Healthtek, LLC

EMBRACING CHANGE THRU ARTIFICIAL INTELLIGENCE

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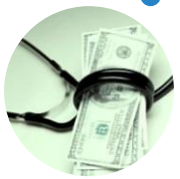
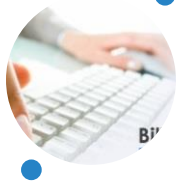
Evolution of RCM Processes

A brief Timeline - Advancement of RCM with Technology

2020 —  — **Adoption of AI/ML in RCM**

2010 —  — **Standardizing RCM Platform, Patient Engagement**

2000 —  — **Use of Internet, EMR/EHR and HIE**

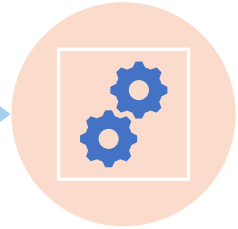
1990 —  — **Use of modern DBMS and GUI**

1980 —  — **Use of Computers Claims Processing**

1970 —  — **Paper based Claims**

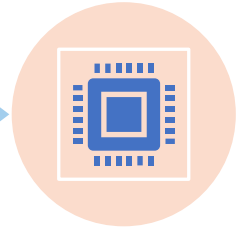
Current Financial Pressures in Revenue Cycle Management [RCM]

Regulatory Scrutiny



Implement a compliance management software solution.

Coding & Billing Guidelines

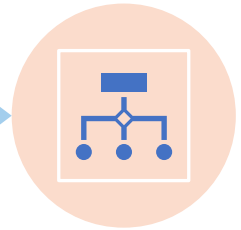


Utilize coding software and tools that provide code lookup functionality and built-in coding guidelines.

Fraud and Abuse Prevention

Use advanced fraud detection systems that utilize data analytics and anomaly detection algorithms.

Managing Multiple Vendors

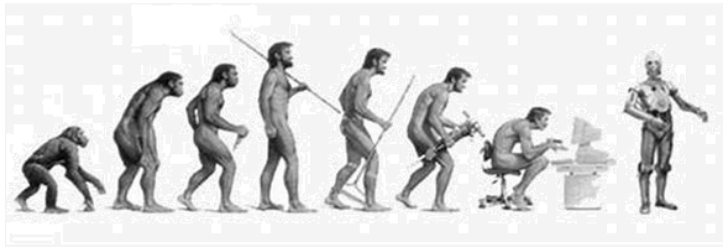


Have a vendor management system that centralizes vendor information, tracks compliance requirements, etc.

Compliance Education & Training

A Learning Management System (LMS) offering online training modules, tracking employee progress, and more.

What is Artificial Intelligence?



- Intelligence:
  - Ability to solve complex problems and make decisions for positive outcomes.
  - Refined this cognitive ability through millions of years of Human evolution.
- Artificial Intelligence
  - Can machines possess human-like intelligence?
  - Machine Intelligence or Artificial Intelligence as opposed to our natural intellect.
- The Turing Test:
  - Alan Turing's pivotal contribution to AI assessment [2].
  - Evaluating a machine’s ability to exhibit intelligence comparable to humans.

RPA is NOT AI

Robotic Process Automation, or **RPA**, is an older form of automation that can handle relatively simple, repetitive tasks by using scripting to pull information from various connected sources. In this technology, software robots can interact with digital systems to relieve humans of **repetitive, time-consuming, and non-value-added work**.

RPA works best when it's used to handle **rule-based processes** where the workflows don't change over time or require a high rate of human intervention for exception handling.

RPA is restricted to just 'execution' while AI/ML can go beyond to 'thinking'. Unlike RPA, AI/ML is more adaptable and can digest and analyze large amounts of information and provide recommendations or insights.

Use Cases of RPA

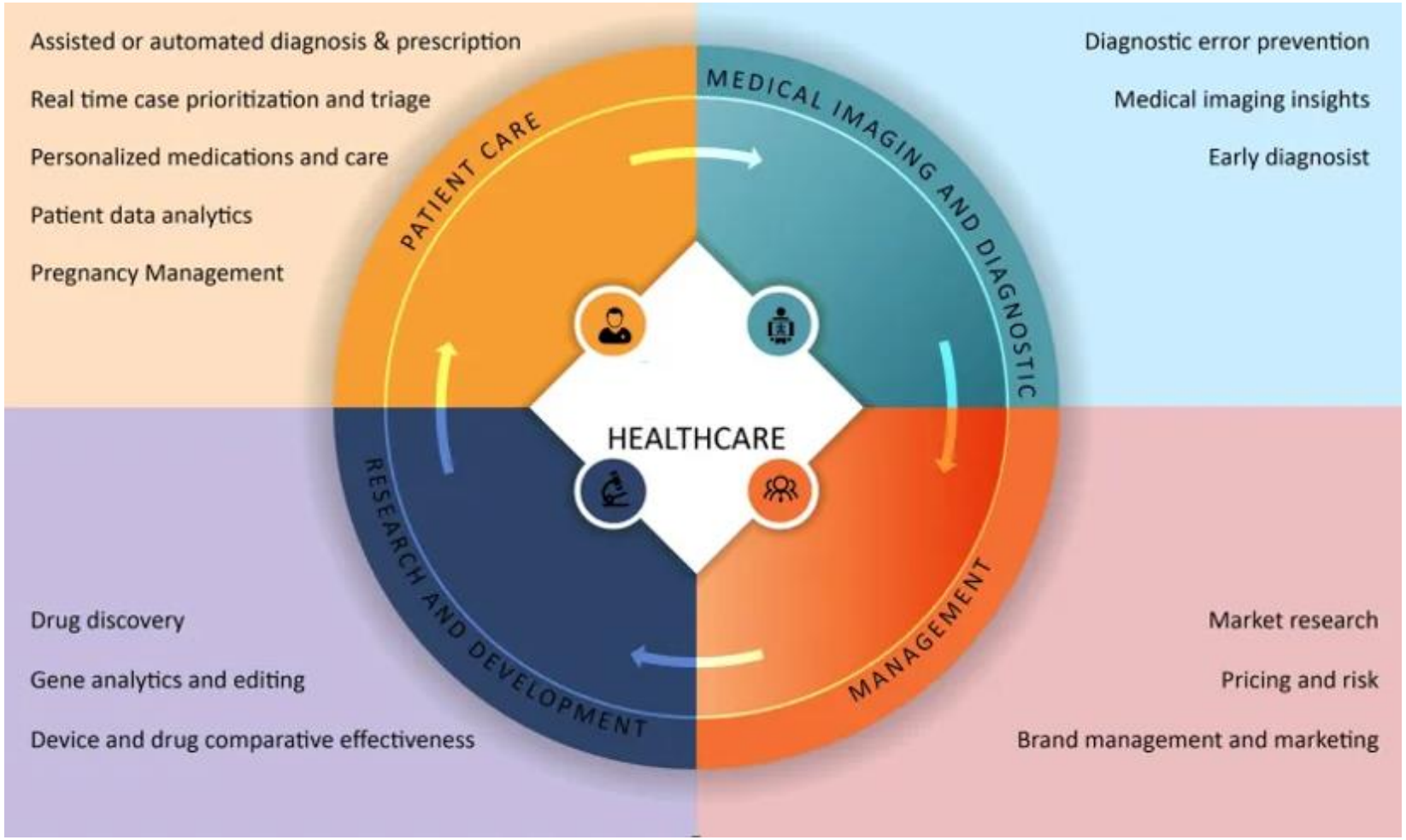
1. Appointment Scheduling
2. Self-service Check-in
3. Patient onboarding
4. Post-discharge Engagement
5. Eligibility Verification
6. Streamlined Data Integration
7. Asset tracking

Machine Learning

Artificial Intelligence, or **AI**, is intelligence exhibited by machines, particularly computer systems. It is a field of research in computer science that develops and studies methods and software that enable machines to use learning and algorithms to take actions that maximize their chances of achieving defined goals.

Machine Learning, or **ML**, **is a subset of AI** that uses algorithms trained on data to produce models that can perform such complex tasks. A large majority of AI in healthcare is performed using machine learning models that have been trained on data/images.

Use Cases of Machine Learning



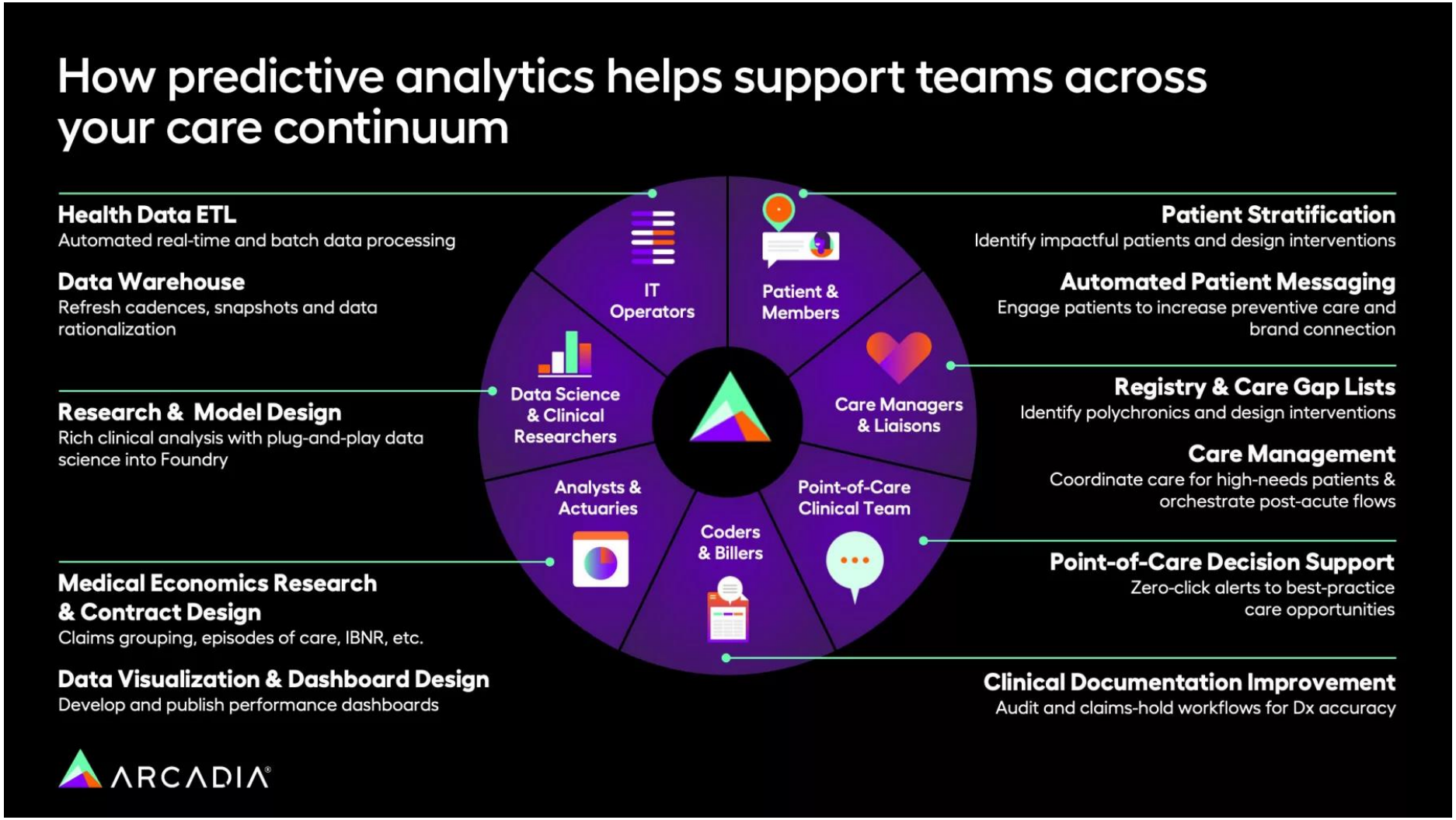
Predictive Analytics

Predictive Analytics, sometimes referred to as PA, involves advanced statistics, including descriptive analytics, statistical modeling and large volumes of data. Predictive Analytics is used to forecast the future based on data gathered in the past to find likely patterns and behaviors. The term “predictive analytics” refers to an **approach, not a specific technology**.

Predictive Analysis as a research approach has existed long before the advent of machine learning. The advent of Machine Learning technology just made it much more efficient and accurate.

Simply put, machine learning is a method that has catalyzed progress in the predictive analytics field, while predictive analytics is one of the machine learning applications. **There is no problem that predictive analytics can solve, but machine learning cannot**.

Use Cases of Predictive Analytics



NLP

Natural language processing, or **NLP**, **is a subfield of** computer science and **AI** that uses Machine Learning to enable computers to understand and communicate with human language.

NLP enables computers and digital devices to recognize, understand and generate text and speech by combining computational linguistics together with statistical modeling, machine learning (ML) and deep learning.

NLP research has enabled the era of **Generative AI (Gen-AI)**, from the communication skills of large language models (LLMs) to the ability of image generation models to understand requests.

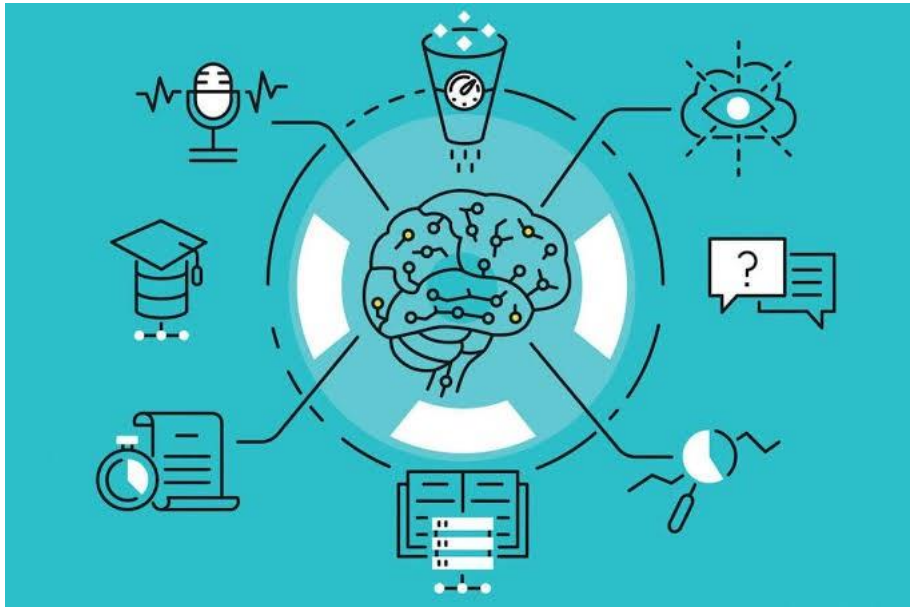
Use Cases of NLP

1. Virtual Scribe
2. Clinical Documentation
3. Computer-Assisted Coding (CAC)
4. Clinical Trial Matching
5. Data Mining Research
6. AI Chatbots and Virtual Scribe
7. Root Cause Analysis
8. Sentiment Analysis

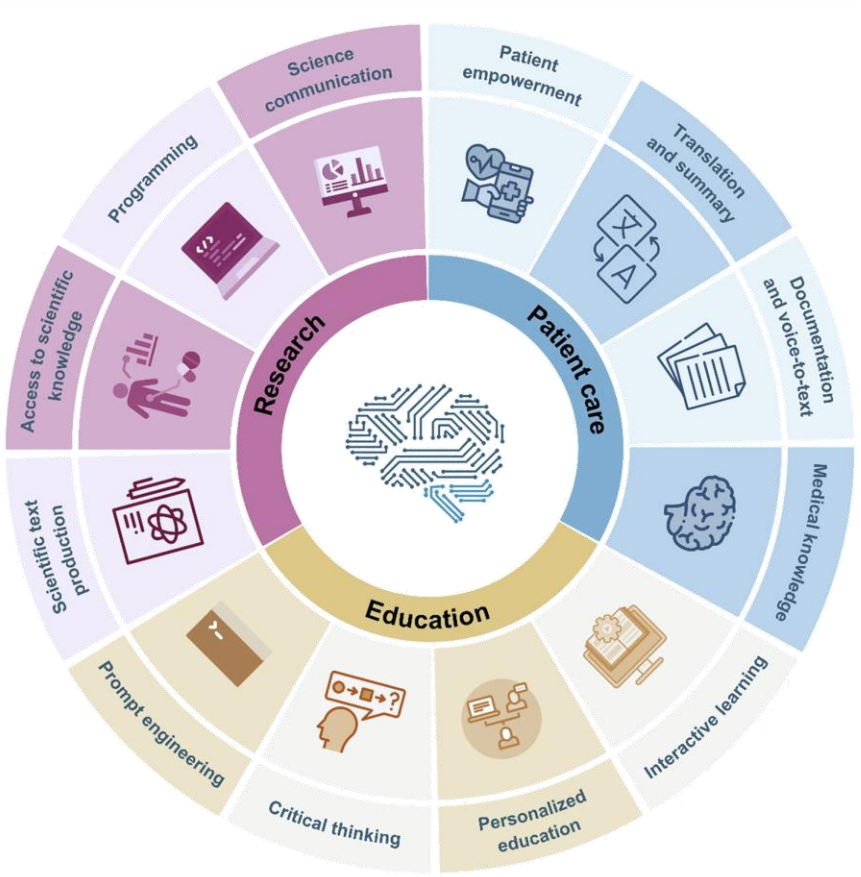
Generative AI

Generative Artificial Intelligence (also Generative AI or GenAI) refers to a branch of Artificial Intelligence (AI) used to create new content like text, images, music, audio, video, speech, and even software code or product designs.

GenAI models like Generative Pre-trained Transformer (GPT) learn the patterns and structure of their input training data and then generate new data that has similar characteristics.

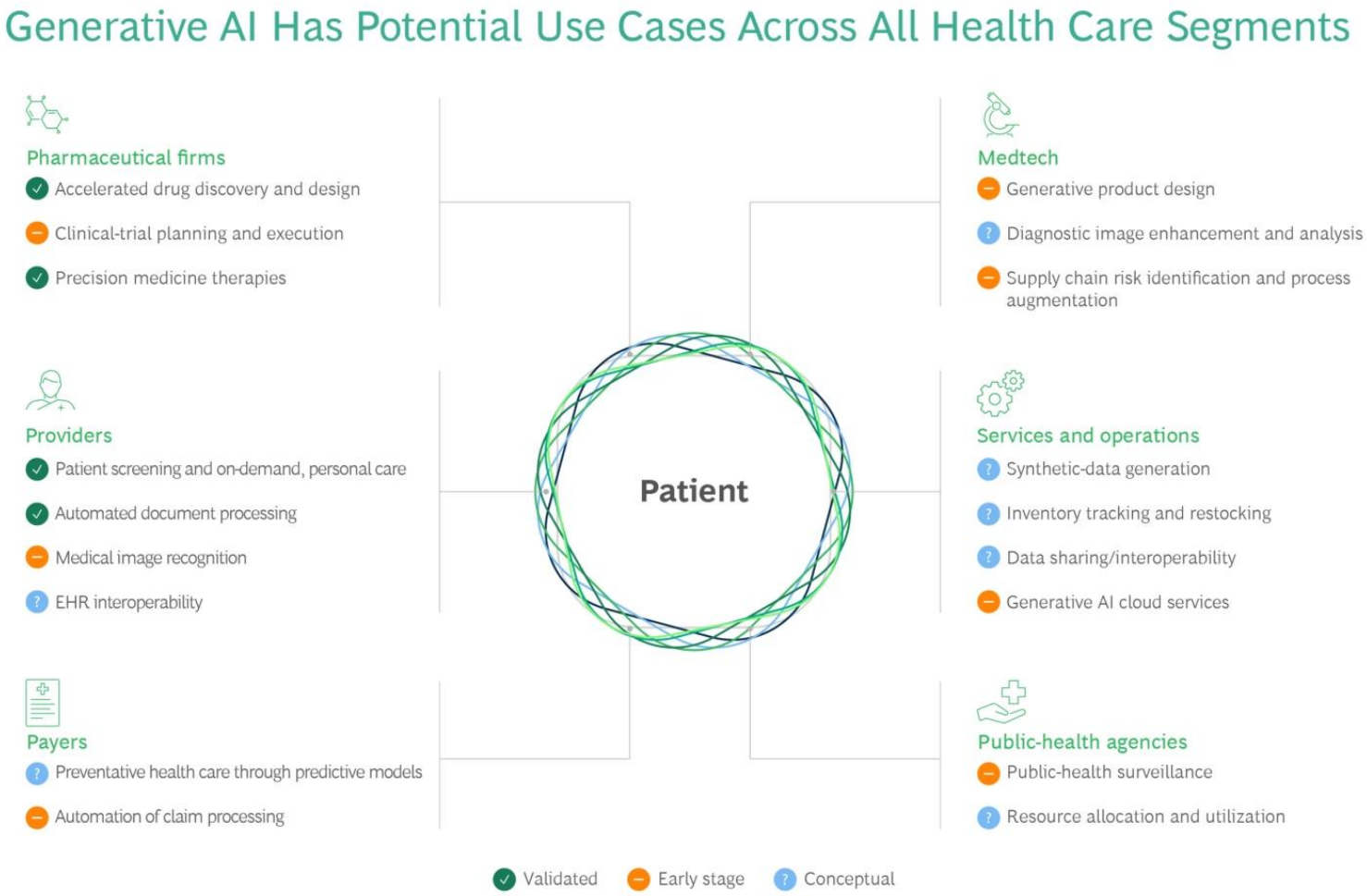


Large Language Models



- Large Language Models (LLMs) are a type of Foundation model that are designed for natural language processing tasks.
- They leverage deep learning techniques and vast amounts of text data to understand and generate human-like text.
- LLM applications include understanding natural language, assisting in content creation, automating help desk or customer support, and various other language-related tasks.

Generative AI/LLM: Use Cases



Evolution; Impact of AI/ML on RCM processes

- Advanced algorithms and automation
- Actionable insights for decision-making
- Streamlined workflows and improved revenue capture
- Enhanced compliance and regulatory adherence
- Reduce Administrative Burden
- GenAI can simulate human-like interactions at a fraction of the cost
- Automate Routine Processes
- Facilitate Personalized Patient Care
- Provide 24/7 Access to Medical Information
- Predictive Maintenance of Medical Devices
- Preventing Medical Errors

Overcoming Reimbursement Difficulties

Complex Coding and Billing Requirements	Delayed or Denied Reimbursements	Inaccurate or Incomplete Documentation	Lack of Efficient Processes
01	02	03	04
Computer Assisted Coding	Automated Eligibility Checks and Claim Scrubbers	EHR systems with built-in Templates & Alerts	Integrated RCM system with standardized workflows

Overcoming Operational Inefficiencies

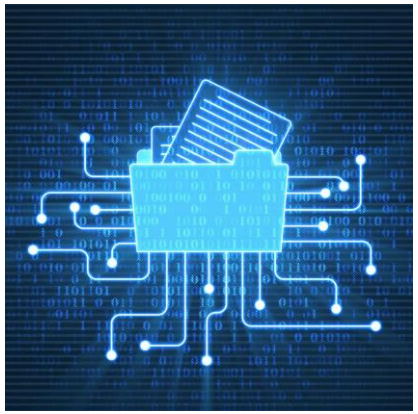
	Manual and Paper Based Processes	Fragmented Systems and Data Silos	Lack of Interoperability & Data Exchange	Lengthy and Complex Authorizations	Inadequate Denial Management Strategies
	1	2	3	4	5
	Transition to a Modern RCM Platform with EDI for Claims	Integrate EHR and RCM Platforms with Shared Data Repositories	Adopt Industry-Standard Protocols for Data Interchange	Deploy Electronic Prior Authorization Processes	Implement a Robust Denial Management System and Tools

Healthtek Products based on AI/ML Technology

Harnessing the Power of Artificial Intelligence and Machine Learning

Denial Manager Tool

Data-Core Healthcare has harnessed the strength of AI/ML to work in tandem with the traditional Rules-based approach to determine the probability and most-likely reasons for the denial of claims.



EOB-835 Conversion Tool

With AI/ML technology and the expertise of our data scientists, we are now able to convert paper Explanation of Benefits (EOB) to EDI 835 files electronically to overcome the limitations of the manual posting of payments.

Conclusion

- Many forms of Artificial Intelligence overlap, and their application can be used in multiple workflows. It is important to use this new technology for a specific operational or reimbursement deficiency, so their application is the most effective in solving the challenge faced.
- Artificial Intelligence (AI) with Machine Learning (ML) has the most potential for widespread and effective use in a healthcare setting.

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A DATA-CORE COMPANY

Thank You