



## 3 Powerful AI Use Cases

Healthcare Organizations  
Can Unlock With Rackspace  
Technology and Google Cloud

Most healthcare organizations are investing in artificial intelligence (AI), but many are struggling to achieve a return on investment (ROI). That may be because they're focusing on the wrong use cases.

Over the last two decades, AI has evolved from a science fiction concept into something that's playing an increasingly important role in our lives. Whether being served algorithmic recommendations or navigating a traffic jam with Google Maps, AI has already changed the way we live.

## More than 40% of healthcare leaders expect their AI investments to return dividends within three years

To unlock additional efficiencies, increase productivity, and deliver more value to customers, organizations are increasingly investing in AI technology. Unfortunately, many of these enterprises, such as those in healthcare, are struggling to achieve tangible success — which includes financial ROI, improved patient outcomes, streamlined workflows, and other measurable objectives. In large part, that's because they're focusing on the wrong use cases.

This white paper explores the AI landscape, weighs its benefits and challenges, and outlines why Rackspace and Google Cloud are the ideal partners in this space.

### The landscape

Although the concept of AI has existed for nearly 70 years,<sup>1</sup> the technology is still relatively nascent. But as more sophisticated, proven use cases emerge, organizations are increasingly investing in AI to improve operational efficiency, reduce expenses, and deliver more value to stakeholders. To illustrate, the global AI market generated

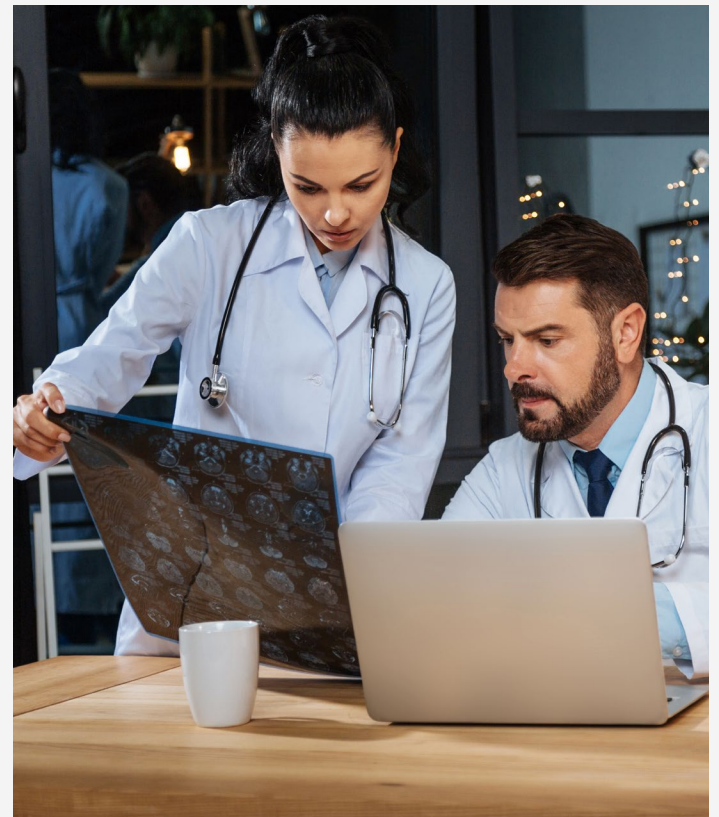
\$65.48 billion in 2020, according to a study from Valuates Reports.<sup>2</sup> By 2030, the market is expected to reach a whopping \$1.582 trillion, growing 38% each year — or more than 24x in a mere decade.

Healthcare is one of the biggest drivers of this growth. According to a 2021 report from Sage Growth Partners, 90% of hospitals have AI strategies, and 75% of healthcare executives agree that AI is more important than ever in the wake of the pandemic.<sup>3</sup> To put these numbers in perspective, just 53% of healthcare organizations had AI strategies in 2019.

What's more: In a report from Deloitte, 90% of healthcare leaders said they need to invest in AI to remain competitive.<sup>4</sup>

Add it all up, and AI is more than just a nice-to-have.

Moreover, the Sage Growth Partners report showed that, of the 90% of healthcare organizations that have AI strategies, 41% are still in the planning phase with the technology, and 25% are in the early implementation phase. Organizations that have yet to deploy AI aren't too late.



## The benefits of AI in healthcare

One of the main reasons healthcare organizations are investing in AI is to reduce costs. According to a 2021 report from Optum, more than 40% of healthcare leaders expect their AI investments to return dividends within three years.<sup>5</sup> Further, 99% of healthcare executives believe that AI will deliver cost savings eventually.

In part, those cost savings will be rooted in efficiency and productivity gains. Today, some 30% of healthcare costs stem from administrative tasks<sup>6</sup> such as tracking down payments, securing preauthorizations, and managing patient records. AI solutions can automate these tasks entirely, freeing up workers for other activities.

Additionally, AI can transform the patient experience and improve health outcomes with chatbots, accelerated patient intake processes, and faster diagnoses.

## The challenges of AI in healthcare

Some healthcare organizations have been slow to invest in AI because of perceived challenges. According to the Brookings Institution, this lag is due to a confluence of factors, including AI algorithmic limitations and data availability challenges.<sup>7</sup>

Additionally, another Deloitte report outlined the main concerns healthcare providers had about AI.<sup>8</sup> Chief among them: Cost (36%), integration challenges (30%), and implementation problems (28%).

Although these challenges are valid, they don't have to be roadblocks. With due diligence in searching for AI solutions and by joining forces with the right technology partners, organizations can take cost-effective approaches to unlocking AI's full potential.

## AI use cases for healthcare

When healthcare organizations are ready to begin their AI journeys, it's important that they look for powerful use cases that are easily achievable.

### 1. Digitizing documents

Healthcare organizations have more data under their control than ever before. Unfortunately, at least 80% of that data is unstructured<sup>9</sup> and still lives on paper, creating significant operational inefficiencies. For example, an employee might have to scan and rescan the same document repeatedly to share it with insurers, providers, and patients.

Using AI, it's possible to digitize all this unstructured data, including even handwritten notes attached to invoices, prescriptions, and patient files. As a result, managing healthcare records and treating patients effectively becomes easier, and providers, patients, and insurers save time and money.

A single patient, for example, might have between 10 and 100 pages of documents charting the lifecycle of a symptom or disease. With AI, organizations can swiftly digitize these documents, put them in a timeline, and categorize/label them. In turn, all healthcare operations — from treating and invoicing patients to dealing with insurers — become much more efficient. Doctors can get up to speed on the context of each patient visit faster, and employees don't have to input information from intake forms manually.

Although it's possible to digitize healthcare documents manually, it's extremely cumbersome and time-consuming. For example, a healthcare company might be able to process 200,000 documents in a month with three dozen employees managing the work. By automating the process with AI, that same company could process upwards of 1 million documents in just a couple of days.

### 2. Enhancing patient communications

In today's digital age, customers have high demands.<sup>10</sup> Thanks to services such as Netflix and Uber, they know how convenient things can be. And, increasingly, they expect their healthcare providers to offer similar levels of service.



To meet these expectations, healthcare organizations can employ conversational AI chatbots that use natural language processing (NLP) to interpret and respond to unstructured, patient-generated text.<sup>11</sup> Such chatbots enable patients to find answers quickly, 24 hours a day; chatbots also make the patient intake process faster. By streamlining healthcare communications, organizations can improve the patient experience<sup>12</sup> while helping front desk workers reclaim time.

AI-powered chatbots empower patients to self-serve information at their convenience. This frees staff from responding to routine inquiries, in turn helping organizations achieve ROI quickly. For this reason, it's no surprise that the healthcare chatbot market is expected to reach nearly \$1 billion by 2027.<sup>13</sup>

### 3. Improving health outcomes

Ultimately, the goal of every healthcare provider is the same: to improve health outcomes.

This is another area where AI can be particularly helpful. With AI, it's possible to identify underlying causes of symptoms much faster.<sup>14</sup> When a patient is affected by a new condition, they can input their symptoms into a system and see the potential prognosis. At the same time, AI can give providers diagnostic recommendations. Based on information the practitioner receives during the initial appointment, they can get to the right diagnosis faster.

Additionally, AI can use computer vision to help doctors track what happens during surgery. Surgeons can leverage technology to verify what instruments they have used and ensure these tools are accounted for at the end of the procedure. This all helps to support patient safety. Once the surgery is over, AI can help with retrospectives. Teams can then figure out how long each step took and formulate ways to improve.

## Maximizing the promise of AI with Rackspace and Google Cloud

Unlocking AI's full potential requires leading-edge cloud infrastructure and the most advanced AI models that learn from the world's most reliable, comprehensive data.

As a company leading the forefront of innovation and committed to organizing and leveraging information, Google is an ideal cloud provider for AI healthcare use cases.

**90% of healthcare leaders** said they need to invest in AI to remain competitive

Organizations that use Google Cloud get access to best-in-class AI application programming interfaces (APIs) and services via Cloud Healthcare API.<sup>15</sup> The healthcare-specific nature of these APIs helps accelerate an organization's AI journey, enabling it to unlock the full value of its data. At the same time, healthcare organizations can use Google Cloud Healthcare Data Engine<sup>16</sup> and BigQuery<sup>17</sup> to process petabytes of patient data with Google Cloud highly scalable and secure HIPAA-compliant managed services.<sup>18</sup>

Thanks to Google's powerful technological backbone, organizations can scale rapidly. With data centers around the world powering their infrastructure, Google Cloud increases data accessibility. This enables healthcare providers to make data-driven decisions quickly across disparate data sets, wherever they happen to be.

After an organization determines which cloud infrastructure, APIs, and analytics tools to use for its AI initiatives, it must decide whether to manage these efforts internally or outsource oversight to a trusted managed service provider (MSP). Since most healthcare organizations don't have large, dedicated teams of data scientists, cloud engineers, and AI specialists, partnering with an MSP is often the smarter choice.

As a long-time MSP for Google Cloud, Rackspace has the experience required to help healthcare organizations leverage AI effectively.<sup>19</sup> Not only does Rackspace build its own internal models and solutions using Google Cloud, but the company also has deployed more than 20 AI models in production. These cover a wide range of use cases, including patient forecasting and prediction models.

Rackspace's team of talented data scientists and engineers also can provide the full suite of services healthcare organizations need to maximize their AI investments, from model development to integration and management. Having worked extensively with healthcare practices in the past, Rackspace is uniquely positioned to help healthcare organizations achieve rapid ROI with AI technology.

**Are you ready to see how AI can transform your healthcare practice? [Schedule an AI ideation workshop](#) today to learn more about the technology, use cases, and ways other organizations have solved similar problems using AI.**

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