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## AI Developments at the NAIC (and beyond)

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## Panel Agenda

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- Introduction
- AI use cases
- Benefits and risks
- Regulatory update and risk management recommendations
- Q & A

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# AI USE CASES

# Munich Re's Risk Assessment Pipeline

In  
production

Processing free text  
applicant responses

In 3  
months  
Automatically  
assess  
EHRs

In 1 year  
Underwriting  
translation

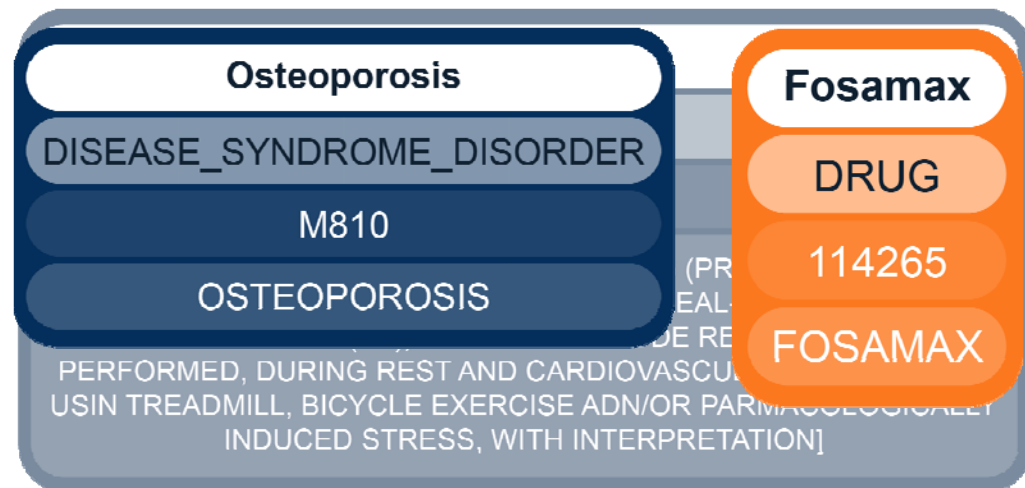


## (1) Processing Free Text Response

Our solution can parse free text responses, map to medical concepts and deliver instant decision results.

In production for ~ 1 year and has delivered an STP gain of 10%.

4. Patient with Osteoporosis due to is Fracturing and ended in a wellness check.



## (2) EHRs are Difficult to Manually Review

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Risk Assessment:

Suicidal Ideation: No

Homicidal Ideation: No

Self Harm Behaviors: No

Summary Risk/Safety Assessment (include steps taken to assure safety if indicated or why safety plan is not needed): Patient is at low risk. Safety plan is not indicated at this time.

DIAGNOSIS: 1. PTSD (post-traumatic stress disorder)

2. Generalized anxiety disorder

3. Recurrent major depressive disorder, in partial remission (HCC)

PHQ-9 and GAD-7:

PHQ9/GAD7 Review Flowsheet 9/7/2023 6/15/2023 4/18/2023 4/3/2022 11/21/2022  
10/16/2022 9/11/2022

PHQ9 Total 2 11 6 3 7 7 14

GAD7 Total 1 17 6 4 21 19 19

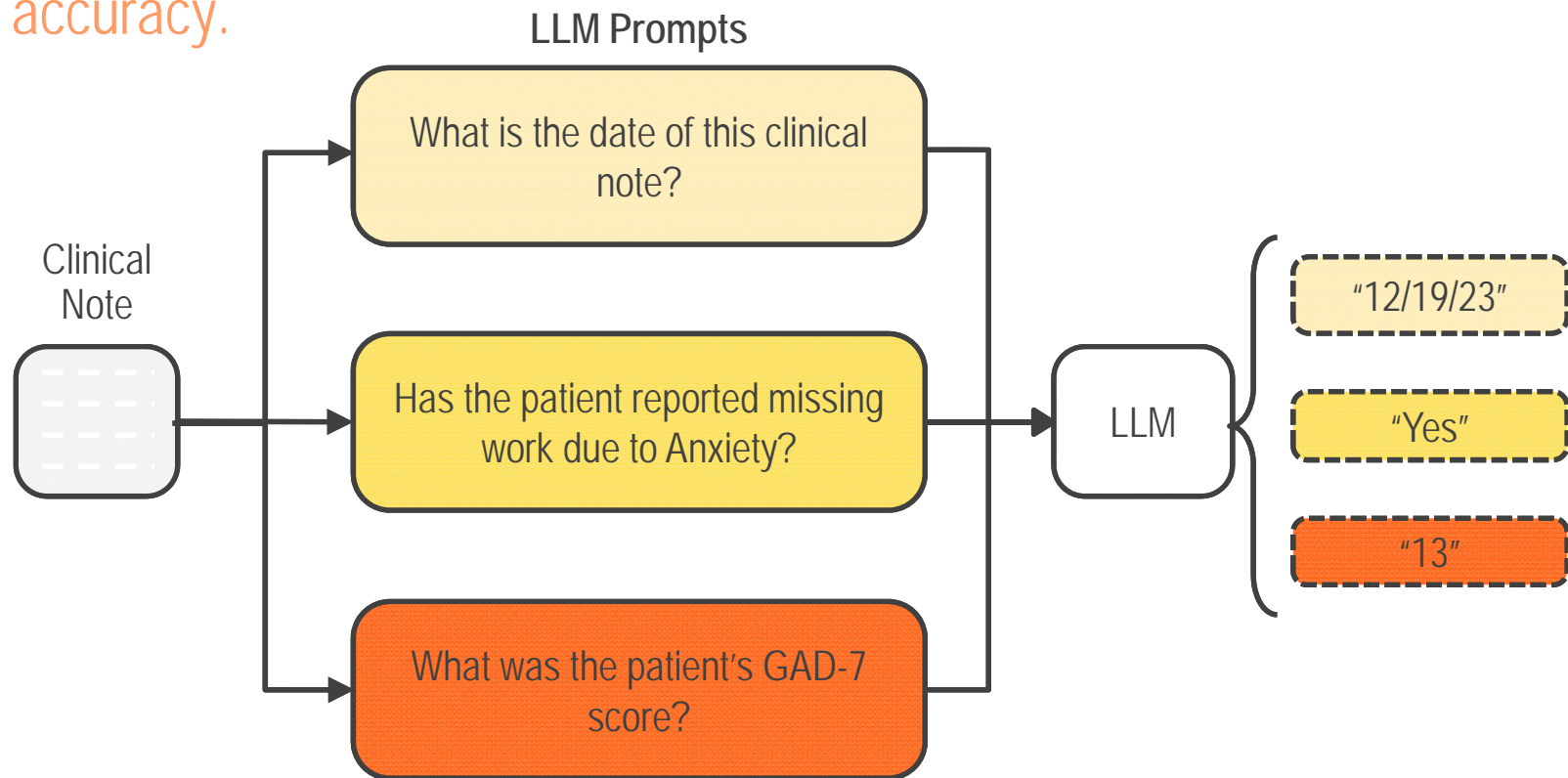
Treatment Plan: see AVS for Patient/Treatment Goals and Measurable Objectives.

Follow-Up/Plan: RTC x 12 weeks pending new insurance options with job change

Subjective (patient-reported progress or changes since prior session): Magd stated that he is doing well and feeling good. He moved out of his home with his W and is living with an uncle and nephew. Pt feels this change has been very positive and his anxiety is much decreased overall. Pt reports that during the transition of moving out of W's home, he was more anxious and took klonopin daily. That has changed. Pt has also given notice at his job as his plans to go to truck-driving school in March in order to become a full-time truck driver. He is very pleased about this change as he feels he needs a break from medicine. Pt's mood has been stable and positive per his report. He feels slightly apprehensive about all the changes, but good.

## (2) Automating EHR Data Extraction

Using LLMs, we can automate targeted data extraction from EHRs with 90-100% accuracy.





## (2) Impairment-specific Extractions with LLMs

**Risk Assessment:**

Suicidal Ideation: No  
 Homicidal Ideation: No  
 Self Harm Behaviors: No

Summary Risk/Safety Assessment (include steps taken to assure safety if indicated or why safety plan is not needed): Patient is at low risk. Safety plan is not indicated at this time.

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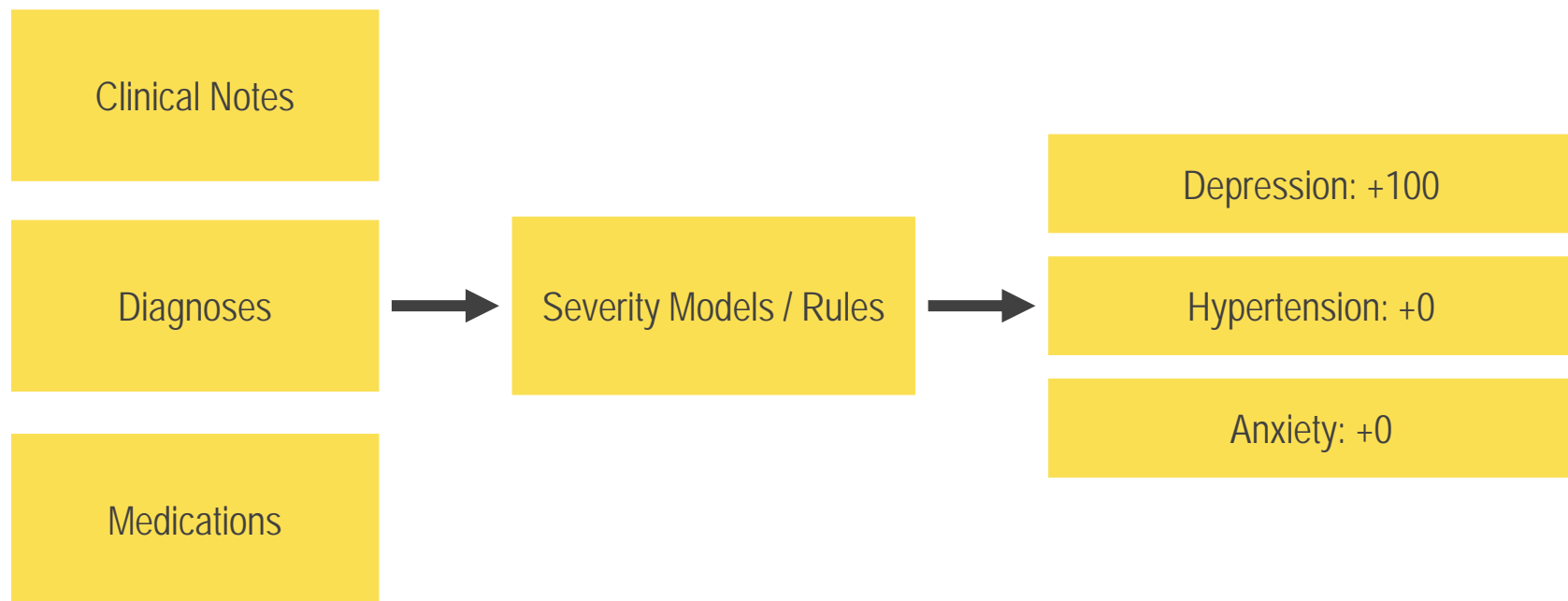
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Date	GAD-7	PHQ-9
09/11/2022	19	14
10/16/2022	19	7
11/21/2022	21	7
04/03/2022	4	3
04/18/2023	6	6
06/15/2023	17	11
09/07/2023	1	2

## (2) Easily Process EHRs and Score Impairments

Process all data in an EHR (structured and unstructured) and score using ML models and rules to output debits per impairment for UW.



## (3) Underwriting Translation

Using LLMs, we can understand the risk inherent in a case, rather than worrying about data formats or question wording.

Client Q/A

"Anxiety"

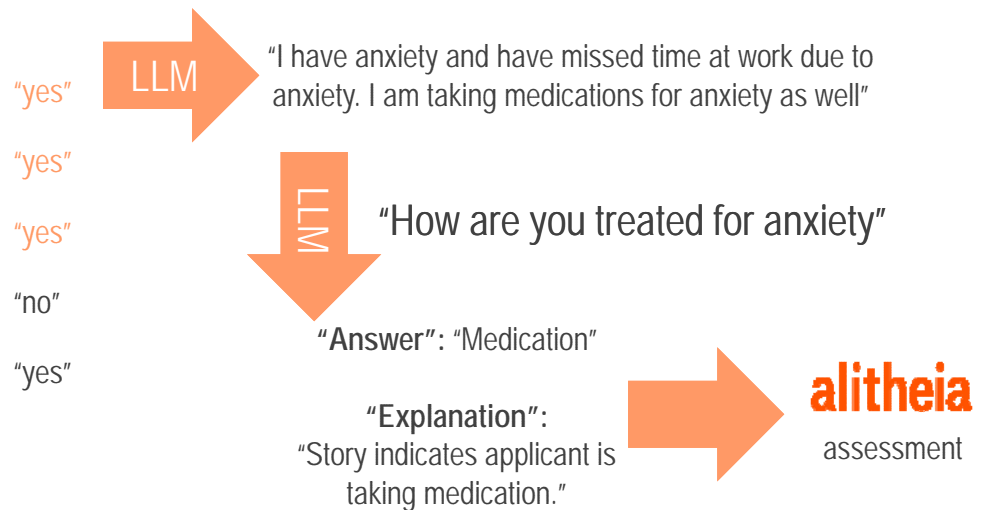
"Have you missed any time at work due to anxiety?"

"Are you taking any medications for anxiety?"

"Do you know your blood pressure?"

"Have you been treated for high cholesterol?"

Rephrased



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# AI BENEFITS AND RISKS

## Benefits of AI Tools

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Trust the robot

Intelligent processing of  
vast amounts of data



Efficiency + Effectiveness

## Benefits of AI Tools

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**Trust the robot**

Intelligent processing of  
vast amounts of data



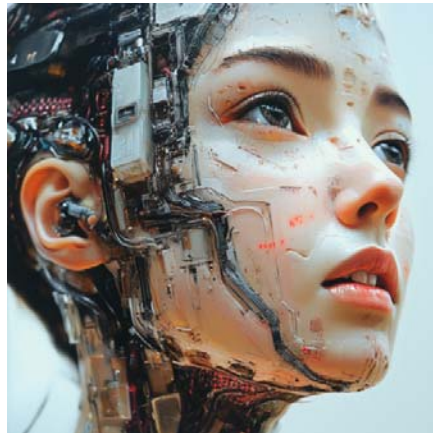
**Efficiency + Effectiveness**

**...with eyes wide open**

# Risks Inherent in AI Tools

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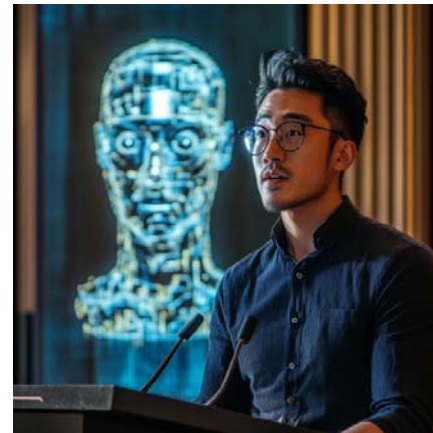
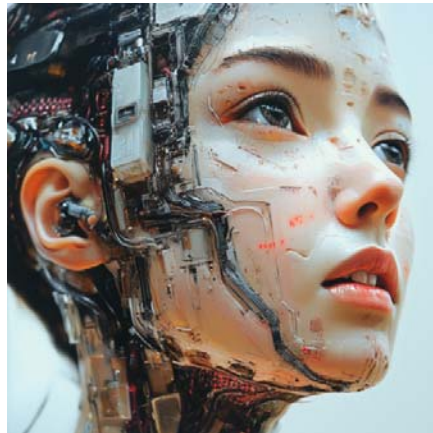
Prompt:  
"AI Panel  
Discussion"



# Risks Inherent in AI Tools

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Prompt:  
"AI Panel  
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## Risks Inherent in AI Tools

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Regulators, policymakers, and consumer advocates have expressed concerns about:

Accuracy, validity,  
reliability

Unintended  
"algorithmic  
discrimination"

Lack of transparency  
/ explainability

Privacy

Infringement of IP  
rights

Safety / extinction

As a result, insurers that use AI may be exposed to *regulatory, litigation, and reputational risk*.

## Risks Inherent in AI Tools: Machine Learning

	Machine Learning
E.g.,	Risk scores
Accuracy, validity, reliability	★★★
Unintended "algorithmic discrimination"	★★★
Lack of transparency / explainability	★★
Privacy	★
Infringement of IP rights	
Safety / extinction	

## Risks Inherent in AI Tools: Generative AI

	Machine Learning	Generative AI
E.g.,	Risk scores	Content interpretation or creation
Accuracy, validity, reliability	★★★	★★★
Unintended "algorithmic discrimination"	★★★	★★
Lack of transparency / explainability	★★	★★★
Privacy	★	★★
Infringement of IP rights		★★
Safety / extinction		★

# REGULATORY UPDATE AND RISK MANAGEMENT RECOMMENDATIONS

## Evolving Regulatory Response: State

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NAIC Model Bulletin

Colorado SB21-169

New York Circular  
Letter No. 7 (2024)

Colorado AI Law  
SB24-205

# Evolving Regulatory Response: Federal

## Executive Order 14110 (10.30.2023)

- Builds upon voluntary commitments, the Blueprint for an AI Bill of Rights and the NIST Risk Management Framework
- Calls for coordinated approach across federal depts and agencies
- Establishes eight guiding principles and priorities

Safety and security	Employee rights and opportunities	Consumer protections	Federal government's own use of AI
Innovation, competition and collaboration	Equity and civil rights	Privacy	U.S. leadership

## Risk Management Goal

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### HAVE A GOOD STORY TO TELL

Organizations that use AI and algorithmic models to make important decisions should strive to have a good story to tell.

The story should demonstrate that the organization:

- Appreciates the concerns associated with AI;
- Takes those concerns seriously, and;
- Has exercised reasonable care in identifying, managing, and mitigating the risk of negative impacts

# Basic Risk Management Framework

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A risk management framework should be an extension of the organization's ERM and compliance programs.

High level principles

Cross-functional, multi-disciplinary  
governance committee

Written policies and procedures

Clear assignment of responsibility  
and accountability

Training and supervision

Monitoring/auditing, testing\* and  
corrective action

Appropriate involvement by senior  
management and Board

Documentation

\* Testing will be required in CO and NY, is encouraged in the NAIC model bulletin.



## Governance Committee

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Assemble a multidisciplinary team that represents the organization's relevant departments.



Legal



Underwriting



Risk Management



Compliance



Marketing



Internal Audit



Actuarial



Data Scientists



Other Affected Departments

**Diversity of committee is critical.**

Should be sufficiently diverse so as to include views and perspectives of historically underrepresented populations; may be the only way to avoid blind spots.

## The Basic Approach

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- Institutionalize critical thinking
- Create and maintain inventory of AI system and external data sources being used or developed
- Understand the objective of each and how it will be used
- Identify potential risks for each AI system and external data source
- For each identified risk, assess the severity of the potential harm and how likely it is to occur
- Identify and implement appropriate safeguards, including "humans in the loop"

## Third Party Vendors

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- Insurance regulators do not have jurisdiction over third-party data brokers and AI vendors
- As a result, regulators expect insurers to make sure that data and AI tools purchased from third parties are compliant
- Due diligence, contractual safeguards, monitoring, and possible testing



## Questions

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