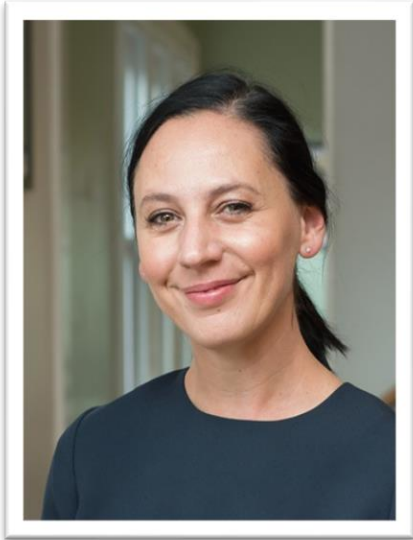


# Tackle Coding and CDI Complexities Using Computer-Assisted Technology

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A WEBINAR PRESENTED ON MAY 17, 2023

## Presented By



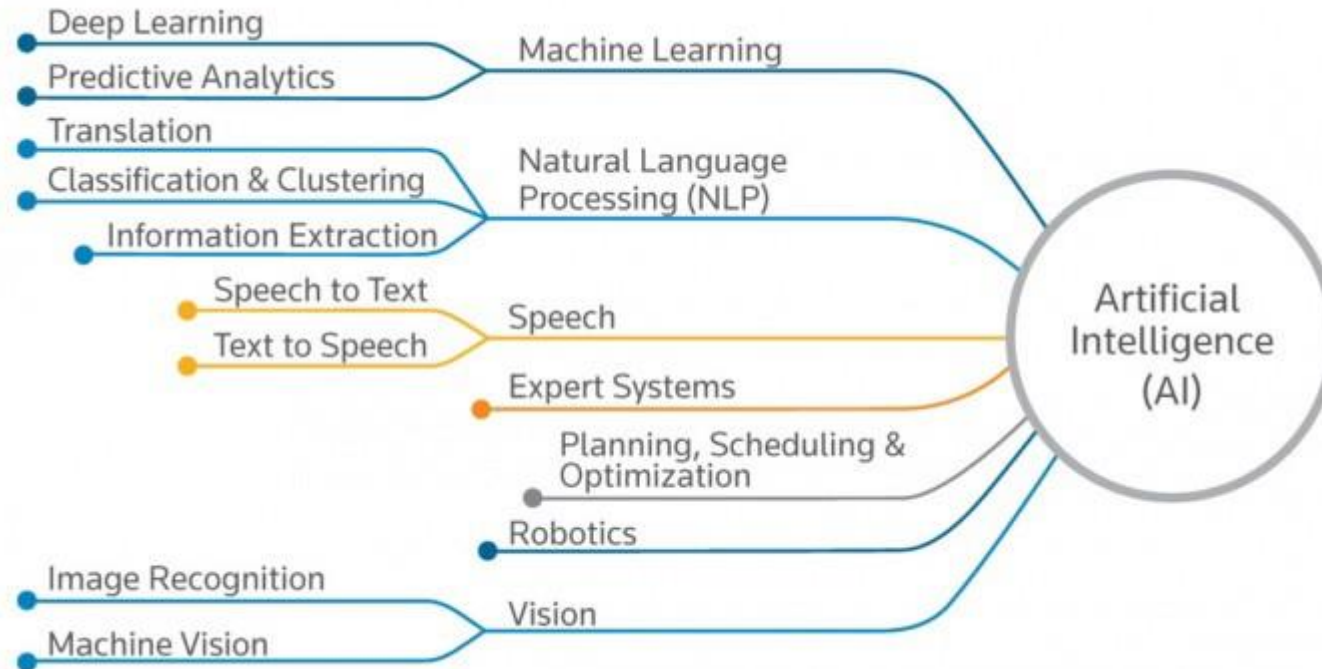
**Arta Kelmendi-Doko, MD, PhD**, is a clinical informaticist and product manager at 3M Health Information Systems (HIS). She holds an MD from University of Prishtina (Europe) and a PhD in biomedical engineering from the University of Pittsburgh in Pennsylvania. She has over 10 years of experience in healthcare as a physician, biomedical engineering researcher in drug delivery and soft-tissue engineering, and clinical informaticist. At 3M HIS, Dr. Kelmendi-Doko is responsible for providing clinical guidance and support to multiple product and development groups, as the physician in charge. Additionally, she specializes in clinical modeling in both proprietary models and Fast Healthcare Interoperability Resources as part of a wide range of clinical use cases.

# Learning Objectives

At the completion of this educational activity, the learner will be able to:

- Describe the role of CDI staff, coding professionals, and physicians in ensuring documentation integrity
- Explain how computer-assisted technology can be used to speed up record review
- Improve quality-of-care outcomes using computer-assisted technology

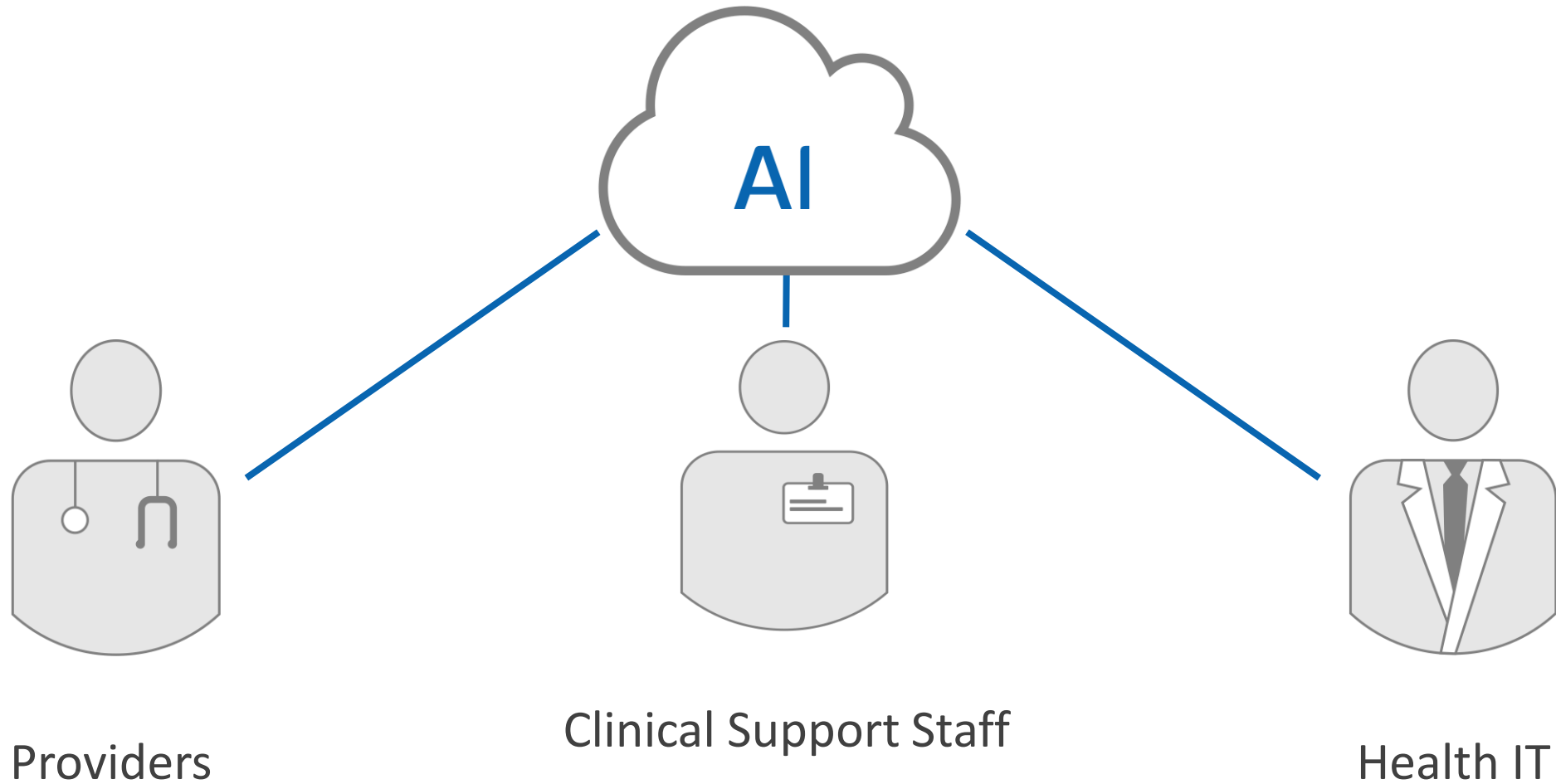
# Artificial Intelligence



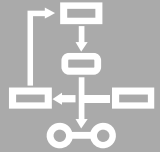
Source: Becoming Human: Artificial Intelligence Magazine

*What is Artificial Intelligence (AI)*, Sanket Garbhe

# Cloud-based AI: Augment Existing Workflows



# Cutting Edge Cloud-based AI Technology



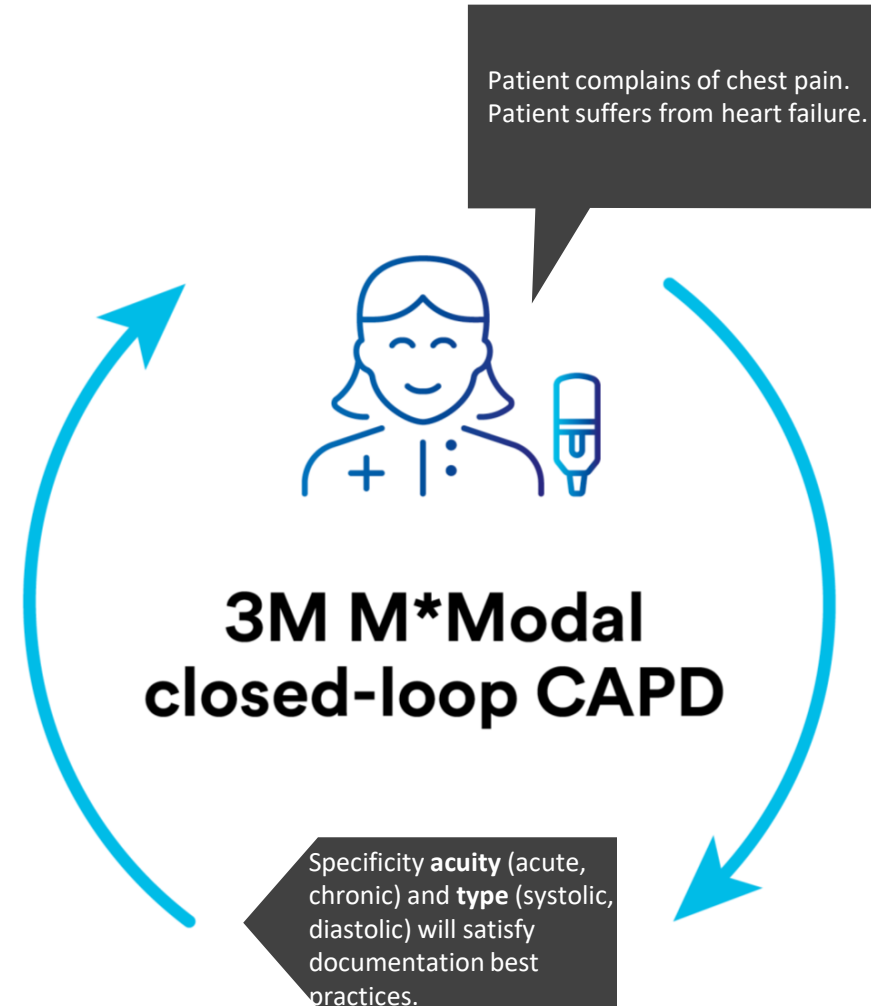
Applies semantic reasoning and contextual understanding to data aggregated from EHRs, etc.



**Continuously** and automatically reviews, **analyzes, monitors and improves** all your documentation, all the time driving consistency and efficiency.

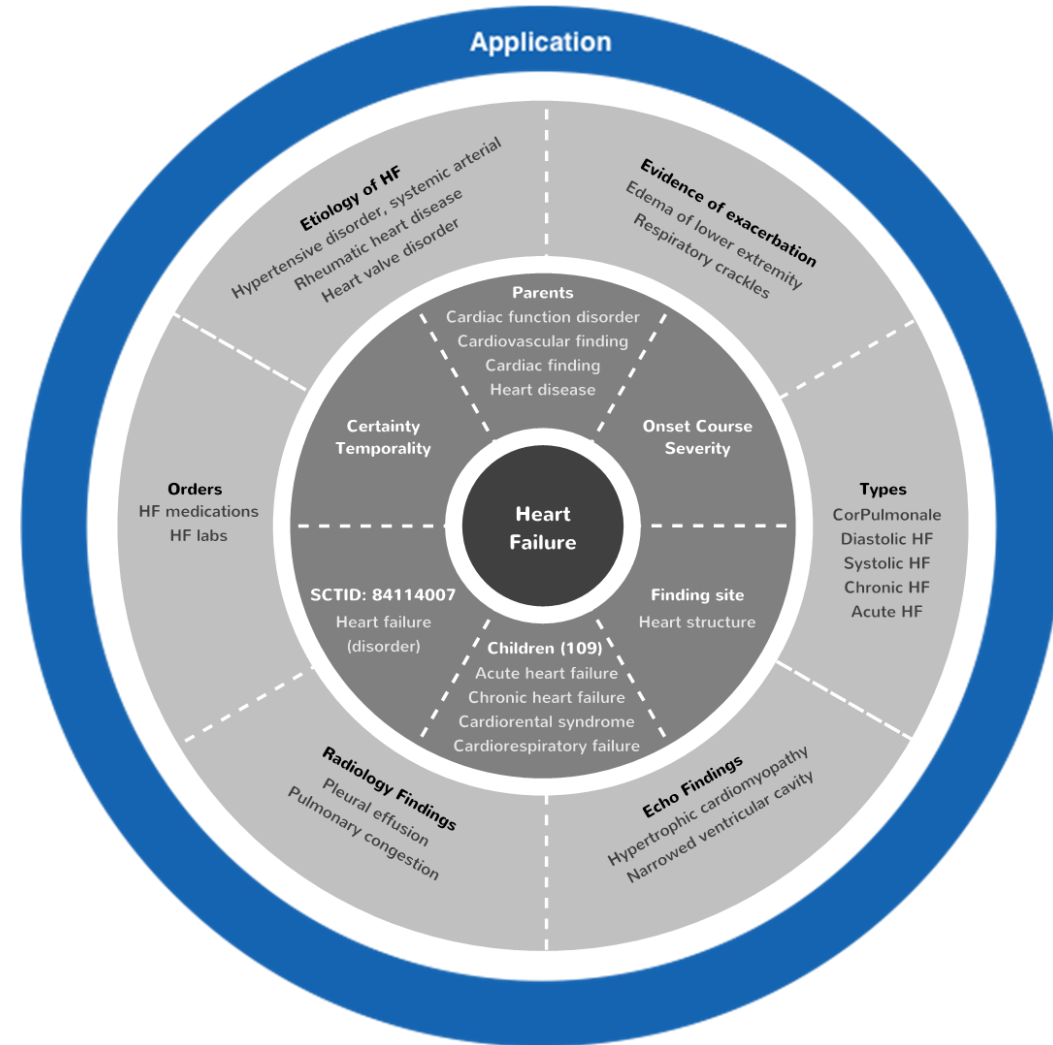


Uses **standard ontologies** as well as **clinical concepts and value sets** from across the medical record.

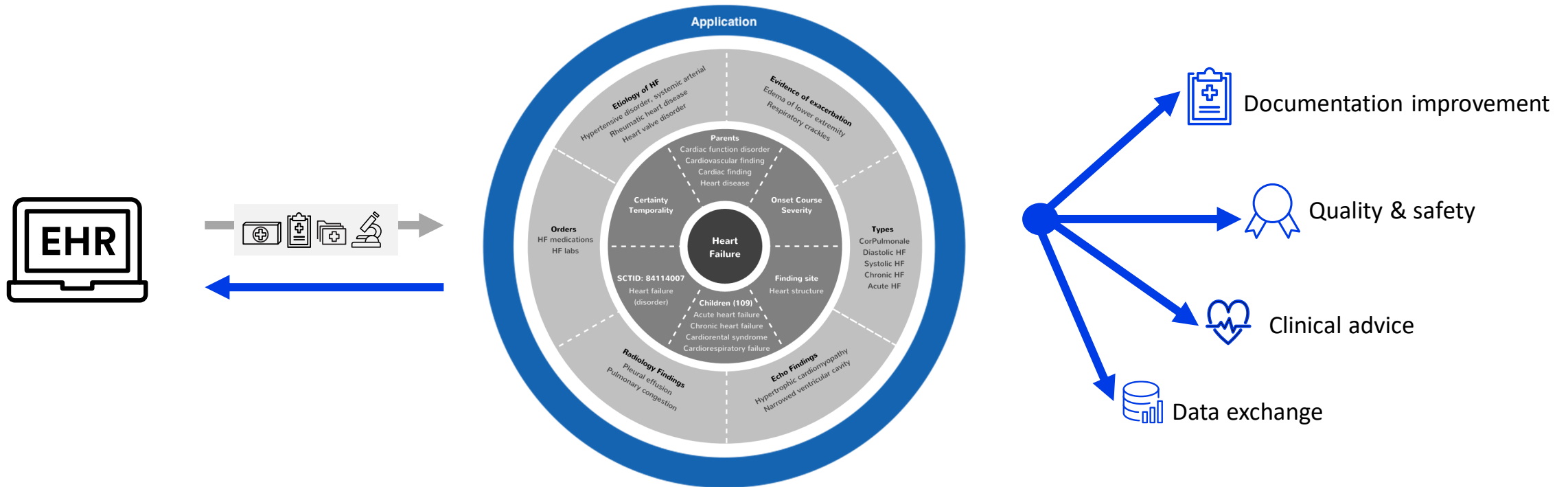


# Clinical Intelligence

- Modeling the medical conditions and disease
- Decompose model into concepts
- Identify concepts across structured/unstructured data
- Use identified concepts to “fill in” information model
- Reason over modeled patient for application



# Natural Language Understanding (NLU) Platform



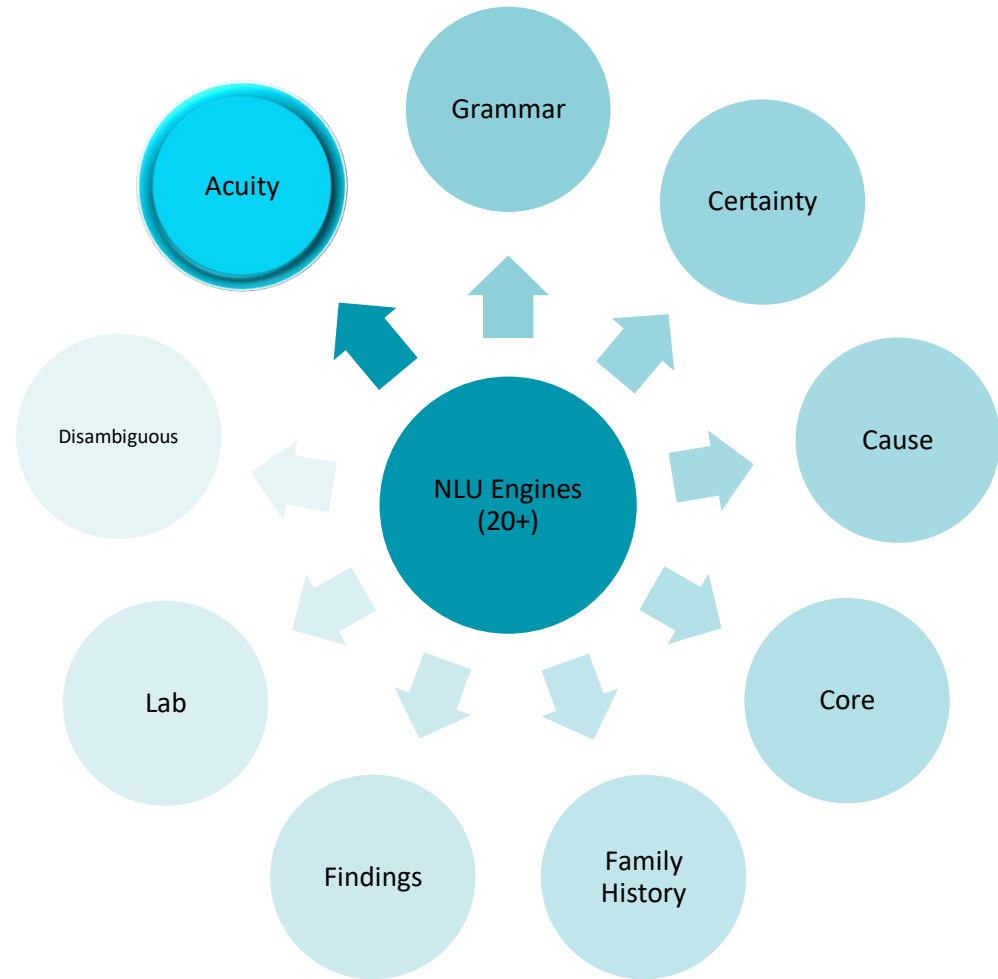


# NLU Engines

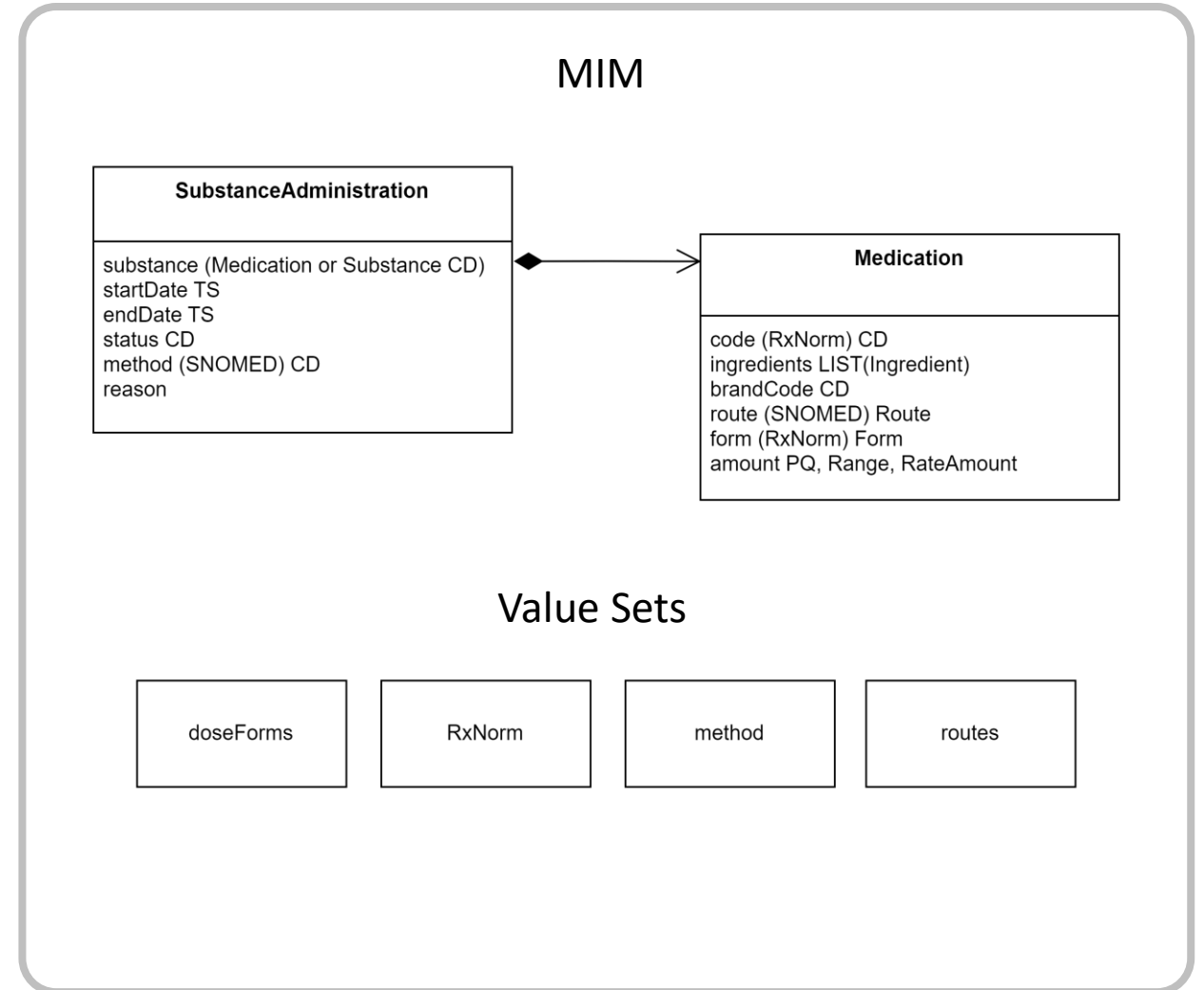
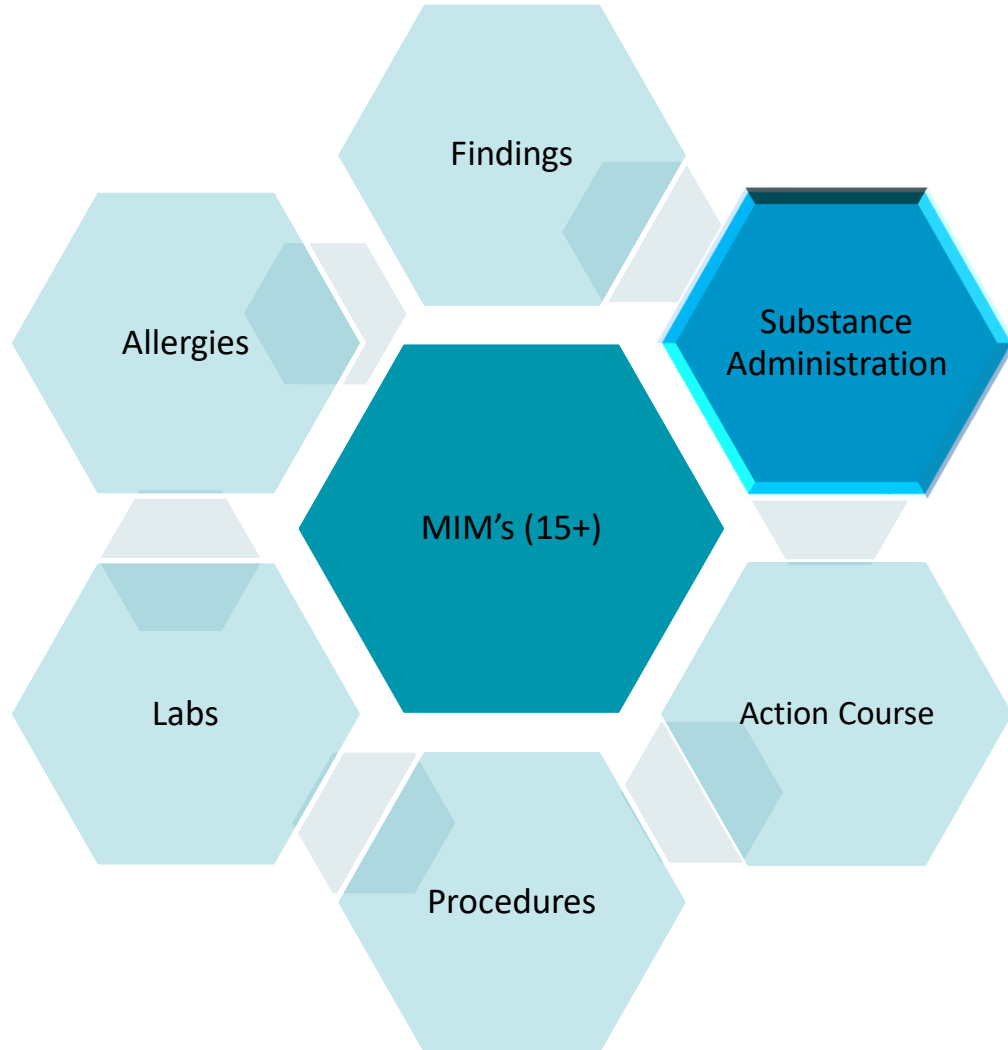
## Acuity Engine

Grammar based engine that assigns acuity to findings

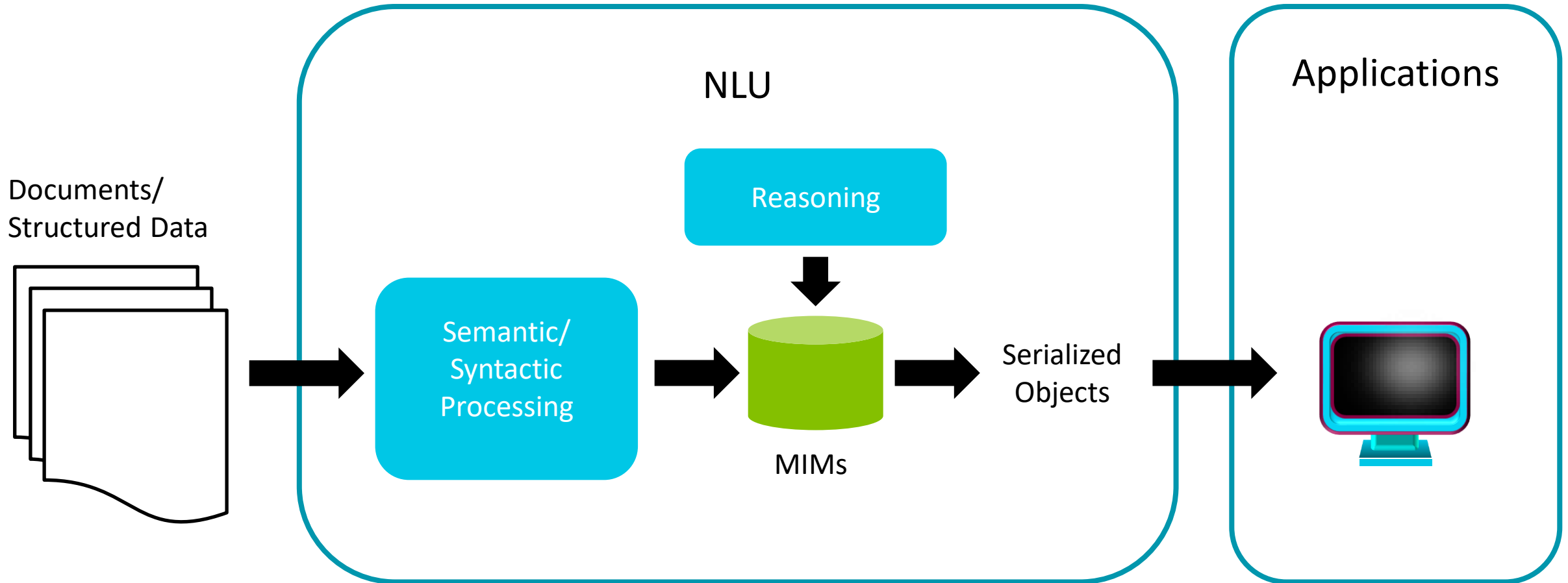
- Acute onset
- Acute to sub-acute
- Acute on chronic
- Chronic
- Sudden onset



# M\*Modal Information Models (MIMs)



# NLU Workflow

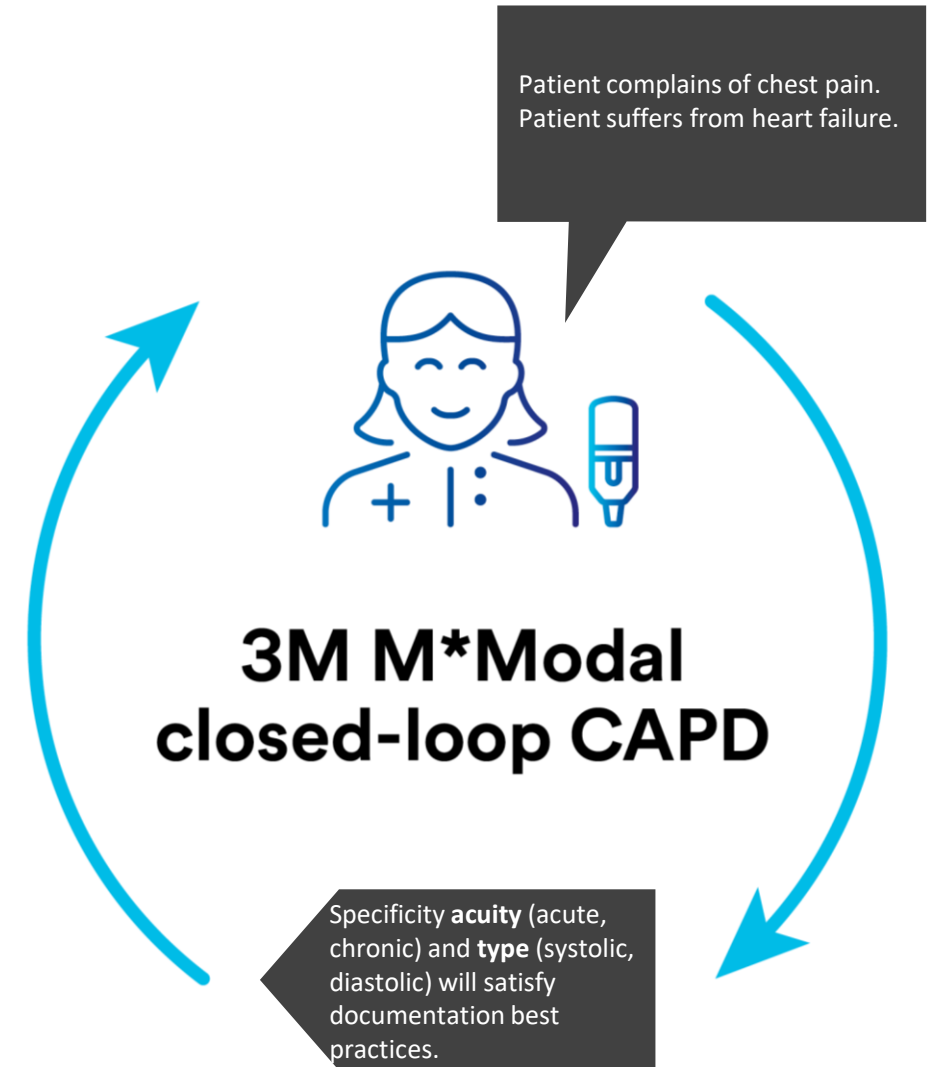


# Engaging the Physician at the Golden Moment

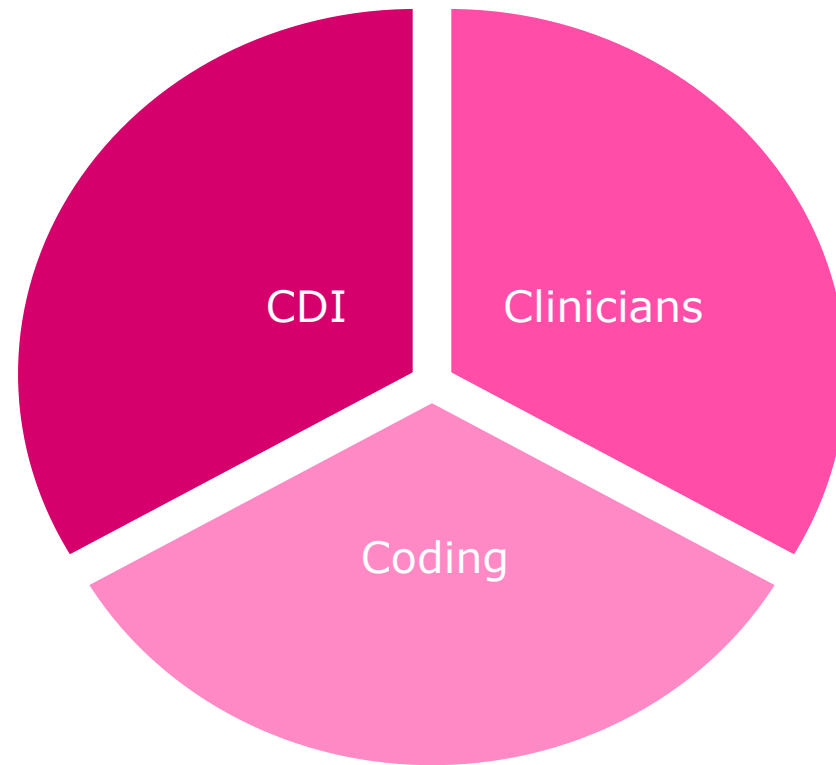
## Computer-assisted physician documentation (CAPD)

- Real time, proactive, in-workflow nudges based on clinical context
- Continuous analysis and monitoring of clinical narrative across the patient encounter
- Efficient creation of higher quality documentation

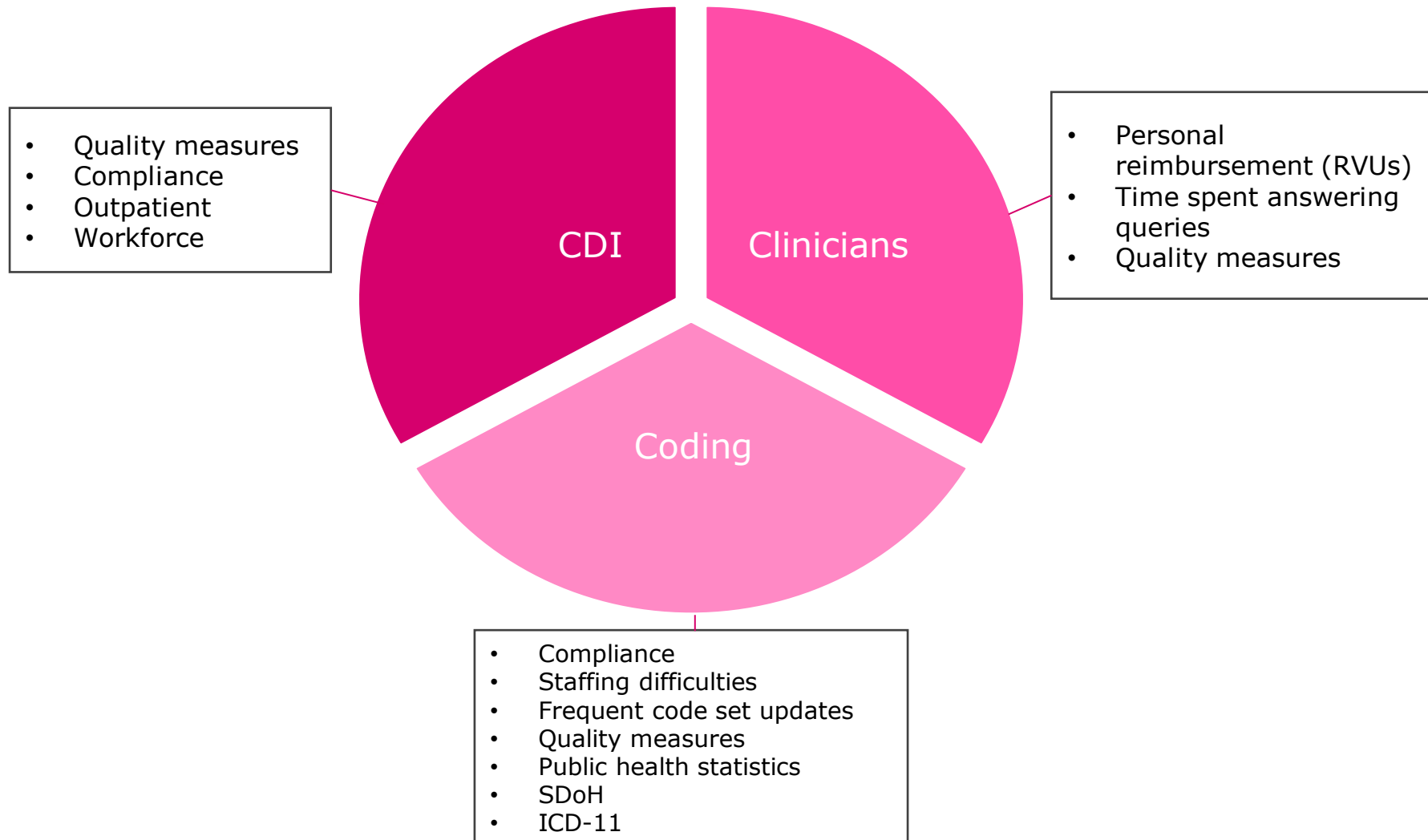
**Gives physicians more time to devote to patient care by reducing rework through proactive engagement**



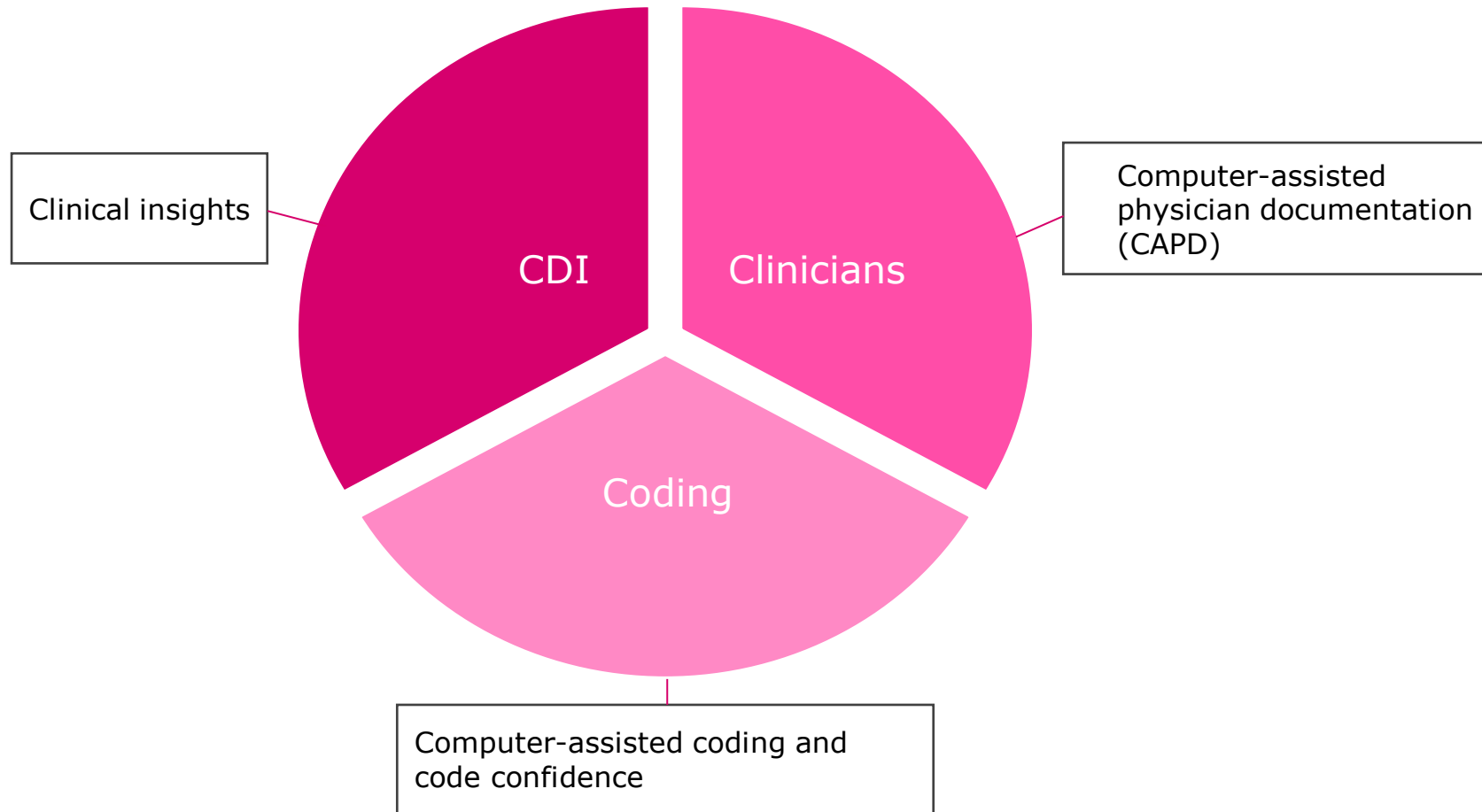
# CDI Complexity



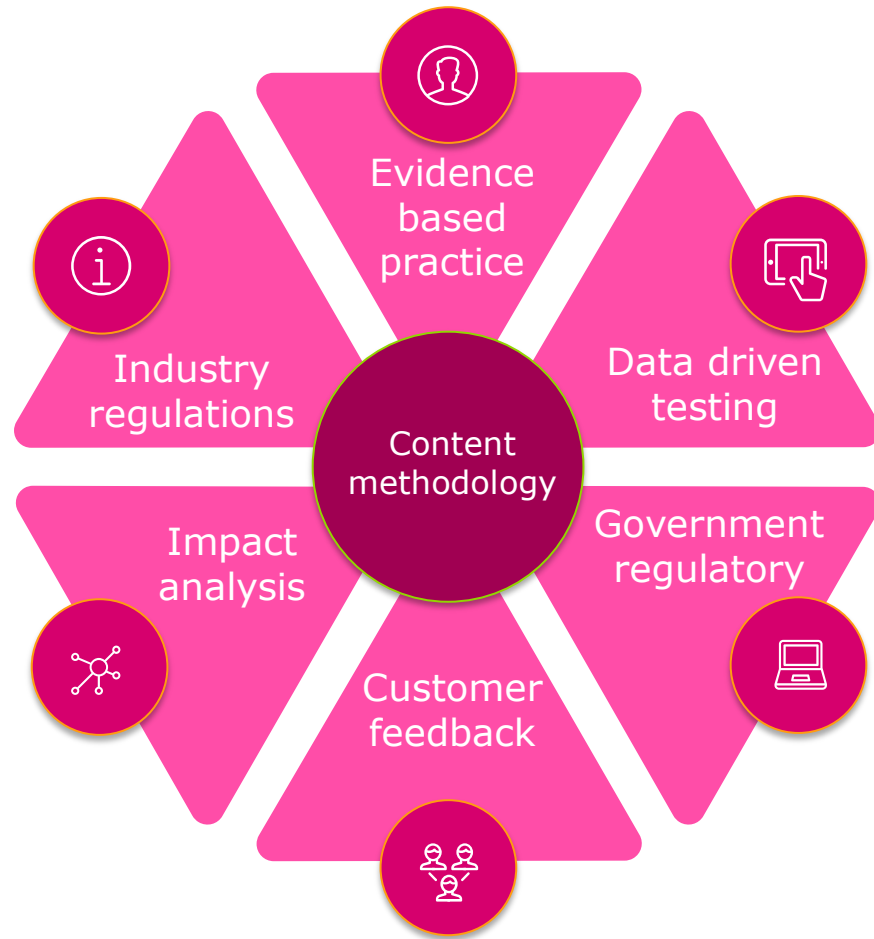
# CDI Expert, Coding Professional, and Physician's Role









# Leveraging Technology on the Path to Automation



# Compliant Approach to Technology



-  **Up to date**
-  **Corpus testing**
-  **AHIMA & ACDIS guidance**
-  **CMS, Coding Clinic**
-  **Customer feedback loops**
-  **Define customer value**



## Patient Scenario

- A 77-year-old female came to the emergency department with a cough, difficulty breathing, increased oxygen demands and altered breath sounds. She was diagnosed with pneumonia and admitted to the medical floor for IV antibiotic administration and respiratory support.

## Example: Patient Scenario with CAPD Technology



Admitting provider is documenting about his new patient

He charts "77-year-old female patient is admitted with pneumonia"

The CAPD technology sends an alert asking him to please specify the type of pneumonia

The physician charts "77-year-old female patient is admitted with community acquired pneumonia." Alert resolves

The physician continues to chart about the patient. "She has a past medical history of heart failure, diabetes, CKD and obesity. Patient states she is currently homeless"

# Example: Patient Scenario with CAPD Technology



Heart failure

**Alert** – Type of heart failure

To chronic diastolic (congestive) heart failure

Chronic kidney disease

**Alert** – CKD stage

To chronic kidney disease stage 3a

**Alert** – Homeless clarification

To sheltered housing

# Technology - Value to Each Team Member

## Physician

- Time saved
- Clicks versus queries
- Documentation cleaned up before moving to CDI specialist

## CDI

- Time saved with prioritization
- Linked query
- Go on to other queries

## Coder

- Autosuggestions
- Complete details for whole patient picture

## Patient Scenario

- The patient's situation changes. She is now experiencing increased difficulty breathing, requiring more oxygen and was noted to have some pulmonary edema. She was transferred to the telemetry unit, put on continuous cardiac monitoring, given IV LASIX and increased respiratory support.

# Patient Coding Comparison

The CDI specialist has been observing this case due to the prioritized worklist and easily accessible clinical validation evidence

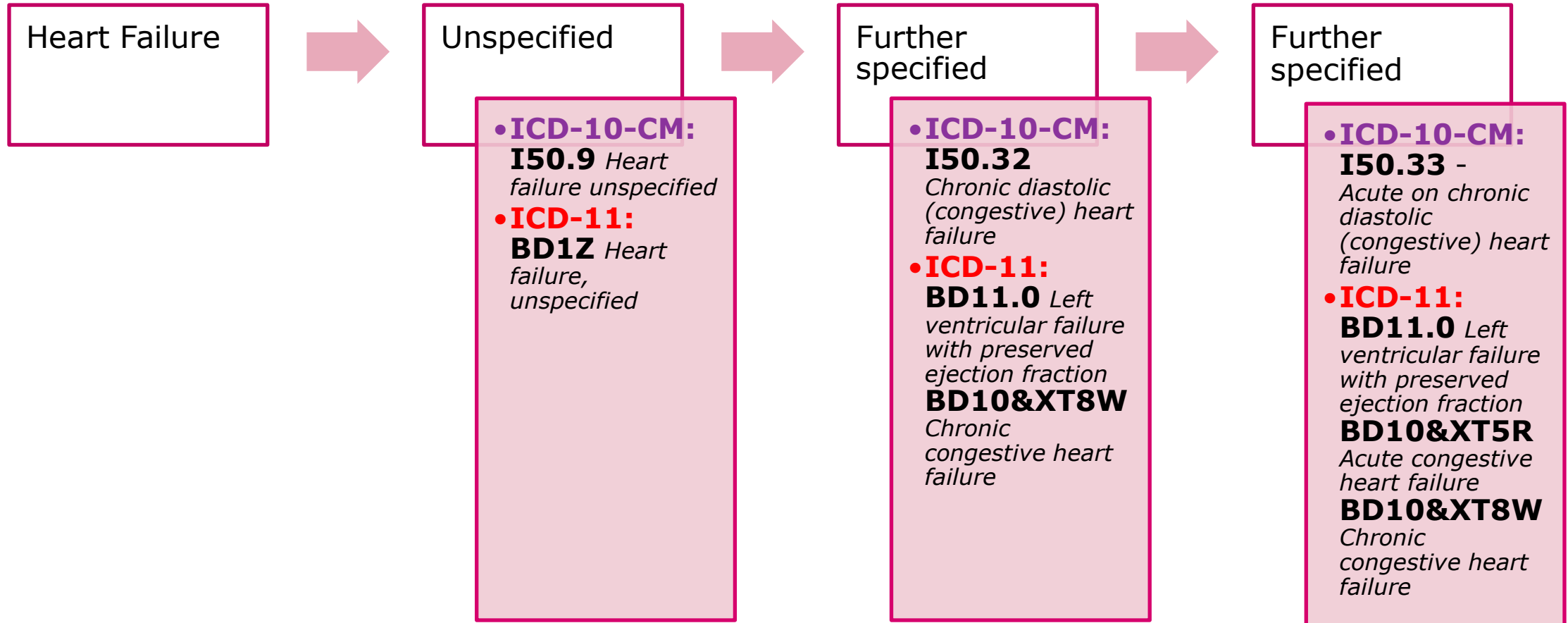
They notice the change in the patient's condition due to the administration of IV Lasix, the increased respiratory support and continual telemetry monitoring, pulmonary

They query the provider asking for further specificity regarding the chronic diastolic heart failure

"The patient appears to have received IV Lasix, is on continual telemetry monitoring, and was found to have pulmonary edema. Can you please specify the acuity of the heart failure?"

The provider responds with the patient is in "acute on chronic diastolic heart failure"

# ICD-10-CM Overview



# Engaging the Clinician

Services

Eliminate Revenue cycle waste

Coding and documentation improvement services

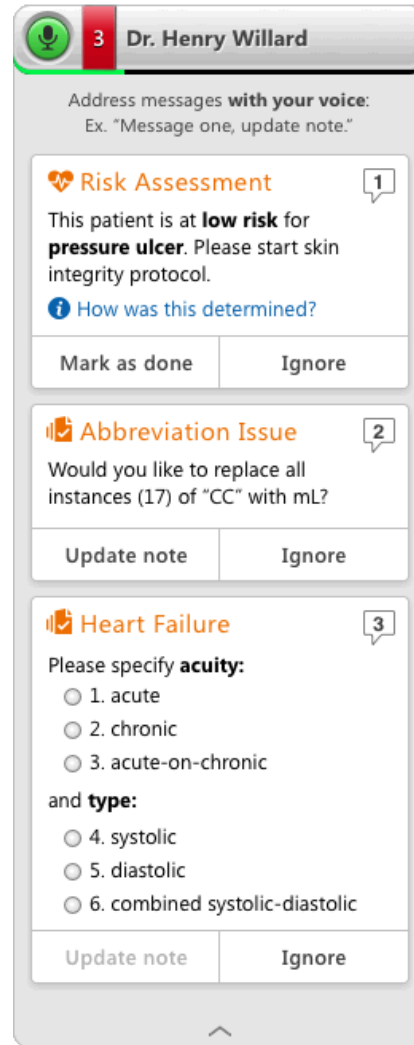
Software applications

**3M™  
360 Encompass™ System**

3M Methodologies & artificial intelligence (AI)

Natural Language Processing (NLP)  
3M Groupers

Health Data aggregation/management  
Electronic health record interfacing



Drive Value-based care

Clinical, operational and payment performance services

**3M™  
Performance Management Platform**

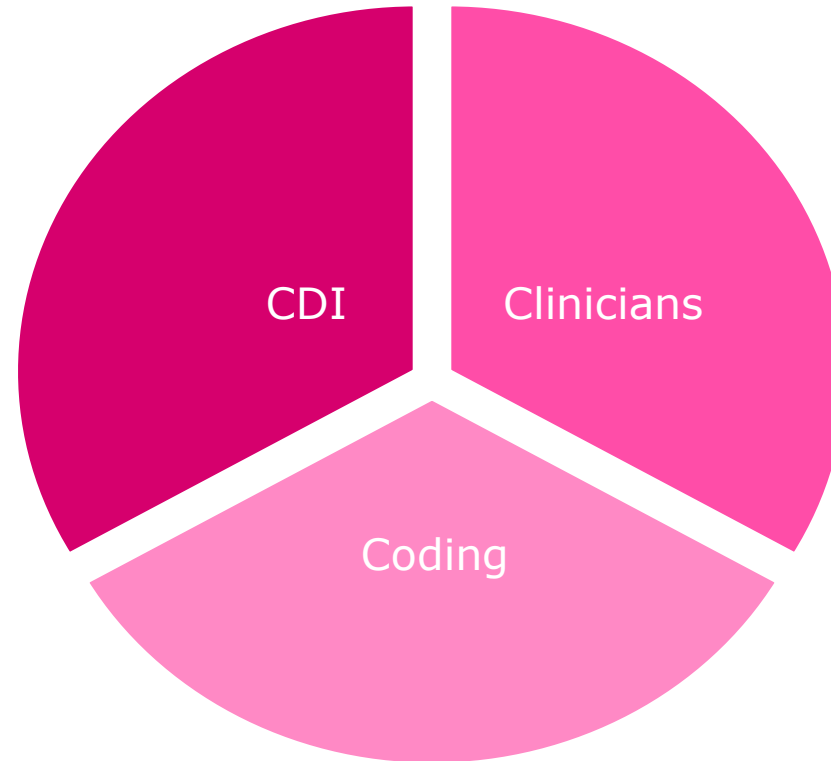
3M avoidable care  
3M™ Clinical Risk Groups

Claims data aggregation/management



# Key Outcomes for Departments

- Improved CDI efficiency equivalent to adding 4.6 CDI RNs allowing more time for complex reviews
- Increase CC/MCC capture by 5 percent

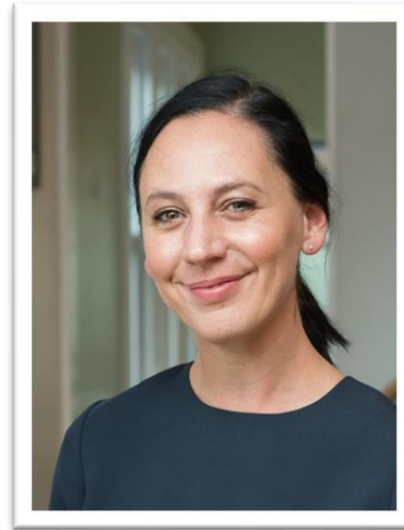


- 63 percent decrease in patient safety indicators (PSIs) and hospital-acquired conditions (HACs)
- Positively drove agreement rate over 80 percent
- Decrease in need for specificity queries due to real time nudges

- 1.5 minute/chart decrease, 2.4 codes/chart increase
- 21 percent increase in inpatient coder productivity
- Improved case mix index (CMI)
- Nearly 100 percent identification rate in PSIs and HACs
- Shortened DNFB by 2.87 days
- Reduced need for outsourced coders

Note: Data cites individual client outcomes in 2022 for **3M™ 360 Encompass™ System, 3M™ M\*Modal CDI Engage One™** and 3M coding automation implementations

# Questions & Answers



***Arta Kelmendi-Doko, MD, PhD***  
Clinical Informaticist  
3M Health Information Systems

**To Submit a Question:** Go to the chat pod located in the lower left corner of your screen. Type your question in the text box, then click on the “Send” button.

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*We kindly request that this link be forwarded to everyone in your group who attended the program.*

## This concludes today's program.

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Be sure to join us for our upcoming event:

### **Solidify ICD-10-CM Coding for Social Determinants of Health**

Thursday, June 22, 2023 | 1:00–2:00 p.m. Eastern

For more details and to register for this event, please visit our website at:

<https://hcmarketplace.com/solidify-icd-10-cm>

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