About Meduit

The Future of Revenue Cycle Management.

Artificial Intelligence in the Revenue Cycle

The Future is Already Here

meduit

Driving Revenue Cycle Performance

Who is Meduit?

Meduit is a gathering place for RCM excellence. We know how to drive revenue cycle performance better than anyone else.

We are one of the national leaders in providing healthcare revenue cycle solutions

Industry leading best practices

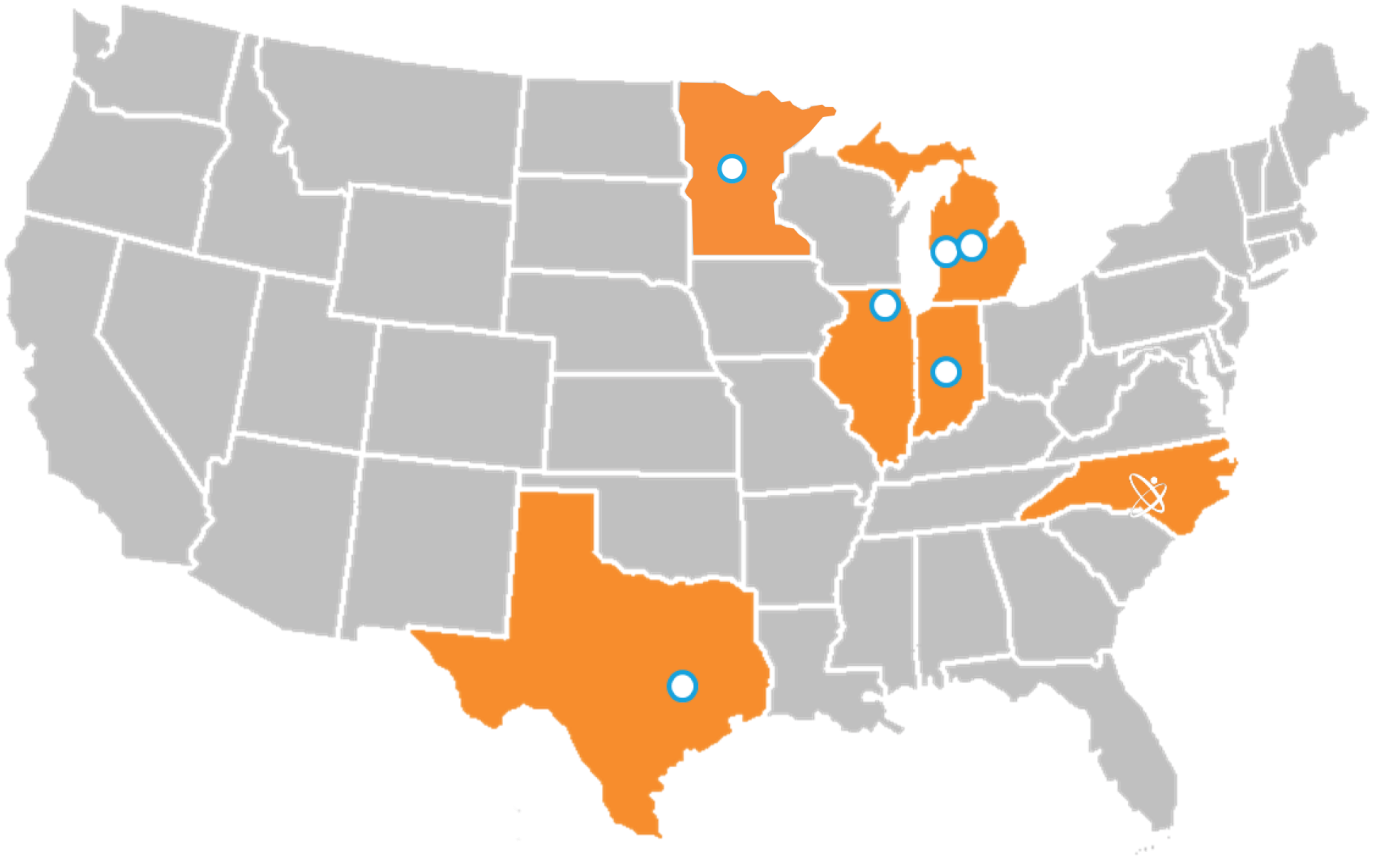
Unified solutions platform

National Footprint

- 6+ locations
- 500+ clients
- 600+ employees
- Managed over $7 billion in client AR in 2018

Update numbers to include Project Rocket

Our Office Locations



- Charlotte, NC (HQ)
- Chicago, IL
- Indianapolis, IN
- Lansing, MI
- Sartell, MN
- Waco, TX
- Zeeland, MI

What is Artificial Intelligence?

noun

The capacity of a computer to perform operations analogous to learning and decision making in humans, as by an expert system. *Abbreviation: AI, A.I.*

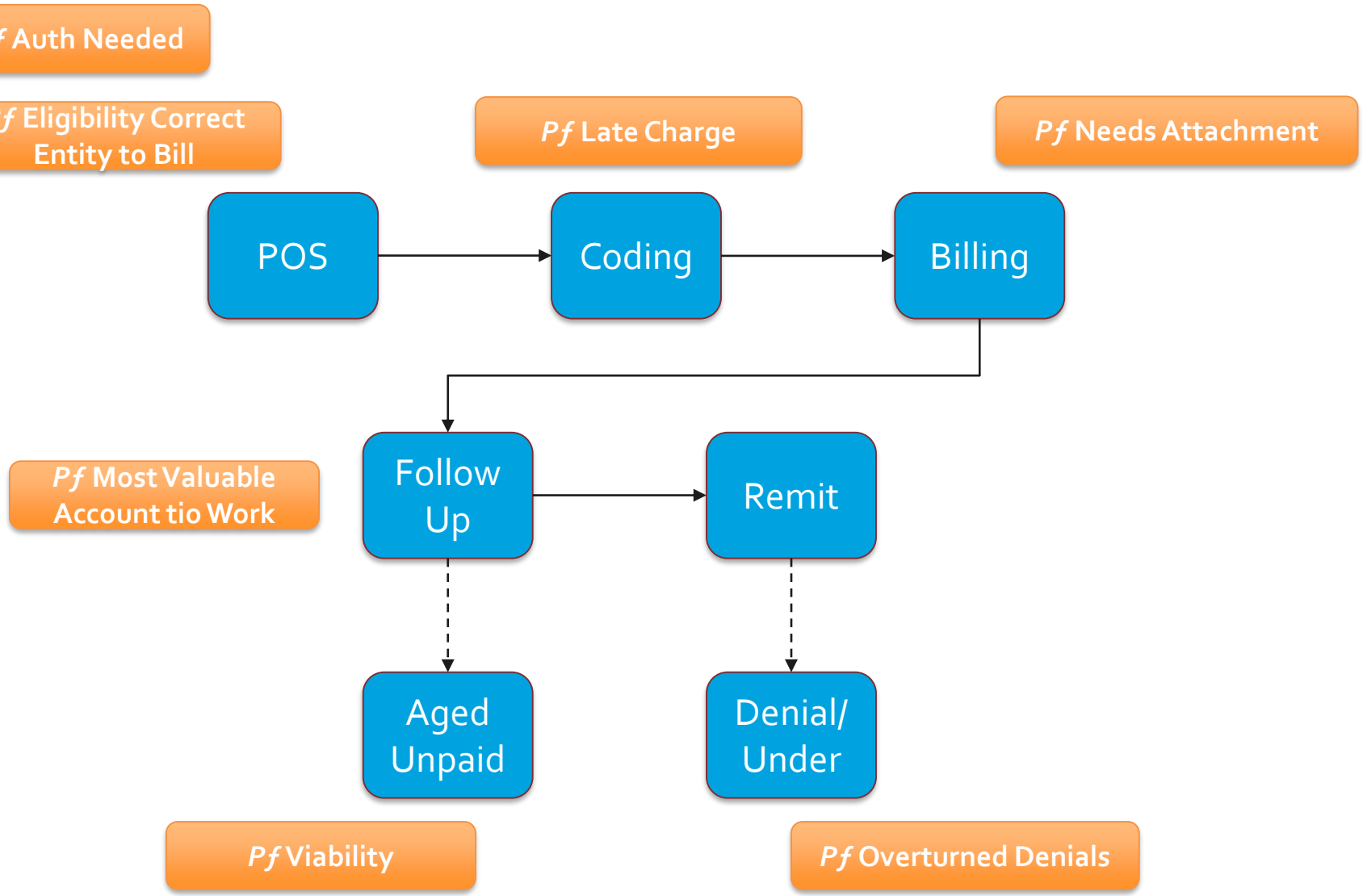
Many people confuse AI with Robotic Process Automation (RPA) which merely takes information and processes it based on specific information and outcomes programmed within the system.

What is Artificial Intelligence?

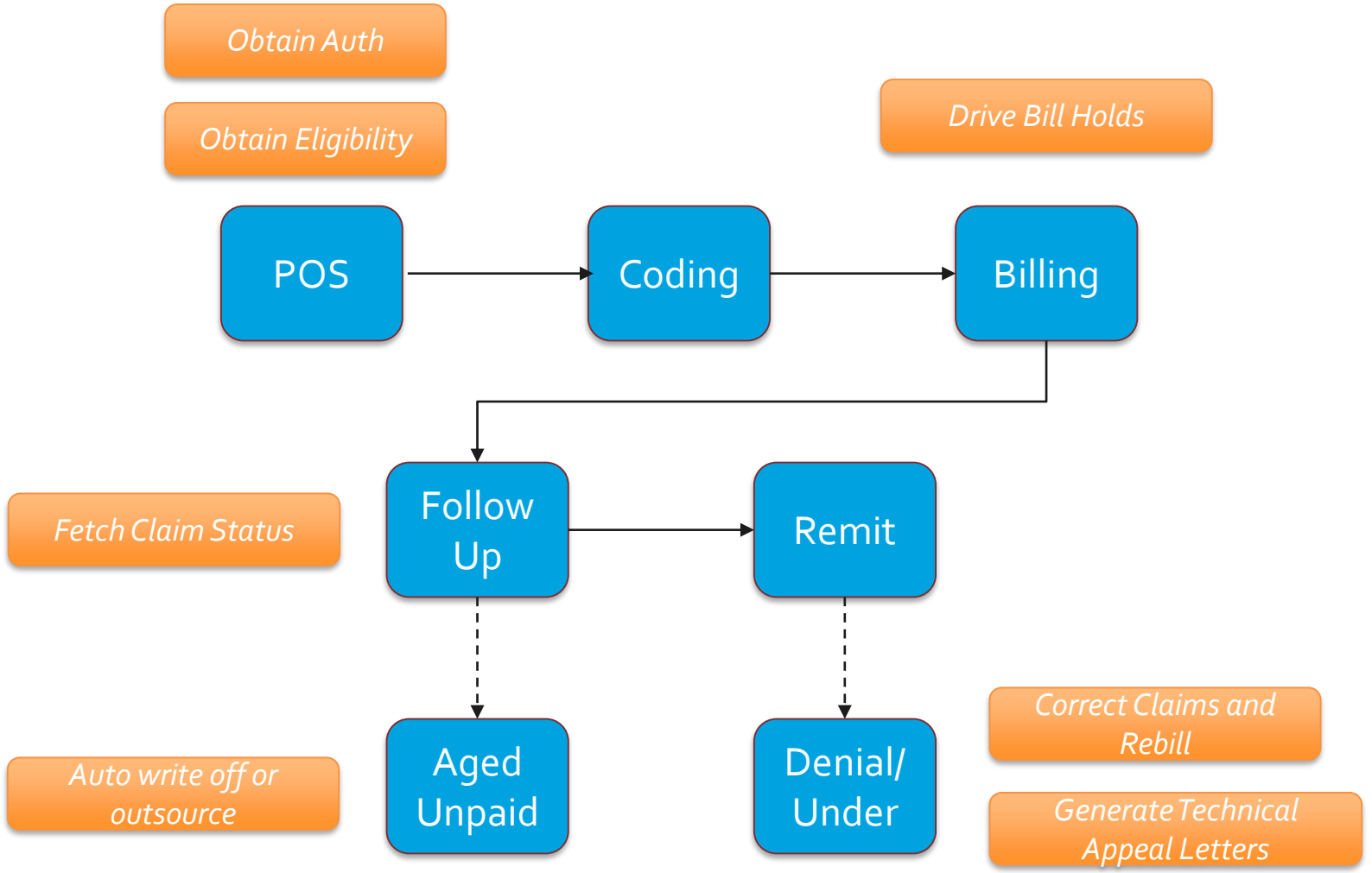
To be Artificial Intelligence, it must do one of the following:

- Autonomous Character recognition:
  - Being able to read a document on its own and do something with what it read
  - Facial Recognition – seeing a face and determining if there's a threat or problem and then triggering an alert.
- Text-to-speech or speech-to-text translation
- Unsupervised machine learning – The machine is able to see patterns and trends in data and adjusts actions in response to those trends without human intervention.

AI in the Revenue Cycle



AI in the Revenue Cycle



AI in the Revenue Cycle - Application

Autonomous Medical Coding - MedAutoCode

- Clinical Language Understanding (CLU) is an exciting technology that enables fully automated coding with zero human interaction.
- CLU provides the codes and a clear audit-trail that explains the rationale behind the coding or flags the chart for a coding specialist if the chart can't be coded automatically.

MedAutoCode in a Nutshell

Transforming Revenue Cycle Management with autonomous coding

Cut operational costs

Improve coding accuracy

Reduce A/R time

Proprietary Clinical Language Understanding (CLU) engine

Results

- 98% human to machine code matching
- More codes identified
- < 5 sec per chart

Groundbreaking Technology

MedAutoCode is an autonomous coding solution that leverages artificial intelligence (AI) and natural language understanding (NLU) to re-create a patient visit and assign accurate, real-time medical codes to the chart with zero human interaction.

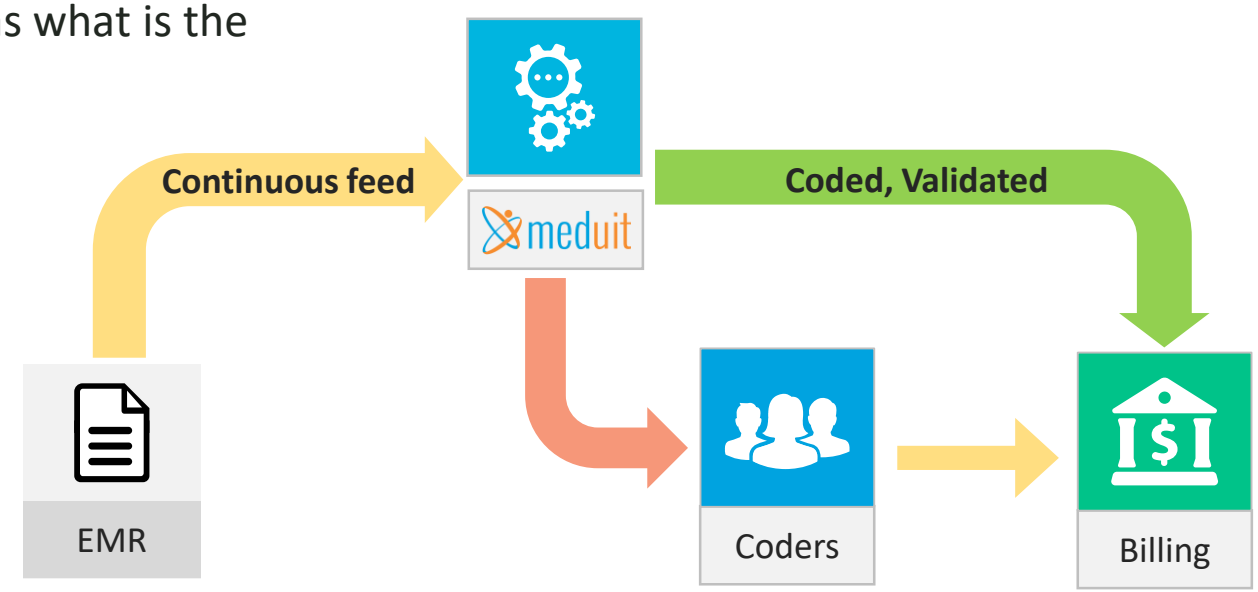
	MedAutoCode Technology	CAC Solution
Human Interaction	Not required: 0% on coded charts	Required for every chart
Code Explanation	Complete audit trail explaining why ICD10 and E&M codes were chosen	No visibility into code reasoning
Integration and Usage	A non-intrusive Clinical Language Understanding (CLU) model that accurately codes with high precision and no human intervention	In-depth integration into coder workflows. Human intervention required for review of chart sections and final code selection from code suggestions
Time	< 5 seconds	Minutes

Potential Savings with Autonomous Coding

- Efficient coding with parallel autonomous and manual coding
- Enhanced compliance, auditing, and denial handling due to transparency in assigning CPT, ICD10, and E&M codes
- Identification of missing documentation required for higher level of service
- Definition of clinical documentation improvement initiatives for reduced days in A/R and improved coding speed and accuracy

MedAutoCode: Autonomous Coding

- Automatically identifies and captures every clinical aspect of a chart
- Understands what is relevant as well as what is the most accurate code to use
- **Assigns codes only for charts it fully understands**
- Unhandled charts are returned for human coding with CDI opportunity



Built-in Quality Control

Auto-validation

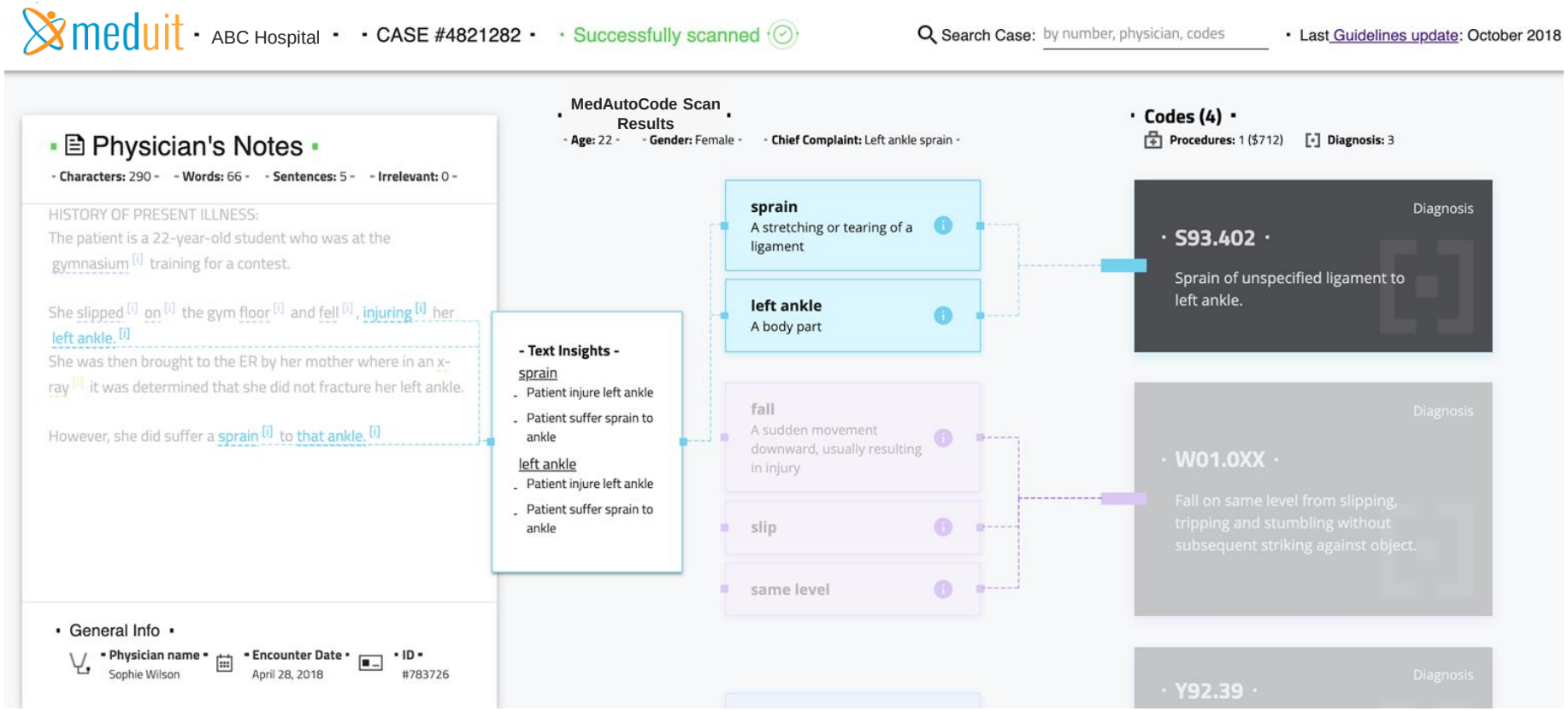
Each chart goes through a multi-step linguistic, narrative, and clinical validation to make sure MedAutoCode fully understands the chart and is confident in the coding

Audit trail

Successfully coded & validated charts are complemented with an audit trail enabling full visibility into the reasons for each medical code assigned by MedAutoCode

Each Coding Process is Justified via an Audit Trail

MedAutoCode generates transparency in coding decisions for audits and denials management



Audit Trail Can Be in PDF Form in Addition to UI

Encounter Detail

Patient MRN: 998066
Patient Encounter Date: 05/25/2019
Facility of Encounter: Freedom Hill
Primary Payer: Blue Cross Blue Shield
Nym Chart ID: 1322203
Nym Audit Generation Date: 06/17/2019 14:05:58

Audit Trail

1. Code Candidates

#text in each chart section reviewed and key text called out to determine all possible diagnosis (ICD10) and procedure (CPT) codes that can be applied to the patient visit

1.1 Chart Section: History of Present Illness

39 y/o male presents to ED with complaint of chest pain. Onset at 15:00 and has been intermittent and dull since. Describes transient episodes of radiated pains to the right upper arm but denies the pains as being exertional or pleuritic in nature. He denies prior episodes of similar presentation and is unaware of modifying factors. Pt denies SOA, denies N/V, denies back pain, denies diaphoresis, denies fevers. He denies prior episodes of similar presentation and is unaware of modifying factors. Unrelated to this complaint pt describes a painful laceration to the right index finger from a knife slip when cutting vegetables

- ICD code R07.9 (unspecified chest pain) #from chart text 'chest pain'
- ICD code M79.601 (pain in right arm) #from chart text 'pain', 'right upper arm'
- ICD code W26.0XXA (contact with knife, initial encounter) #from chart text 'knife'
- ICD code: M79.644 (pain in right finger) #from chart text 'right index finger', 'painful laceration'
- ICD code: S61.200A (unspecified open wound of right index finger without damage to nail, initial encounter) #from chart text 'right index finger', 'painful laceration'

2. ICD10 Guidelines Applied

#ICD10-CM guidelines applied to all possible ICD10 codes identified from chart text to determine accurate codes to assign to patient visit

2.1 Guideline Category: Underlying Conditions

- Manifestation codes without underlying conditions are removed, according to guideline I.A.13 - https://www.cdc.gov/nchs/icd/data/10cmguidelines-FY2019-final.pdf#page=11
  - Removed manifestation code [Z72.0 (tobacco use)], no underlying condition code

2.2 Guideline Category: Code Specificity

- Removed S61.208A (unspecified open wound of other finger), less specific than [S61.200A (unspecified open wound of right index finger)]

4. CPT Guidelines Applied

#CPT guidelines applied to all possible CPT codes identified from chart text to determine accurate codes to assign to patient visit

- Removed code 71046 (Radiologic examination, chest; 2 views), not billable under professional coding
- Removed code 85027 (Blood count; complete), not billable under professional coding
- Removed code 80053 (Comprehensive metabolic panel), not billable under professional coding
- Removed code 84484 (Troponin, quantitative), not billable under professional coding

4.1 Modifier: 59, Distinct procedural service

- Procedures performed independently from other non-E/M services require modifier 59 - https://www.cms.gov/Medicare/Coding/NationalCorrectCodInitEd/Downloads/modifier59.pdf
  - Code 12001:59 replaced [12001], distinct procedural service.

Available Metrics for Tracking

- Profile of charts processed through the autonomous coding engine
- Potential revenue gain through optimized processes and improved coding accuracy
- Audit trail explaining reasons for ICD, CPT, and E&M coding for denial handling and compliance
- Opportunities for Clinical Documentation Improvement

*More detailed analysis of chart profile, code distributions, value add, and revenue opportunity is generated on a customer-specific basis upon review of your data. Once a complete integration is in place, metrics around the above opportunities will be monitored further and reported regularly for continued optimization of your revenue and coding processes

Demonstration

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MedAutoCode

Impact Analysis

Sample dataset is run through the autonomous coding engine to demonstrate customer-specific value related to revenue recognition, coding precision, and CDI opportunities

Data Delivery	Data Processing	Assessment
Customer provides Meduit with the following information: • about 10% of monthly charts that reflect coding from one calendar year • ICD, CPT, and E&M codes assigned to selected sample charts	Charts are processed through the MedAutoCode engine. Meduit is HIPAA compliant; All data is transferred via SFTP and securely processed	Meduit analyzes coding precision and recall, identifying cost savings and revealing full audit trail across a selection of charts. Full audit of all charts available upon request.

Questions