounter ID'. The main table lists encounters with columns for 'Encounter ID', 'Potential impact', 'LOS/GMLOS', 'Discharge date', 'Coded date', 'Reviewer', 'Status', and 'Actions'.

Two specific encounters are highlighted with blue boxes and callout bubbles:

- Encounter 3456789:** Potential impact is 'High'. It shows a comparison between 'Original' (MS-DRG 193, Description: Simple pneumonia and pleurisy with MCC, APR-DRG 138, Weight 1.2660) and 'Potential' (MS-DRG 871, Description: Other Specified Sepsis, APR-DRG 720, Weight 1.98260). The 'Potential' row is selected. A callout bubble states: "Integrated workflow enables real-time CDI-coding collaboration with a unified worklist".
- Encounter 0012354:** Potential impact is 'High'. It shows a comparison between 'Original' (MS-DRG 193, Description: Simple pneumonia and pleurisy with MCC, APR-DRG 138, Weight 1.2660) and 'Potential' (MS-DRG 871, Description: Other Specified Sepsis, APR-DRG 720, Weight 1.98260). The 'Original' row is selected. A callout bubble states: "GenAI surfaces high-impact, high-confidence revenue and quality opportunities".

The table continues with other encounters, each with a unique ID, potential impact, and a list of DRGs and weights.

# Gain clarity with a full clinical picture

### Sepsis Dashboard

Per day view ▾ Start date → End date

#### Vitals

	Trend	Patient range	Ref range	12/5/2024	12/6/2024	12/7/2024	12/8/2024
Temperature (°C)		36.4 - 38	33.9 - 38	36.8 - 38	36.3 - 37	36.3 - 36.5	36.4 -
Pulse (beats/min)		56 - 182	60 - 100	111 - 127	70 - 152	56 - 182	85 -
Respiratory Rate (breaths/min)		16 - 34	12 -				17
SpO2 (%)		87 - 100	95 - 100				89
Blood Pressure				00:00 - 109	06:00 - 78	13:00 - 106	18:00 - 112
MAP				00:15 - 108	06:30 - 80	13:02 - 102	19:00 - 108

#### Labs

	Trend	Patient range	Ref range	01:15 - 102	08:30 - 77	16:38 - 108	22:00 - 120
White Blood Cell Count (k/uL)		2.25 - 6.26	4.5 -	01:30 - 95	09:00 - 76	17:00 - 103	23:00 - 124
Platelet Count (k/uL)		99 - 125	150 - 400	02:00 - 94	09:30 - 87		23:45 - 152
Bilirubin		0.2 - 0.5	0.2 - 0.5				
BUN		22 - 33	8 - 25				
Creatinine		0.55 - 0.77	0.51 - 0.8				
PaCO <sub>2</sub>		38	35 - 45				
C-Reactive Protein		-	-	05:30 - 71			
Lactate (mmol/L)		1.2 - 2.5	0.5 - 2.0	05:34 - 77			

**Clinical Indicator Dashboards provide a clear, organized view of clinical indicators by diagnosis**

### Impact

PDx ▾ MS-DRG ▾ SOI ▾ CC ▾

◀ All queries

#### Sepsis significance

Ready for review Query results

Presented to ED with flu symptoms for 2 days. The patient reported subjective fevers yesterday and this morning. Symptoms include chills, fatigue, cough, and SOB. Show more

**Every query has clear, evidence-backed clinical indicators**

#### Evidence 7

Queries Codes 2

#### Evidence

Strong: 3 of 4 Sepsis-2 (SIRS)

#### CLINICAL INDICATORS

Vitals

Date	12/5/24 21:21 - 21:30	12/6/24 21:00 - 28:00	12/7/24 21:00
Temp (°C)	38	36.6	36.4
Pulse	127	101	97
Resp rate	24	34	20
BP	97/66	133/119	114/80

Labs

# Streamline query generation and new code addition

Query for Sepsis significance

To: Steve Flint, MD

Query template: Significance, Query subject: Sepsis, Date sent: 12/11/24

Text editor toolbar: **~~A~~**

Copy, Paste buttons

## Documentation Query

Please clarify after study the conflicting documentation related to "met sepsis criteria" in the ED and DCS:

- Severe sepsis secondary to RSV PNA with acute on chronic respiratory failure POA Y.
- Severe sepsis secondary to RSV PNA with acute on chronic respiratory failure POA N.
- Severe sepsis ruled out; patient with RSV PNA.
- Other

→Auto-generated queries extract patient chart data and draft concise, evidence-backed queries for CDS review

All queries, Sepsis significance

Provider Agreed, Query reason: Change in final DRG

Presented to ED with flu symptoms for 5 days. Reported subjective fevers yesterday and this morning. Symptoms included chills, fatigue, cough, and SOB. [Show more](#)

Evidence 7, Queries 2, Codes 2

Code successfully added to this encounter's code list

A41.89 Other Specified Sepsis (Added), View in codes, PDX, MS-DRG, MCC

R65.20 Severe sepsis without septic shock, Add to codes

+ Add anticipated code

→Track provider responses, manage new code addition, and view a complete encounter code list in one place

# Real talk at the tables

1

What tools and technology are you using in the mid-cycle right now?

2

What tools and technology are you using in the mid-cycle right now?

3

When considering new solutions or vendors, what matters most to your team — speed of implementation, measurable ROI, or something else?

# Readouts

# Takeaways

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# Thank You

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