



Discovery Navigator: Save Time and Reduce Costs with Revolutionary Medical Record Review

Thursday, June 15, 2023
2:00 PM – 3:00 PM EDT

Meet the Panel!



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Agenda

- Introduction to Artificial Intelligence (AI)
- Industry Challenges
- Discovery Navigator: the Solution
- Demand Package Review
- Discovery Navigator – FAQs
- Panel Takeaways
- Q & A

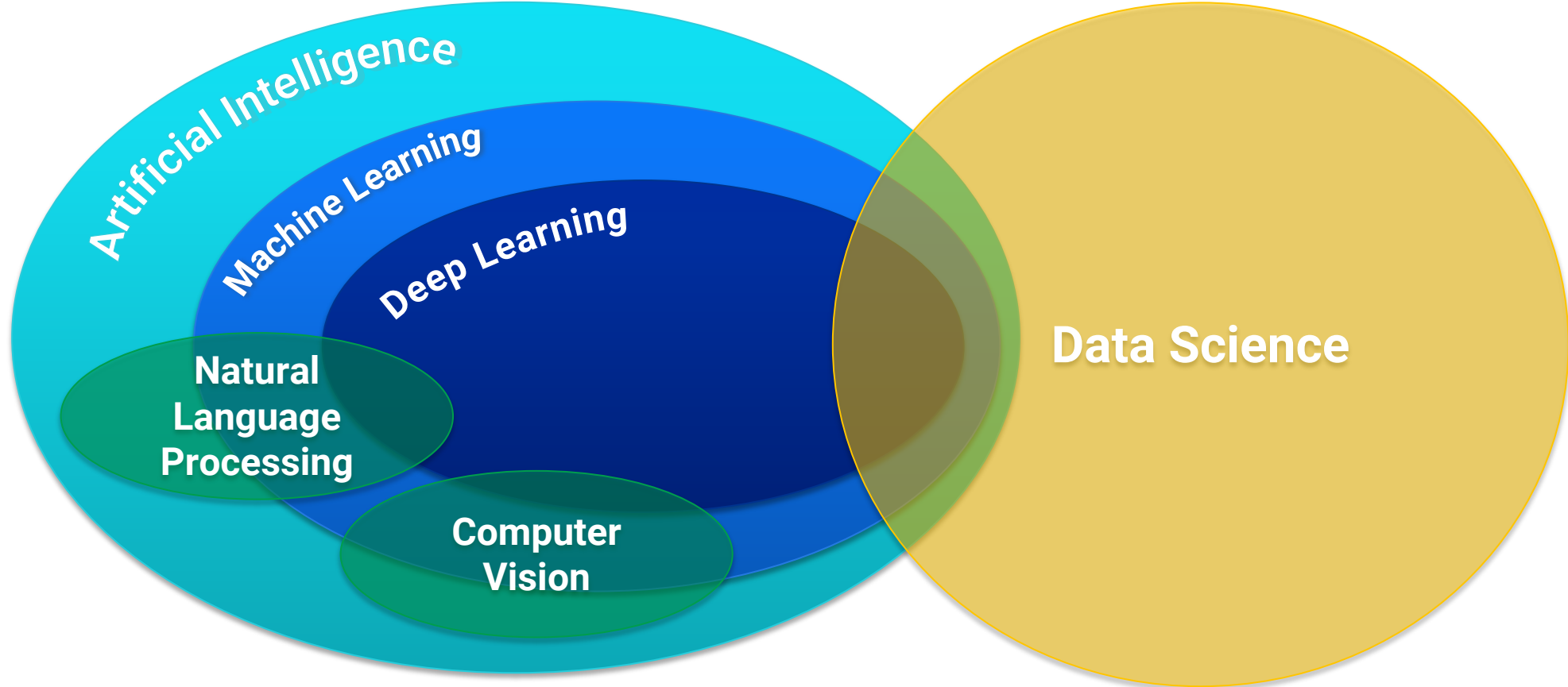
Poll Question #1

Is Artificial Intelligence (AI) in your current business workflow?

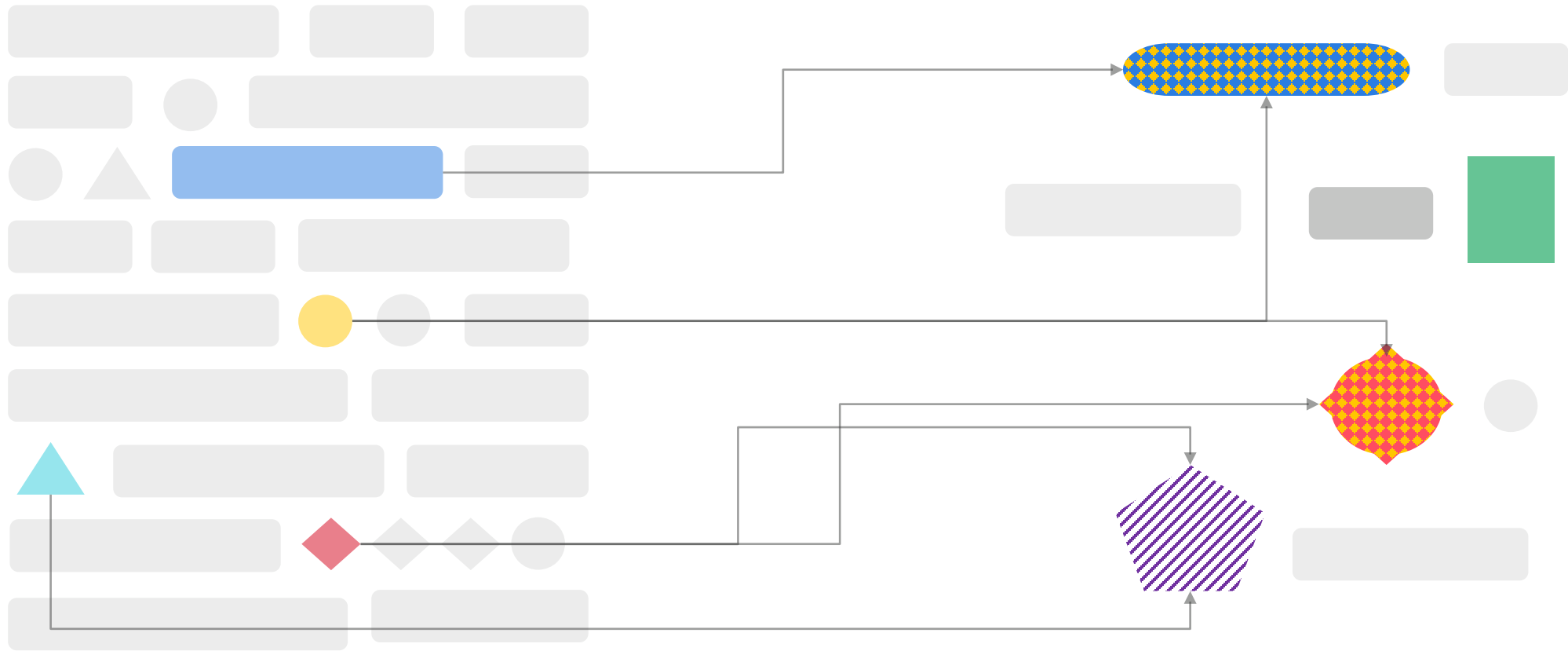
- A. Yes
- B. No
- C. Not sure

What is AI?

What is AI?




Generative AI



Large Language Models (LLMs)


Generative AI / ChatGPT

SN Who is the monarch of England today?

 As of my knowledge cutoff date of September 2021, the current monarch of England is Queen Elizabeth II. However, it's possible that the situation may have changed since then. If there has been a change in the current monarch, please let me know and I will update my answer accordingly.

- ✓ Lack of new information
- ✓ Bias, discrimination, etc.
- ✓ Hallucinations

SN Could you prepare an itinerary for 1 week in Italy in the month of August?

 Sure, I'd be happy to help you plan a one-week itinerary for Italy in August. Here's a sample itinerary that includes some of the most popular destinations in the country:

Day 1: Rome

- Visit the Colosseum and Roman Forum
- Explore the historic city center, including the Pantheon and Piazza Navona
- Take in the views from the top of the Spanish Steps
- Enjoy a traditional Italian dinner in a local restaurant

Day 2: Rome

- Tour the Vatican Museums and Sistine Chapel

Day 7: Venice

- Visit the Peggy Guggenheim Collection to see modern art masterpieces
- Take a water taxi to the nearby islands of Murano and Burano to see glassblowing and lace-making demonstrations
- Enjoy a final dinner in a local trattoria before departing the next day.

Of course, this itinerary can be customized based on your specific interests and preferences. Please note that August is a popular month for tourism in Italy, so it's recommended to book accommodations and tickets for popular attractions well in advance.

Industry Challenges

Current Industry Challenges



The Great Resignation

- **500,000** retirements and **25,000** openings expected in insurance over next decade
- **Claims** is one of the most in demand job in P&C, second only to IT



Talent Attraction and Retention

- **8 in 10** millennials don't know anything about insurance as a profession
- The median age in insurance is **44.9**, **5+ years** higher than many comparable industries

Why Verisk? The Industry's Leading Provider of Claim Analytics & Innovative Technical Solutions



1

Unrivalled claims data

19 petabytes of data for the greatest accuracy
50+ years safeguarding



2

Unparalleled medical expertise

More than 250 clinicians and legal experts informing world-class OCR tools



3

Proprietary AI functionality

Providing the capability to harness our data and medical expertise to save you

Discovery Navigator

Verisk's Solution: Discovery Navigator

Delivers critical data quickly and easily by automating record review

Through sophisticated AI embedded in Verisk's Discovery Navigator, unstructured medical records are reviewed faster and with greater accuracy.

As a result, insurers achieve significant cost savings while enabling more time to focus on improving the customer's experience versus spending time on mundane administrative tasks.

Benefits include:

- Automated extraction of key medical information from patient files in minutes rather than hours
- Pull information such as ICD Codes, medications, comorbidities and more
- Identified information available in an easily uploaded table or document
- Development of new features/capabilities further streamlines medical record review



***Automate the
Administrative***

Discovery Navigator: Real Results



Cost Savings

Grows as the number of pages handled and complexity of the file grows – achieving **significant ROIC**



Speed

Extracts key medical information from patient files representing time savings of **up to 90%**



Accuracy

Pulls key information like ICD codes, medications, comorbidities, and provider data which **achieves up to 95% automated accuracy**

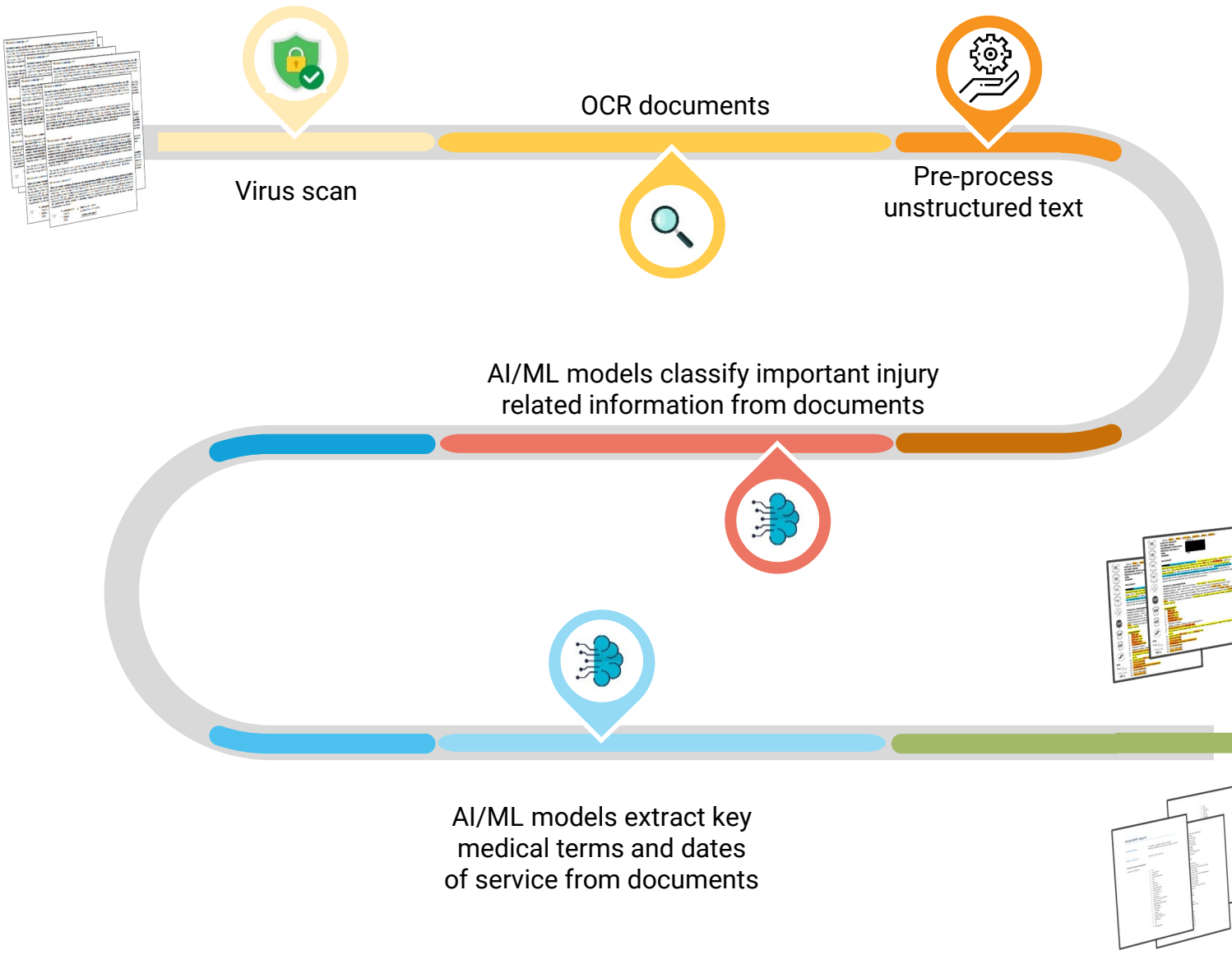


Ease of Use

Integrates into claims systems through **API or instantly available via stand alone solution**

Workflow

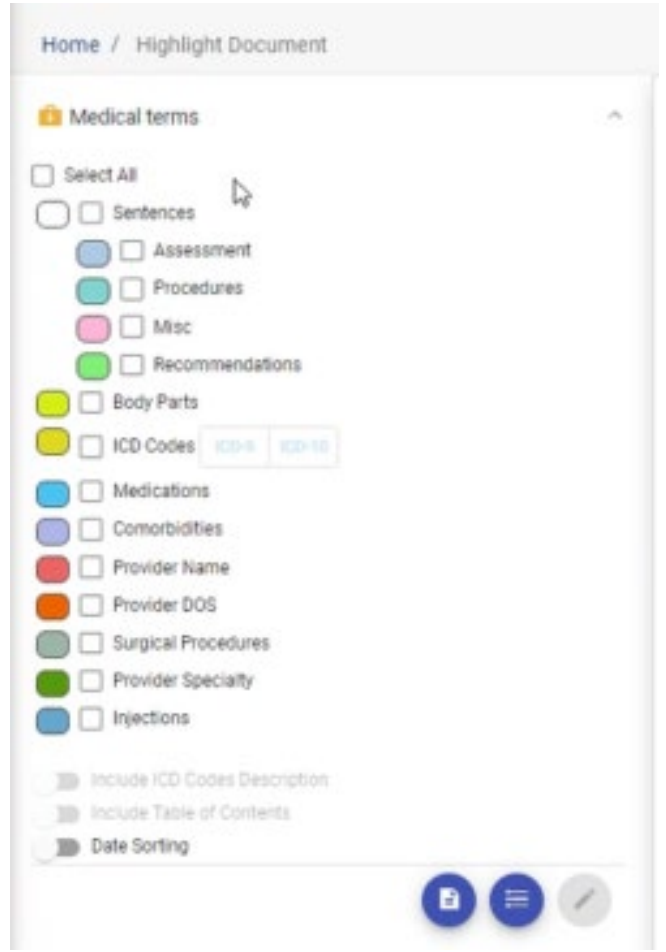
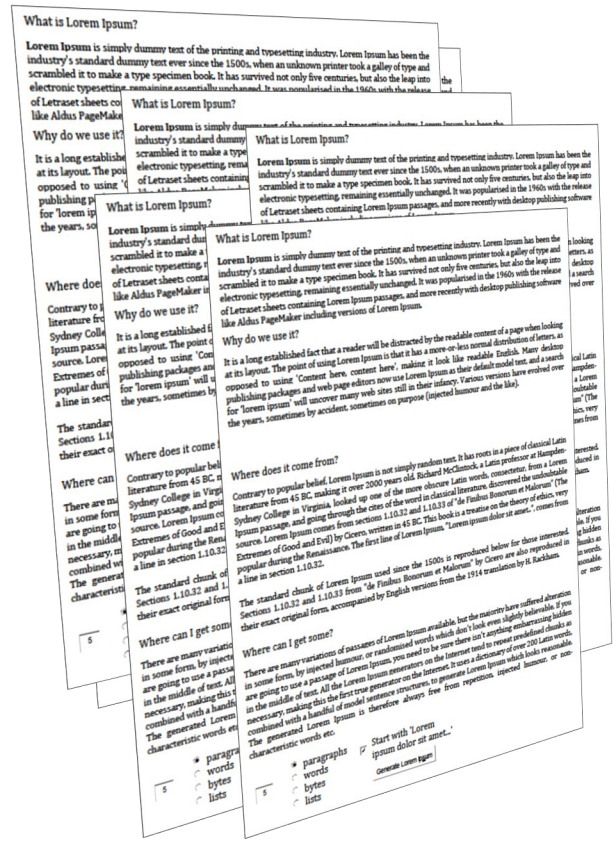
Unstructured medical documents



Comprehensive and concise results


1. Color highlighted PDF documents to draw user's focus to the most relevant information
2. Concise report to provide information at your fingertips

Discovery Navigator: Identified Medical Terms



Unstructured Medical Records

Discovery Navigator

DocumentsWelcome, Kate Riordan
DNav Demo UAT

Welcome to Discovery Navigator Documents (83 of 83)

+ Upload DocumentAdvanced SearchSort by
Newest

<p>Robert Kraft Claim # by Kate Riordan (i67262) 0 pages 0 Bytes Uploaded 06/12/2023</p> <p>Processing... New</p>	<p>John Smith Claim 1234 by Kate Riordan (i67262) 0 pages 0 Bytes Uploaded 06/12/2023</p> <p>Processing... New</p>	<p>Dnav CPT Document by Eric Herrmann (I23403) 5 pages 93.042 KB Uploaded 05/26/2023</p> <p>Processed: 5.18 minutes</p>	<p>Verisk _Discovery Navigator_... by Agustin Palencia (I24224) 10 pages 1.848 MB Uploaded 03/23/2023</p> <p>Processed: 5.13 minutes</p>
<p>Jane Doe Claim #1234 by Eric Herrmann (I23403) 68 pages 8.746 MB Uploaded 02/03/2023</p> <p>Processed: 5.82 minutes</p>	<p>Claim ABCD Smith by Patricia Distefano (I26558) 645 pages 280.275 MB Uploaded 02/01/2023</p> <p>Processed: 11.33 minutes</p>	<p>John Smith Claim #123 by Patricia Distefano (I26558) 853 pages 213.574 MB Uploaded 02/01/2023</p> <p>Processed: 13.27 minutes</p>	<p>KRiordan Claim 12345 by Patricia Distefano (I26558) 474 pages 51.05 MB Uploaded 02/01/2023</p> <p>Processed: 9.77 minutes</p>

Discovery Navigator Reports

Report generated:
by Omar Aleem
on 01/23/2023, 11:09:40 AM
Sorted Newest to oldest
Document name:
4_Raw_Redacted-Complete
Document owner:
Omar Aleem

Executive summary

Policy # 23232323 Injured Party Jack Black Date of Loss 11/15/2021 Age N/A Gender Male

History of visits

Service date	Visits duration	Total visit dates	Pages without dates
11/07/2021–12/06/2021 <small>Show all dates 11/15/2021</small>	30 Days	6	9

Document legend

Medical information <ul style="list-style-type: none"> ■ Assessment (6) ■ Procedures (12) ■ Mitigating Circumstances (34) ■ Recommendations (6) 	Procedures <ul style="list-style-type: none"> ■ Surgical Procedures (14) ■ Injections (6)
Medical terms <ul style="list-style-type: none"> ■ Body Parts (5) ■ Medications (36) ■ Comorbidities (12) 	Provider information <ul style="list-style-type: none"> ■ Name (3) ■ Specialty (1)
ICD codes <ul style="list-style-type: none"> ■ ICD9 (43) ■ ICD10 (10) 	

The Licensee acknowledges that Liberty Navigator™ (LNav) is advisory only, does not require adherence to its options or estimates, and may be utilized as an aid to assist the Licensee in claims settlement. The Licensee must determine for itself what requirements apply to each claim situation. It is not intended that this system be used as the sole criteria in settlement of any claim. 1

Summary by speciality

★ Before the Date of Loss
○ Before and after the injury

Surgeon

6 VISITS TO 3 PROVIDERS FROM 11/07/2021 TO 12/06/2022

LIST OF PROVIDERS	
11/07/2021 - 06/16/2022	John Galt (2)
07/21/2022	John G. (1)
05/07/2022 - 12/06/2022	Mike Peterson (3)

LIST OF MEDICAL INFORMATION	
Surgical Procedures	Complex right total knee arthroplasty with removal of hardware 2
	Osteotomy 2
	Right total knee arthroplasty 2
Comorbidities	Anemia ○ 2, 4, 10 * 12 *
	Crush injury 3
Medication	Aleve 3
	Ibuprofen 2, 4, 23, 25
	Vasquez 2
Procedures	2, 4

Physical therapist

5 VISITS TO 2 PROVIDERS FROM 11/07/2021 TO 12/06/2022

LIST OF PROVIDERS	
11/07/2021 - 06/16/2022	Andrew B. Safel
07/21/2022	Andrew Sattel

This document contains private information. Any external disclosure is prohibited. Document Name: 4_Raw_Redacted-Complete 5

History of Injury	Date of injury: 8/7/2021. Based on a physical medicine and rehabilitation visit, dated 10/15/21, Ms. O described a lifting injury at work. Her employer sent her to urgent care and she was seen in the emergency department. She reported low back pain with bilateral groin and left leg pain. Additionally, Ms. O reported episodes of urinary incontinence. [ED visit not available for review.]
Overview of Findings:	
Providers (type); number of visits	<ul style="list-style-type: none"> • Internal medicine (1) • Physical medicine and rehabilitation (3) • Neurosurgery (1) • Pain management (1)
Identified ICD Codes	ICD-10 codes: <ul style="list-style-type: none"> • E04.1 Thyroid nodule (resolved) • E78.00 Hypercholesterolemia • G47.33 OSA (obstructive sleep apnea) • G47.9 Sleeping difficulty, chronic • I10 Essential hypertension • M25.50 Arthralgia (resolved) • M48.00 Central stenosis of spinal canal • M48.061 spinal stenosis L4-5 • M48.062 Spinal stenosis of lumbar region with neurogenic claudication • M54.9 Back pain • M65.30 Trigger finger, right hand • M79.2 Neuropathic pain • R06.83 Snoring (resolved) • R13.10 Dysphagia (resolved) • R26.2 Ambulatory dysfunction • R73.9 Hyperglycemia
	<ul style="list-style-type: none"> • Y99.0 Work related injury • Z13.31 Depression screen • Z23 Flu vaccine needed • Z59.89: No health insurance
Surgical Procedures/Injections	• No surgical history
Current Medication List	11/5/2021: <ul style="list-style-type: none"> • Norvasc • Trusopt • Neurontin • Mobic
Indication of Head Injury	No
Current Status/ Future treatment	Based on the last available treatment record, dated 2/7/22, Ms. O stated that her leg pain was worse. She reported back pain, gait/balance problems, and weakness. She was instructed to follow up with pain management and remain off work. The provider noted that she declined surgery.

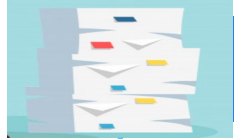
Poll Question #2

How many different people do you think typically conduct manual reviews and/or summarizes medical records on a single file?

- a. 1
- b. 2-5
- c. More than 5

AI Capabilities

Natural Language Processing (NLP)



Information Extraction

NER <ul style="list-style-type: none"> Name Location Organization 	News/web Extraction <ul style="list-style-type: none"> Politics Weather - snow depth, earthquake Cyber 	Document Extraction <ul style="list-style-type: none"> Diagnosis - ICD codes Injured body parts Date of services
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Text Classification

Emotion Detection <ul style="list-style-type: none"> Sentiments Satisfaction Problems solved 	Code Classification <ul style="list-style-type: none"> Occupancy code Potential hazards 	Classification <ul style="list-style-type: none"> Medical document type classification Diagnosis/service/recommendation detection Detection of violations
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Transformation and Dialog

Chatbot	Text Summarization
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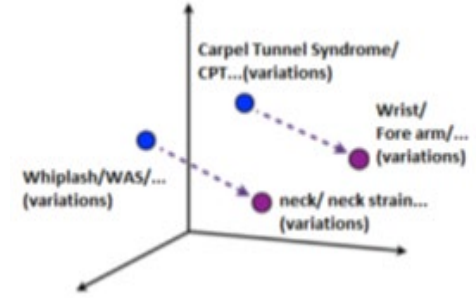
AI capabilities for Discovery Navigator



Medical experts create dictionaries



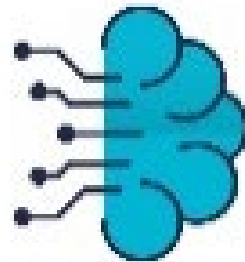
Rule-based approaches using keywords, regular expressions, etc.



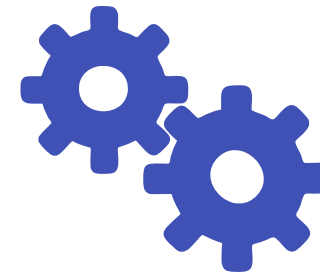
Word embeddings



Unstructured medical records



Deep learning language models

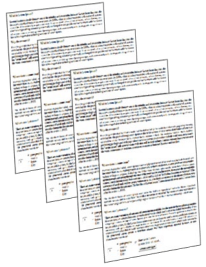


Machine learning models

Demand Package Review

Demand Package Review: Workflow for Discovery Navigator, Liability Navigator, and Nurse Review

Unstructured medical PDF documents uploaded

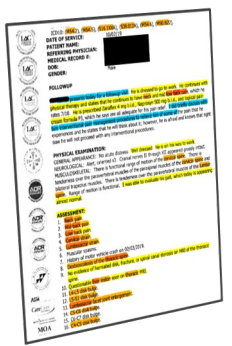


Select **Discovery Navigator** models to extract Medical Facts



Diagnosis Codes
 Provider and Date(s) of Service
 CPT Codes

Medical Facts to **Liability Navigator**



Claim to Adjuster Or Claim System

Injured Party	Claim Number	Carrier/TPA
John Doe	12345678	ABC Carrier
Date of Birth	Medical Facility/Insurer	Subdivision
SSN/ID Card	Policy Number	Product/Market
Occupation Type	Date of Loss	Event Category
Location	Policy State	Policy Number

Person of Interest	Description
1) A diagnosed bilateral C4-C5, C5-C6 facet joint injection was performed at Spine Pain Management, Inc. on 11/15/18. The procedure was performed by Dr. John Doe, MD. The patient reported no relief of pain after the procedure. The patient was advised to return for a follow-up appointment in 2 weeks. The patient was also advised to continue with physical therapy for over 2 months prior to the injection, and he has not received much relief from the medication.	
2) It should be noted that Dr. John Doe recommended a 2nd cervical facet joint injection, which was performed on 11/15/18. The patient reported no relief of pain after the procedure. The patient was advised to return for a follow-up appointment in 2 weeks. The patient was also advised to continue with physical therapy for over 2 months prior to the injection, and he has not received much relief from the medication.	

History of Injury	Description
The emergency department record dated 11/15/18 indicates that the patient was involved in a motor vehicle accident on 11/15/18. The patient was driving a 2018 Ford F-150 pickup truck when it was struck by a 2017 Chevrolet Silverado. The patient was ejected from the vehicle and sustained injuries to the neck, back, and head. The patient was transported to the hospital and diagnosed with a C4-C5, C5-C6 facet joint injection. The patient was advised to return for a follow-up appointment in 2 weeks. The patient was also advised to continue with physical therapy for over 2 months prior to the injection, and he has not received much relief from the medication.	

Condition of Interest	Description
Facet joint injections	The patient underwent two facet joint injections on 11/15/18. The patient reported no relief of pain after the procedure. The patient was advised to return for a follow-up appointment in 2 weeks. The patient was also advised to continue with physical therapy for over 2 months prior to the injection, and he has not received much relief from the medication.

Optional **Nurse Review**



Discovery Navigator – FAQs

FAQs

1. Can Discovery Navigator process significantly large files?
2. Can you build custom models? If so, what does the process entail?
3. Is Discovery Navigator able to process documents other than medical records?
4. Is Discovery Navigator able to organize the packet in chronological order?
5. Are you able to apply Discovery Navigator's capabilities to languages other than English?
6. How do I get started?

Panel Takeaways

Key Takeaways

- 1** Automate the administrative
- 2** Adjusters are still key to resolution
- 3** Use technology to reduce human error

Discovery Navigator – Resources

STEP 1

How many files do you process per year?

Min is 100 files per year

STEP 2

What is the average number of pages per file?

Min is 50 pages per file

STEP 3

Who works on your files? Tell us the % of time spent by team function. Last, share the hourly rate by team member.

	Percent of time		Hourly Rate
Lawyers	<input type="text" value="10"/> %	\$	<input type="text" value="50"/>
Nurses	<input type="text" value="55"/> %	\$	<input type="text" value="25"/>
Claims Professional	<input type="text" value="35"/> %	\$	<input type="text" value="15"/>

Total must = 100% **100%**
Please use whole numbers

Estimated Time Savings per Year*

**73,558
Hours**

Estimated Cost Savings per Year*

\$1,635,400

Article: Harnessing AI and ML through Discovery Navigator to save time and money on medical records review

May 16, 2023

By Robert T. Lewis

It has been about 15 years since I last practiced law and it is fair to say that a lot has changed in that time. Back in the day, I would love it when the mail arrived (the USPS kind) because that is how we received the majority of important correspondences or medical records and it was a great way to not only move your cases forward, but also an opportunity to capture some billable time. Then, when it was time to write a letter back, I would break out the dictation machine and record on a small tape: "Dear John, I am in receipt of your correspondence and would like to ..." The tape would "magically" (thanks to my amazing assistant) convert into a word document, and then it would be reviewed, printed, signed, and sent back via USPS. Unless it was time sensitive, then we would overnight it!



- What exactly is AI and ML?
- Organizing medical records for review
- Time and cost savings for adjusters, attorneys, and physicians
- Capabilities for review and analysis
- Discovery Navigator delivers real results and savings

Discovery Navigator Brochure

Insurance Automation *From Policy through Claim*

- AI, machine learning, and predictive analytics increases speed and precision
- 19 petabytes of data across proprietary databases yields greater accuracy
- Ecosystem of integrated solutions improves customer experience – yours and theirs
- 5,000+ industry experts provides lift across the value chain
- 50+ years safeguarding insurers' data earns confidence

Capture critical medical data with ease

Getting a complete picture of the medical history and pertinent data relative to a claim is critical to successful resolution. Traditionally, it has taken substantial resources to get this key data out of unstructured medical records.

- The Challenge:
- Manually retrieving actionable medical information is inefficient
 - Medical bills do not capture visit information

Discovery Navigator automates this important information

We have developed Discovery Navigator that automates the retrieval of medical information through sophisticated AI. The solution pulls key data from medical records and provides clients with the information they need in a format that can be easily reviewed and uploaded into their claims management system.



Get your complimentary consultation

To learn more about Discovery Navigator, please [click here](#) or [contact](#):

+1-866-630-2772 | CPinfo@verisk.com | verisk.com/casualty-solutions

Select terms Discovery Navigator identifies:



Body Parts



Prescription Drug Information



Comorbid conditions



Diagnosis codes



Your Panel



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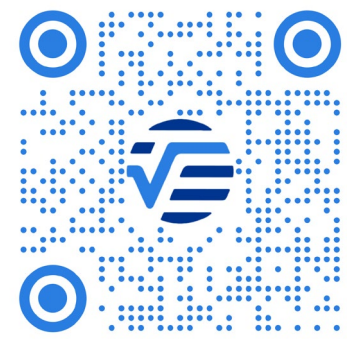
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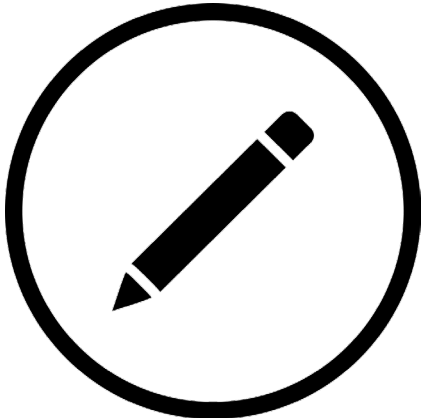
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SCAN CODES WITH SMARTPHONE



Thank You!