

Working Smarter, Not Harder, Through a More Intelligent Management Tool:

Why and How AI is Impacting
Revenue
Cycle Management

Lyman Sornberger
President & CEO, Lyman Healthcare Solutions

Revenue cycle management has long been a thorn in the side of U.S. healthcare providers. Attempts to manage the revenue cycle are often manual and repetitive. With healthcare costs skyrocketing and margins decreasing, an overarching strategy is needed to simplify receivables management. Artificial Intelligence [AI] in revenue cycle management may offer such an opportunity. Applying these technologies could alleviate some of the most significant challenges facing the revenue cycle and allow providers to scale operations without shrinking margins. Learn, in this session, the current advancements in using machine learning and AI to work smarter not harder.



Bio Brief

Lyman Sornberger

President and CEO, Lyman Health Care Solutions (LHS), LLC.

Experience:

President and CEO, Lyman Health Care Solutions (LHS), LLC 2013 – Present

Chief Healthcare Strategy Officer – Capio, The Patient Financial Wellness Company, 2013 – 2019

Executive Director, Revenue Cycle Management – Cleveland Clinic Health System, 2006 – 2013

Multiple leadership roles for physician revenue cycle management groups – University of Pittsburgh Medical Center (UPMC), 1986 – 2006

U.S. Army Medic, 1977 – 1986

Memberships & Accreditations:

AHIMA

HFMA

AAHAM

BECKERS

HIMSS

Board Advisor

CMS Committee

Servant Leader

ACA Asset Buyer Committee,
Chairman

200+ Clients

Agenda

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DEFINITIONS

“Let’s clear the air”

Generative AI uses various machine learning techniques, such as GANs, VAEs or LLMs, to generate new content from patterns learned from training data. These outputs can be text, images, music, or anything else that can be represented digitally.

General AI, also known as artificial general intelligence, broadly refers to the concept of computer systems and robotics that possess human-like intelligence and autonomy. This is still the stuff of science fiction — think Disney Pixar’s WALL-E, Sonny from 2004’s I, Robot, or HAL 9000, the malevolent AI from Stanley Kubrick’s 2001: A Space Odyssey. Most current AI systems are examples of “narrow AI,” in that they’re designed for very specific tasks.



Revenue Cycle Working Smarter Not Harder

Beckers survey reveals that “75% of health system executives believe generative AI has reached a turning point in its ability to reshape the industry. However, only 6% have an established generative AI strategy.”

- In Revenue Cycle the **efficiency** is arguably the most compelling benefit of generative AI because it can enable Revenue Cycle leaders to automate specific tasks and focus their time, energy and resources on more important strategic objectives. *This can result in lower labor costs, greater operational efficiency and new insights into how well certain business processes are — or are not — performing.*
- For RCM and content creators, generative AI tools can help with idea creation, content planning and scheduling, search engine optimization, marketing, audience engagement, research and editing and potentially more.
- Again, the key proposed advantage is efficiency because generative AI tools can help users reduce the time, they spend on certain tasks so they can invest their energy elsewhere. That said, manual oversight and scrutiny of generative AI models remains highly important.

The way to get started is to quit talking and begin doing.
Walt Disney

- • ChatGPT: An AI language model developed by OpenAI that can answer questions and generate human-like responses from text prompts.
- • DALL-E 2: Another AI model by OpenAI that can create images and artwork from text prompts.
- • Google Bard: Google's generative AI chatbot and rival to ChatGPT. It's trained on the PaLM large language model and can answer questions and generate text from prompts.
- • Midjourney: Developed by San Francisco-based research lab Midjourney Inc., this generative AI model interprets text prompts to produce images and artwork, similar to DALL-E 2.
- • GitHub Copilot: An AI-powered coding tool that suggests code completions within the Visual Studio, Neovim and JetBrains development environments.
- • Llama 2: Meta's open-source large language model can be used to create conversational AI models for chatbots and virtual assistants, similar to GPT-4.
- • xAI: After funding OpenAI, Elon Musk left the project in July 2023 and announced this new generative AI venture. Little is currently known about it.

What Makes Generative AI Appealing to Healthcare?

Healthcare is all about Big Data, and generative AI has an uncanny ability to process enormous amounts of data that would otherwise take a person months or years to study. In a healthcare context, diagnostic, research and other generative AI tools will be capable of drawing from a far deeper well of knowledge, as well as reviewing and analyzing more medical literature, studies and clinical outcomes, than any single person could within a lifetime.

The power and reach of Big Data training sets was demonstrated during the COVID-19 pandemic, when researchers and doctors used AI and ML algorithms to quickly review constantly changing data, assess geographic hotspots, track spread and diagnose COVID-19 pneumonia versus common pneumonia. Even developers cannot predict the “capability overhang” or hidden capacities of the undiscovered potential of AI algorithms in healthcare.

What are Potential Use Cases for Generative AI in Healthcare?

To date, generative AI has been used to help automate the mundane tasks of medical record documentation, generation of patient instructions, and billing and coding. Also, in 2022, the FDA approved AI medical devices that largely fell into broad categories of AI-assisted medical imaging and diagnostic tools and personalized health plan software.

As AI tools improve and trust grows deeper, the sphere of influence will move from the routine tasks that revolve around healthcare to the core functions that constitute healthcare: discovering and developing drugs, preventing unnecessary surgery and creating synthetic “patients” for training purposes.

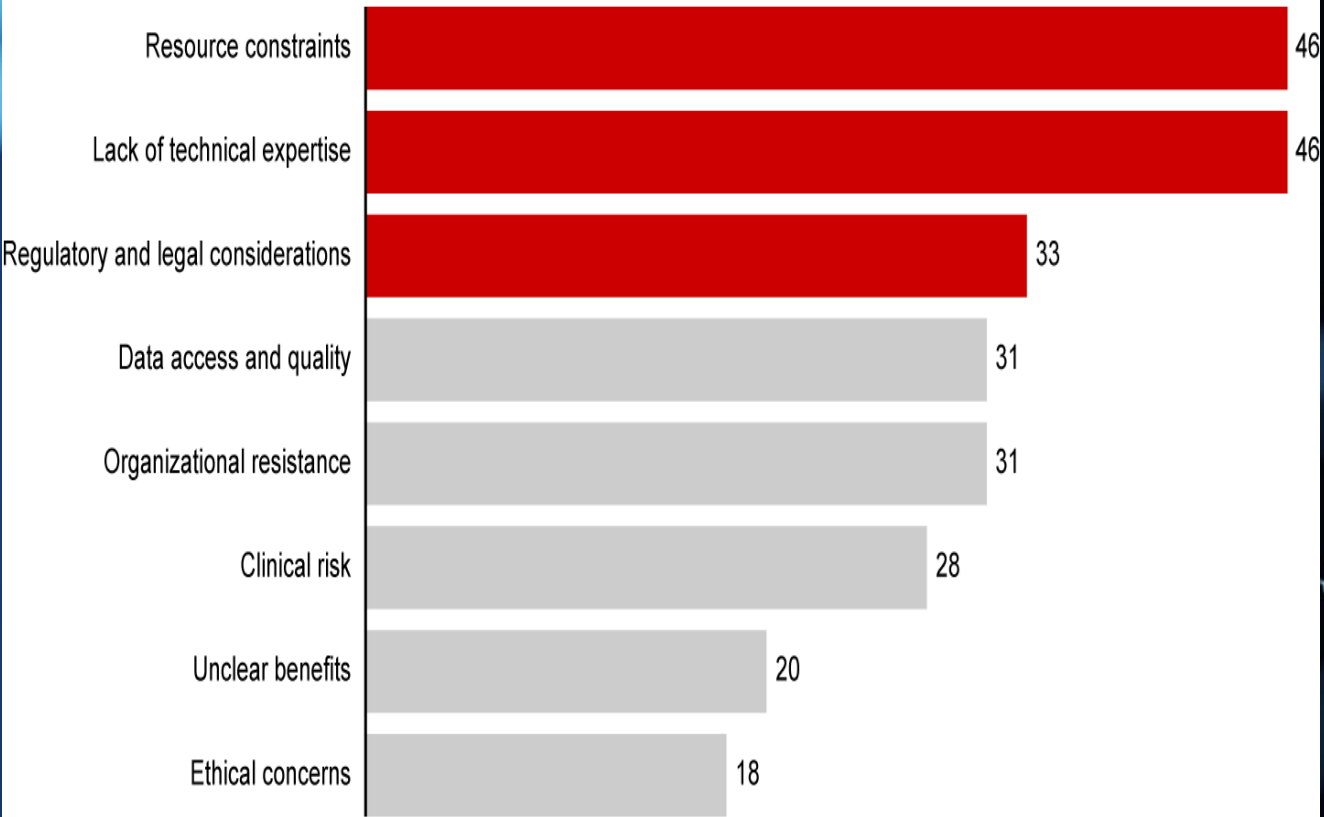
While generative AI tools already are playing roles in such use cases, their roles will become more typical and even expected as models become even more sophisticated.

AI healthcare applications today are cautiously serving in the administrative and supportive roles of the delivery system. But the true potential lies in the shift of technological tools from assistive to primary instruments of medical care. To integrate those tools into the healthcare environment, there must be a framework that addresses hard ethical and legal questions. Who will be practicing medicine: the doctor or the machine? What role should governments play in ensuring safety, impartiality and accountability?

Perhaps this lack of clarity is a result of the far-reaching and ever-changing nature of the technology, which does not lend itself to a single, comprehensive set of laws specific to the technology itself. Instead, we should expect to see those laws and regulations that have applied to the traditional healthcare field adapt and change to address the novel issues raised by generative AI technology. The already complex and highly regulated healthcare environment will need to be re-ordered with intention and creativity to advance at the speed of data.

What do you see as the biggest barriers to implementing generative AI at your health system?

Number of responses by barrier



Source: Bain Health Systems Survey (N=94)

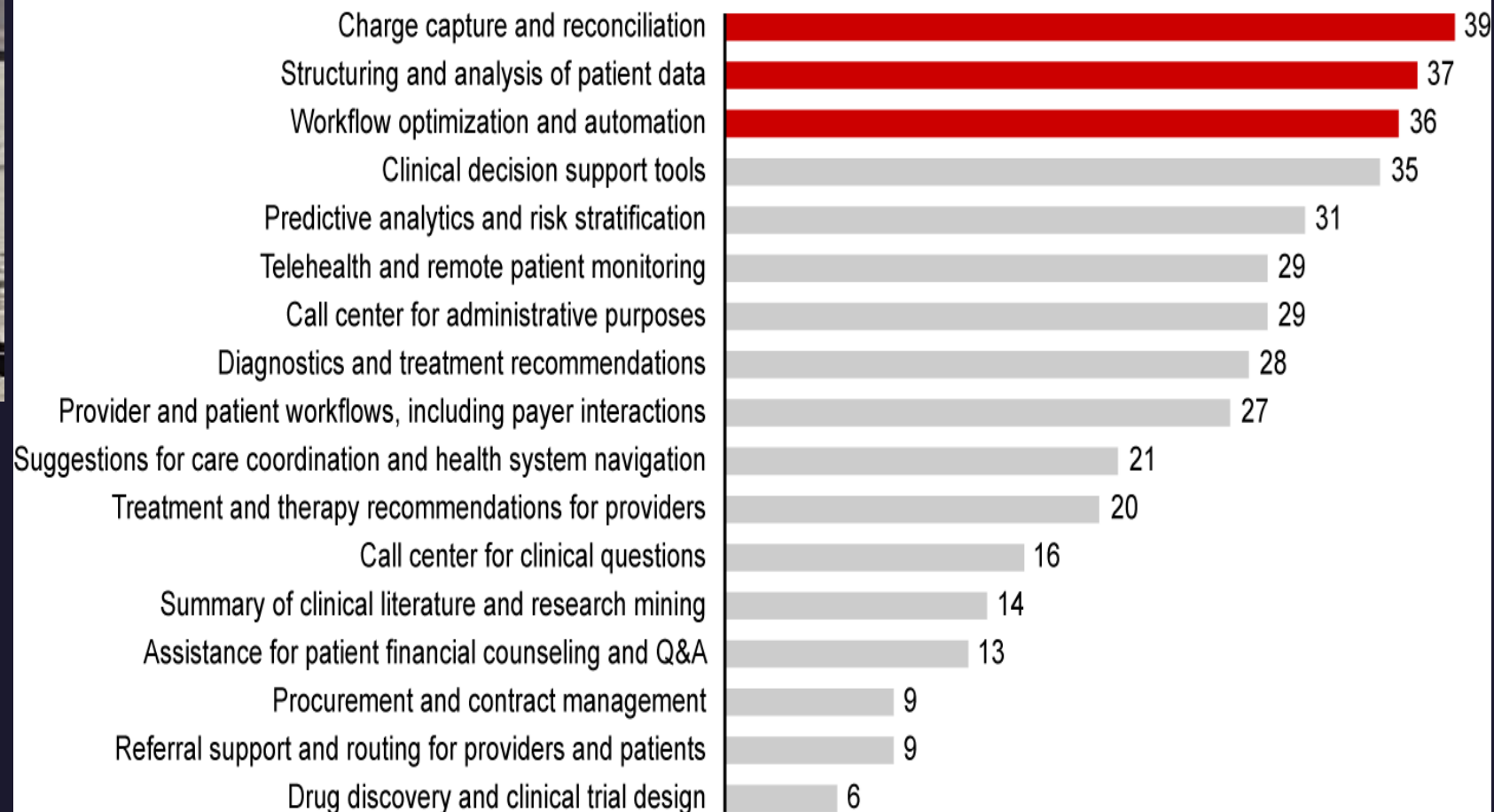


SURVEY

In the near term, generative AI can reduce administrative burdens and enhance efficiency?

Which use cases for generative AI are the highest priority for your health system in the near term (within the next 12 months)?

Number of responses by use case



Source: Bain Health Systems Survey (N=94)

Four Strategies and Evolution

Both artificial intelligence (AI) and automation hold strong potential to drive improved revenue cycle performance, and healthcare leaders seem to agree that AI should be a priority. A recent survey indicates:

75% of healthcare leaders are actively implementing or planning to execute an AI strategy.

43% say their first area of focus will be automating business processes, such as revenue cycle management functions, to reduce costs.

Example, automating eligibility and benefits verification — typically manual, auto-stamp, or RPA process in today's world.

Use with administrative transactions in a patient encounter — could save providers \$6.52 per transaction, or just over \$4 billion per year. Meanwhile, machine learning tools can prioritize work based on the propensity to pay or age while reducing the risk for error

Strategy One

Replace highly manual tasks with automated processes and redirect staff efforts toward activities that provide the greatest value. Replacing “time-intensive, error-prone, manual processes” for claims management and payment reconciliation is an implementation 92% of hospitals are planning. But there is still plenty of room for improvement:

Providers could save \$9.8 billion by automating key revenue cycle functions. Automating claims status inquiries alone could save \$9.22 per transaction, or more than \$2.6 billion.

Front-end revenue cycle processes are ripe for automation. For example, real-time patient eligibility checks ensure providers have the most current information regarding patient coverage and the portion of the deductible met to date. Benefit information that is automatically pulled from the system to create patient charts helps to eliminate manual data entry — significantly reducing the risk for error. One study shows registration and eligibility errors account for 23.9% of denials.

The time savings gained from automating these tasks accelerates the patient check-in process and allows staff to spend more time on value-added activities, such as patient financial counseling.

Strategy Two

Use machine learning to stop denials before they start. Each year, 9-12% of claims are initially denied by payers. For the average hospital, this statistic means nearly \$8 million in payments are at risk of being denied each year. And while 63% of denials can be recovered, it costs about \$118 per claim in administrative costs to capture the monies owed.

Machine learning positions providers to predict which claims will be denied before they are submitted. It does so by:

- Identifying the root causes of denials by payer and CPT code
- Applying this intelligence during automated reviews of claims
- Flagging areas where missing or incorrect information appears, such as missing charges or an incorrect patient identifier
- Prompting staff to follow up

This approach enables staff to correct claims prior to submission, increasing clean claim rates. It also helps revenue cycle teams more effectively manage work related to denials by focusing staff attention on high-value denials, as well as those that have a strong chance of being overturned.

Strategy Three

Analyze patient demographic data to predict the right billing approach for each patient. AI can help revenue cycle teams develop highly targeted collection strategies based on a patient's previous payment behavior, demographic data, communication preferences and preferred payment methods. It can also point to the type of messaging most likely to engage individual patients and the optimal date and time to send communications.

AI can even detect early warnings that a patient may default on a hospital payment plan — and alert patient financial services to signs of trouble. Given that half of patients lack confidence in their ability to pay their medical bills, AI-enabled approaches to patient financial communications and collections could be a critical support in the years ahead.

One aspect of this approach, propensity-to-pay scoring, uses predictive analytics to determine the likelihood that patients will pay their out-of-pocket costs for care. But while propensity-to-pay solutions have been available for some time, according to one survey, just 14% of healthcare organizations use advanced modeling tools to segment accounts and predict propensity to pay. Fewer than one in four providers use a data source or external partner to support their efforts. To make a deeper impact in collection rates, more emphasis on data-driven intelligence and processes is needed.

Adopting machine learning and artificial intelligence (AI) to the revenue cycle can enable healthcare organizations to get ahead of the curve on transformational

Strategy Four

Predict when payers will remit payment. With predictive analytics, providers can review payer-specific payment behavior by CPT code to determine how long it will take for a specific claim to be paid and even the day and time the payment will arrive. It's an approach that can predict the date of remittance for claims with a high degree of accuracy.

The use of AI in healthcare is expected to grow 50.2% from 2023 to 2024, with hospitals and health systems expected to be the biggest adopters. As the push to bend the healthcare cost curve intensifies, leaders should carefully examine the business case for AI-driven revenue cycle management and explore small-scale innovations with the potential for strong return.

Dipping a toe into the waters now will better position healthcare organizations to keep pace with AI advancements while strengthening financial performance.

Working Smarter Not Harder-Is Now the Time

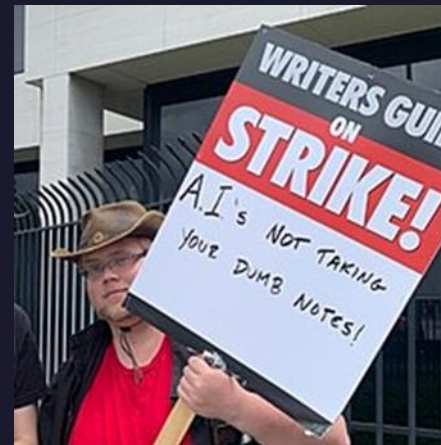
Even when organizations can overcome these hurdles, one major challenge remains: focus and prioritization. In many boardrooms, executives are debating overwhelming lists of potential generative AI investments, only to deem them incomplete or outdated given the dizzying pace of innovation. These protracted debates are a waste of precious organizational energy—and time.

Challenges with Artificial Intelligence in the Spotlight

Expense

Ethical

Legal



Thank You

Question/Comments?

Lyman Sornberger

LymanSornberger@lymanhcsolutions.com

Cell/Text 216 337 4472

