

PRACTICAL UNDERSTANDING OF NATURAL LANGUAGE PROCESSING (NLP) IN RISK ADJUSTMENT TECHNOLOGY

APRIL 26, 2024 | 2:00 PM – 3:00 PM EST

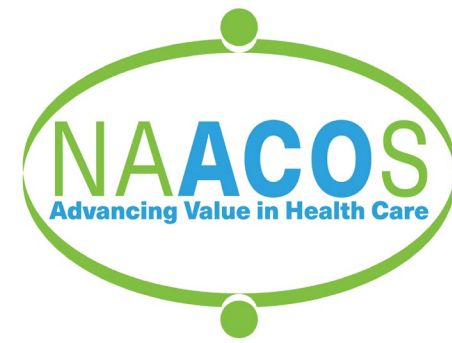
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Housekeeping



There will be plenty of time for Q&A after the presentation.

You can submit questions using the Q&A button (which looks like the picture above) on the Zoom dashboard at any time during the webinar.

This webinar is being recorded and will be available on both the NAACOS and the Edifecs website within about 1 business day.

OUR SPEAKERS



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DISCUSSION TOPICS

1

Explore the capabilities and limitations of artificial intelligence (AI), machine learning (ML) and natural language tools (NLP, NLU) in healthcare

2

ACO unique data capabilities and opportunities for analytics

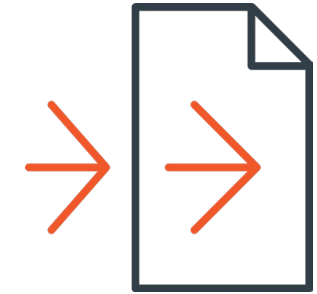
3

Automations' potential to drive HCC recapture and identify new clinical conditions for providers to validate

4

Evaluate areas in the patient encounter journey where NLP-infused intelligence may augment notifications and query processes

UNIQUE CHALLENGES FOR ACOs



Cultural shift to value-based care

Emphasis on understanding patient needs (Risk Adjustment) and cost effectiveness (Cost Management)

Payment model variances and frequent model changes

Upside only, shared risk, capitation, etc.

Physician Network: In-network vs. community providers

Sphere of influence on provider habits related to documentation and coding

Interoperability limitations in receiving/sending data

Limits cost efficiencies and redundancy of care

Accessing timely, actionable data

Gathering, interpreting, and presenting the right data at the right time

FOCUSING ON VALUE-BASED CARE

How does an ACO address the complexities of clinical documentation to capture appropriate risk adjustment?

What is driving the need for Artificial Intelligence (AI) and Natural Language Processing (NLP) solutions?

ACO CHALLENGES OF OUTPATIENT CLINICAL DOCUMENTATION

- x Multiple, disparate EMRs, lack of interoperability

- x Extensive clinical information buried in unstructured progress notes and other clinical records

- x Disparate, fragmented clinical indicators for diagnoses scattered throughout the record

- x Massive longitudinal patient records

- x Coding errors and problem list inaccuracies

- x Provider engagement (influence is limited to in-network providers)
 - o How can an ACO impact documentation and coding outside their network?

ACO FOCUS: RISK ADJUSTMENT GOALS

Adequate understanding of individual patient healthcare needs, based on current health status (reported as ICD-10-CM codes)



Accurate use and cost forecasting of healthcare services



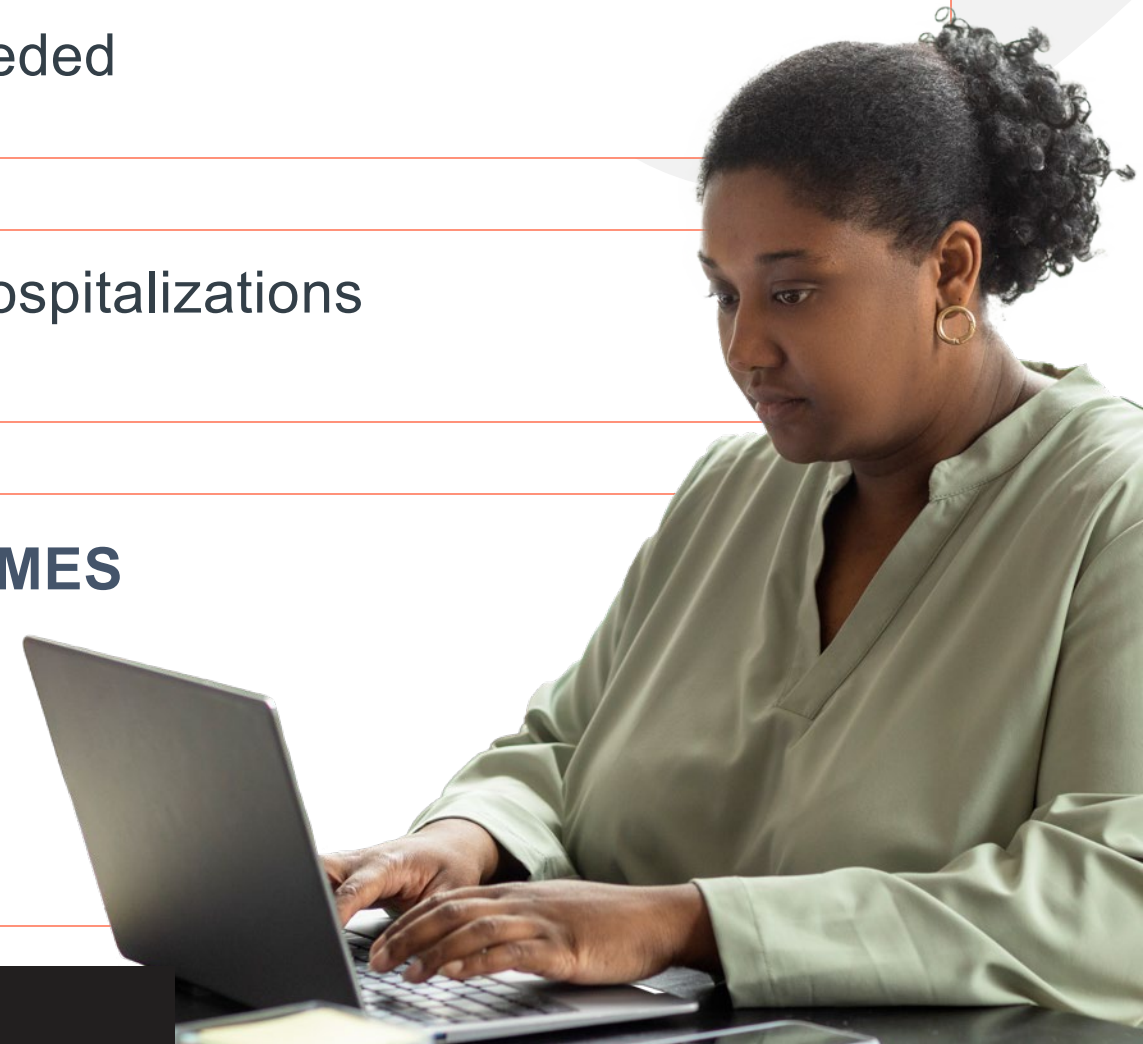
Consistent funding of patient care, regardless of complexity of care needed



Appropriate care interventions and programs to reduce unnecessary hospitalizations and/or ED visits



Results in **ACCURATE COMPARISON OF CARE COST AND OUTCOMES** by adjusting for differences in individual patient health and risk factors



HOW CAN EMERGING TECHNOLOGY ASSIST?

What does AI, ML and NLP mean?

SUBSETS AND RELATIONSHIPS

- **Artificial Intelligence (AI)**

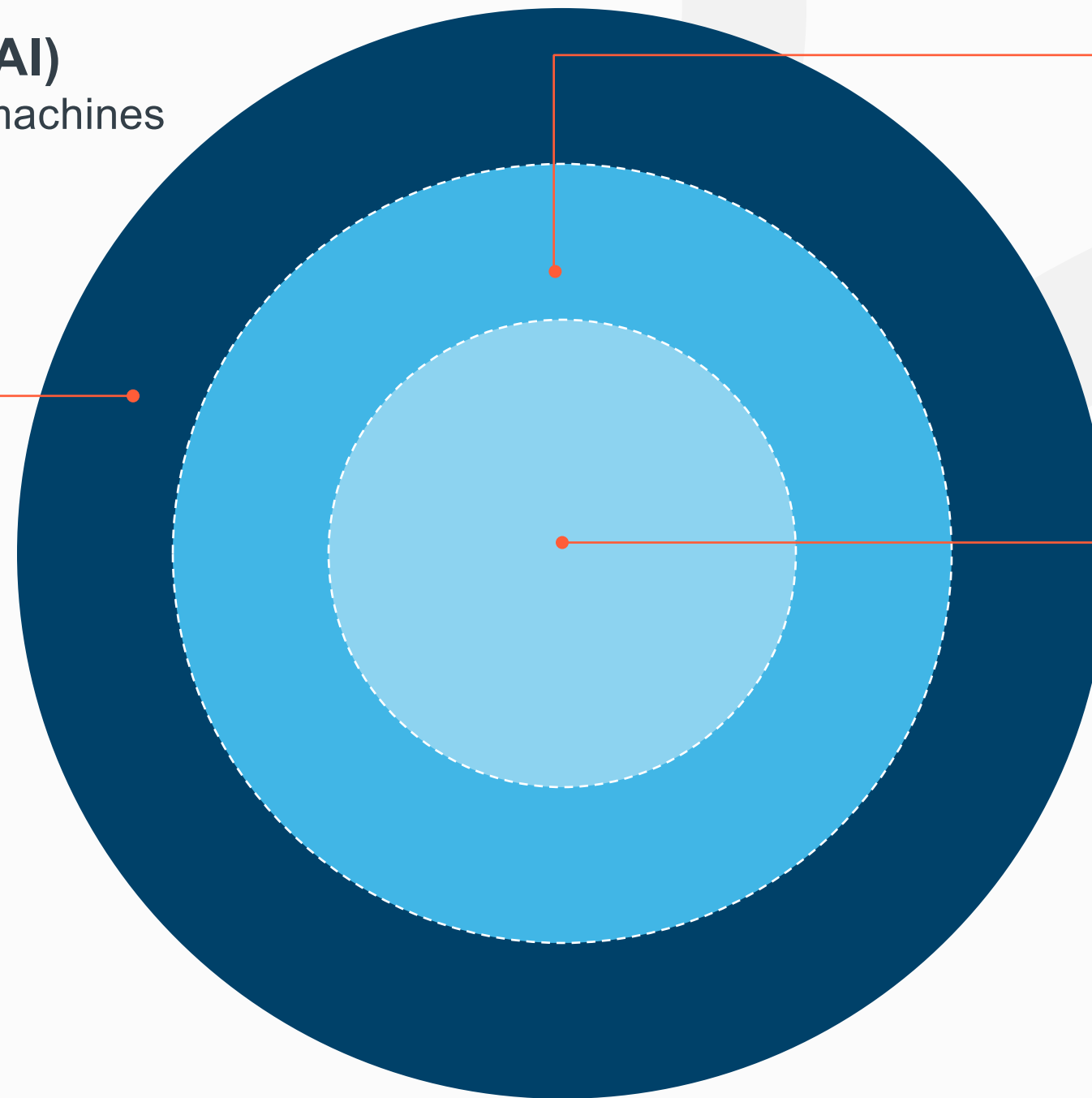
A technique which enables machines to mimic human behavior

- **Machine Learning (ML)**

Subset of AI which uses statistical methods to enable machines to improve with experience

- **Deep Learning**

Subset of ML which makes the computation of multi-layer neural network feasible



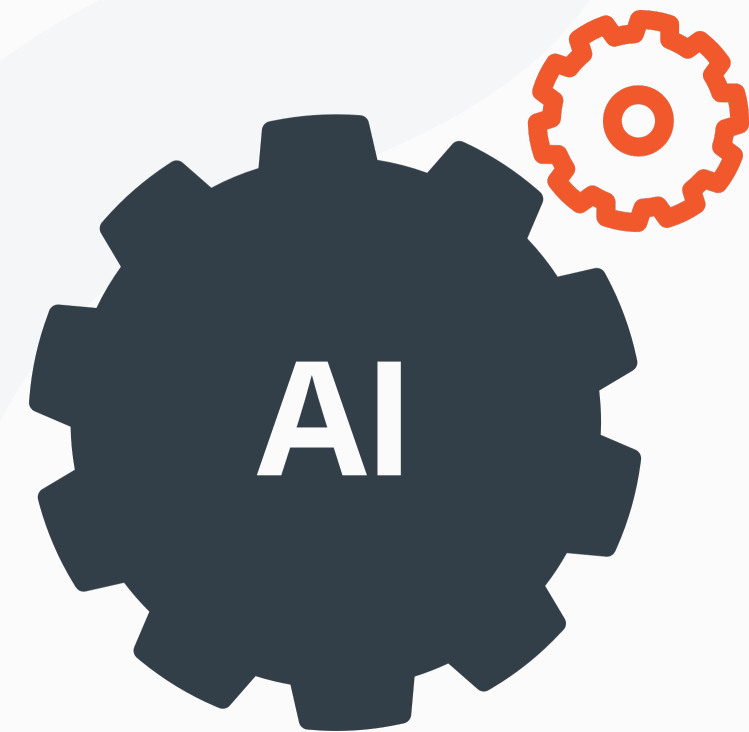
ARTIFICIAL INTELLIGENCE

Artificial intelligence is generally defined as:

Combination of computer science and vast data sets to enable computer-generated 'problem-solving'.

Implemented into systems, it can:

- ✓ Perform tasks under varying and unpredictable circumstances without human oversight
- ✓ Learn from experience and new data to improve performance
- ✓ Solve tasks requiring human-like perception, cognition, planning, learning and communication
- ✓ Mimic human cognitive tasks
- ✓ Provide speech recognition, automated bots for call centers, photo recognition, etc.



GENERATIVE AI

Generative artificial intelligence (GenAI) refers to AI applications that create “new” content based on the synthesis of data used to train the algorithm.

GenAI models use vast amounts of data inputs to generate (create) new content with similar attributes based on common patterns and styles. Output may include text, images, or even music.

- **Large Language Models (LLMs) are a component of GenAI that creates text outputs. Use cases in healthcare include progress notes and patient discharge instructions (text output files).**



MACHINE LEARNING

Subset of AI enabling a system or machine to learn and improve

Relies on algorithms to analyze data, learn from insights and make “informed” decisions

Performance improves over time as system is exposed to more data (“trained”)

- **More data => model improvement**

Leveraged inside and outside healthcare

- **Amazon and Netflix recommendations**
- **Bank fraud alerts**
- **Analysis of x-rays**



NATURAL LANGUAGE PROCESSING (NLP, NLU)

NLP uses machine learning to understand the structure and meaning of text, including unstructured text formats

NLP applications analyze text to extract information relative to the source to 'understand' its meaning

Immature NLP applications struggle with:

- Unstructured format
- Ambiguity based on use & context
- Synonymy or different terms for same concept in specific context
- Disambiguation or multiple meanings for a single word
- Named entity recognition – does the word mean a location, name or other?



NLP IN HEALTHCARE

Clinical Natural Language Processing and HCC Identification

NLP IN HEALTHCARE: INDUSTRY SPECIFICATIONS

NLP holds great potential to:

- Improve patient outcomes
- Reduce healthcare costs
- Provide greater insights into the quality of care being delivered

But healthcare has its unique challenges

- Data Quality
- Domain Knowledge
- Validation
- Interoperability
- Data Privacy

NLP SOLUTIONS FOR HCC RECAPTURE

HCC Code Identification: NLP assists in recapture programs by analyzing and extracting relevant clinical indicators from unstructured data

Clinical Documentation Improvement: NLP solutions such as computer-assisted provider documentation (CAPD)

Population Health/Chronic Condition Management: NLP can help by identifying patients with known conditions or are at high risk for developing them

How it Helps

Automatically scan progress notes, historical claims data, and ancillary clinical sources such as radiology reports, pharmacy data and lab findings.

Identify incomplete or unclear medical records at the point of capture.

Design targeted interventions to manage care resulting in improved outcomes and reduced costs due to exacerbation and unnecessary hospitalizations.

USING NLP TECHNOLOGY IN OP CDI

Factors Influencing Optimal Outcome from NLP Tool

NLP-ASSISTED USE CASES FOR HCC RECAPTURE

SUSPECTING

- Identification of conditions not previously diagnosed but anticipated based on clinical evidence



POST VISIT, PRE-BILL

- Validates selected risk-adjustable encounter diagnoses pre-submission
- Supports complete and accurate HCC capture prior to submission
- Supports non-compliant, unsupported risk adjustable diagnosis codes removal prior to submission

PRE-VISIT REVIEW

- Generates full picture of patient risk from all available documentation
- Surfaces active conditions, chronic conditions and suspects at the POC



RETROSPECTIVE REVIEW

- Assists in identifying appropriately documented, not claimed HCC diagnoses
- Provides “two-way look” workflow to meet regulatory requirements of accurate coding

BENEFITS OF NLP TECHNOLOGY FOR RISK ADJUSTMENT

+ Efficiency Gains for Clinical Reviewers

NLP technology can quickly identify key evidence supporting risk adjustable conditions.

- **Clinical Indicators and supporting evidence** within extensive medical records indicating the potential for the diagnosis.
- **Evidence of specificity:** NLP can locate evidence to prompt for accurate documentation and coding to highest level of specificity.

+ Patient Engagement Strategies

Assist in formulating worklists based on known recapture opportunities still open in current year.

+ Risk Mitigation

Highlight insufficient documentation not meeting MEAT requirements allowing for ICD-10-CM code removal prior to claim submission.

+ Provider Education Outreach

Provide insight into documentation gaps leading to more effective, focused provider education efforts.

CHALLENGES OF NLP FOR RISK ADJUSTMENT STRATEGIES

Data Format

Structured Data: Organized and searchable in predefined format

- Easy to read, interpret and analyze
 - Examples: Dates, numbers, BMI, lab values

Unstructured Data: No fixed format or structure

- Difficult to store and manage data in databases that are interactive
 - Examples: Medical Notes (text)

Spelling and Abbreviations

Clinical Indicators

INCORPORATING NLP IN RISK ADJUSTMENT PROGRAMS

→ Key takeaways

Know and understand the layers or subsets to AI, including Machine Learning and NLP.

NLP technology can be an effective asset to Risk Adjustment/Outpatient CDI programs but isn't a complete solution alone.

Technology solutions require applications specifically designed and engineered for the unique complexities of risk adjustment and HCC programs.

NLP solutions are a **tool** designed to enhance risk adjustment capture success – like all tools, users need time to gain the greatest benefits.

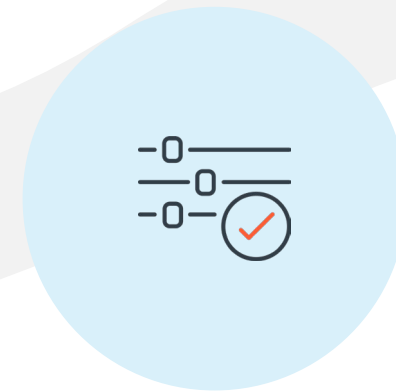
It is not a “one size fits all” technology and users should carefully assess, monitor and measure the process of reaching their goals.

NLP technology vendors are partners in your success!

QUESTIONS?

PARTNERING TO SUPPORT YOUR BUSINESS

To learn more or to schedule a consult with our national thought leaders on best practices to optimize your value-based payment or risk adjustment programs, please contact:



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