

# The Stairway to GenAI Impact in the Health Care Industry

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# Key Takeaways

The health care industry is at a critical inflection point for GenAI adoption. While AI is generating measurable value across industries, health care must remain vigilant in order to keep pace with the rapid and accelerating rate of adoption and fully capitalize on its transformative potential.

The financial potential of GenAI is substantial. A recent BCG survey projects that by 2027, GenAI adoption will drive operating expenditure (OPEX) savings of up to 8%–10% across MedTech, payers, and biopharma, while contributing up to 6%–11% revenue growth in these segments. These gains stem from three primary value creation levers: top-line growth, efficiency improvements, and productivity gains.

However, fully capturing GenAI's transformative value takes more than deploying tools—it requires a coordinated, enterprise-wide transformation that goes beyond isolated pilots. BCG's Stairway to GenAI Impact and project experience highlight three success factors that consistently make the difference:

## 1. Prioritize end-to-end transformations

Many companies launch fragmented GenAI initiatives that fail to deliver real business value. Leading organizations dedicate over 80% of AI investments to reshaping core functions, ensuring that AI drives scalable efficiency and revenue impact across enterprises.

## 2. Establish clear links between efficiency gain and P&L impact

AI adoption must be directly linked to measurable EBIT gains. Companies that tie AI to financial planning and clear P&L targets see major efficiency and cost improvements, securing long-term value.

## 3. Ensure high user adoption to maximize efficiency gains

Many organizations fail to scale GenAI because of low user adoption and insufficient training. Successful companies invest in structured change management programs, increasing adoption rates from 30% to 60% and ensuring.





# State of GenAI in Health Care

The health care sector is at a critical turning point in its adoption of GenAI. Across all industries, approximately 24% of companies have successfully extracted meaningful value from GenAI initiatives. In health care, both biopharma and providers are performing comparably to this industry benchmark, with 25% and 29% of companies achieving meaningful outcomes, respectively. However, MedTech lags behind significantly, with only 10% reporting success. This gap highlights the pressing need for MedTech to accelerate its adoption of GenAI, while biopharma and providers must sustain their momentum. Overall, health care companies must take a proactive approach to GenAI adoption to fully unlock its transformative potential and secure their competitive edge in an increasingly AI-driven landscape.

While the potential of GenAI is immense, its successful deployment in health care comes with sector-specific challenges that significantly increase the complexity of scaling its adoption.

First, ensuring patient data privacy and regulatory compliance is a major challenge. Strict governance frameworks are essential to mitigate risks, and human-in-the-loop engagement is critical to applying use cases and algorithms correctly. Second, the complexity of health care ecosystems—with stakeholders spanning MedTechs, biopharma, providers, insurers, and regulators—creates additional challenges in scaling GenAI solutions from pilots to widespread use. These issues demand that leadership and management take a coordinated, strategic approach to fully unlock GenAI's potential while navigating health care's unique complexities.

Despite challenges, health care organizations are also set up to extract significant value from GenAI. The industry generates vast amounts of data from electronic health records, wearable devices, and digital health platforms, offering an unparalleled foundation for AI-driven insights. The ability to harness this information effectively can drive major advances in treatment protocols, improve operational efficiency, and enable truly personalized care. When leveraged strategically, GenAI has the potential to unlock substantial efficiency gains and revenue opportunities, setting a clear path for sustainable growth and innovation. Successfully integrating GenAI into health care will require leadership and management to balance these opportunities with the industry's inherent complexities, ensuring a structured and value-driven approach.

Beyond these GenAI-specific challenges and opportunities, the health care industry as a whole faces broader structural and regulatory hurdles that further complicate transformation efforts. Health care professionals are burdened with extensive administrative tasks, while patients contend with rising medical costs. At the same time, global health care systems are under pressure due to long waitlists, aging populations, and workforce shortages, with an estimated shortfall of approximately 10 million health care professionals by 2030. Many players in biopharma and MedTech are also feeling the impact of increasingly stringent regulatory requirements, including the EU's Medical Device Regulation, heightened cybersecurity laws, and evolving guidelines for digital health and software-as-a-medical-device solutions.

Additionally, recent changes in in vitro diagnostics regulations have made the development and commercialization of medical devices more complex and costly.

To remain competitive, health care companies must find new ways to create value while managing these growing regulatory demands. Streamlining processes such as regulatory reporting and quality assurance is essential, yet these are often highly complex and resource intensive. When implemented effectively, GenAI can help address these challenges by enhancing efficiency, reducing compliance burdens, and unlocking new opportunities for innovation. The success of this transformation depends on a strategic and well-executed approach, which we examine in the following sections.

# Unlocking the Full GenAI Potential

The potential of GenAI to transform health care is undeniable, but realizing its full impact requires a structured and strategic approach. Organizations must ensure that GenAI initiatives are not just exploratory but also translate into measurable business value. This begins with clearly defining how GenAI can drive improvements across three key areas: **top-line growth, operational efficiency, and productivity**. When effectively leveraged, advancements in these areas can lead to significant EBIT impact, positioning health care companies for long-term success.

The impact of GenAI in health care is expected to be substantial. A BCG survey projects that by 2027, GenAI adoption will drive OPEX savings of up to 8% in MedTech, 9% in payers, and 9% in biopharma. At the same time, GenAI-driven revenue growth is anticipated to contribute up to 7% for MedTech, 8% for payers, and 6% for biopharma. Organizations realizing these gains are leveraging GenAI for hyper-personalized marketing, accelerated product innovation, and process optimization—further strengthening their financial performance. Additionally, productivity improvements will not only enhance efficiency, but also lead to long-term cost avoidance, enabling scalable and sustainable growth (see *Exhibit 1*).

The following examples demonstrate how strategic GenAI adoption is driving measurable impact in health care—fueling top-line growth, improving operational efficiency, and boosting productivity.

## Top-Line Growth

GenAI is playing a pivotal role in accelerating revenue growth across the health care sector by enhancing R&D capabilities and transforming customer service through faster responses and personalized support. Pharmaceutical companies can accelerate drug discovery by leveraging advanced AI capabilities across their R&D pipelines—for instance, by implementing algorithms for rapid compound screening and molecular lead optimization. By optimizing these processes, companies can significantly reduce cycle times and expand access to chemical matter, opening new opportunities for innovation. A leading biopharma company exemplifies this impact, having achieved a 25% reduction in lead optimization cycle times by leveraging generative diffusion models, through which it unlocked 100x more chemical options and identified more than 20,000 recommendations for molecular design improvements. These advances have enabled greener practices through

reduced solvent usage and supported the development of higher-value drugs. Such transformations not only accelerate timelines and improve outcomes, but also enhance patient access to improved drugs, driving economic value for sponsors while fostering a sustainable and competitive edge in drug discovery.

The BCG report *How Successful Are AI-Discovered Drugs in Clinical Trials?* further underscores AI's growing role in pharmaceutical R&D, demonstrating how AI-powered discovery is leading to higher clinical trial success rates. The report finds that AI-discovered molecules in Phase I trials have an 80%–90% success rate, significantly exceeding historical industry averages. AI-driven methodologies are also improving target identification, molecular design, and clinical progression, reducing both the time and cost required to bring new therapies to market. As AI adoption in drug development advances, companies that integrate AI-powered discovery approaches into their R&D strategies will be best positioned to drive both top-line growth and accelerated innovation.

Beyond R&D, GenAI is transforming customer service by improving both response times and personalization. For example, a large statutory health insurance provider in Germany has developed a GenAI-powered customer service copilot that is projected to improve resolution rates by 3%–7% by personalizing answers and giving agents faster access to the information they need. These changes have improved customer satisfaction and also lifted employee morale by reducing advisor workload.

## Operational Efficiency

Costs can be reduced by leveraging GenAI to boost efficiency in marketing and operational processes. For instance, a leading biopharma company has utilized GenAI to automate end-to-end content creation workflows, reducing its reliance on external service providers for marketing campaigns. This shift to “always-on” marketing has not only improved customer engagement rates and time to market, but also enabled a 20%–30% reduction in external marketing costs. Beyond cost reduction, the produced content has passed medical, legal, and regulatory (MLR) approval tests successfully while increasing time to market by over 75%. Such GenAI-driven transformations demonstrate how innovation can simultaneously drive cost savings and enhance internal productivity without compromising compliance. Further illustrating this impact, the BCG report *Rethink*

MedTech Marketing with GenAI highlights how MedTech companies are beginning to realize GenAI’s potential in marketing. While only 10% have successfully captured value, leading firms are using AI-driven tools to enhance efficiency, personalize content, and accelerate campaign execution. Some have reported 60%–80% cost savings on text assets and a fourfold increase in asset generation speed. However, to fully capture these benefits, companies must move beyond pilots and integrate AI across marketing functions, ensuring alignment with MLR requirements. Those that have scaled AI adoption effectively report faster time to market, lower external spend, and greater personalization—driving stronger customer engagement and compliance.

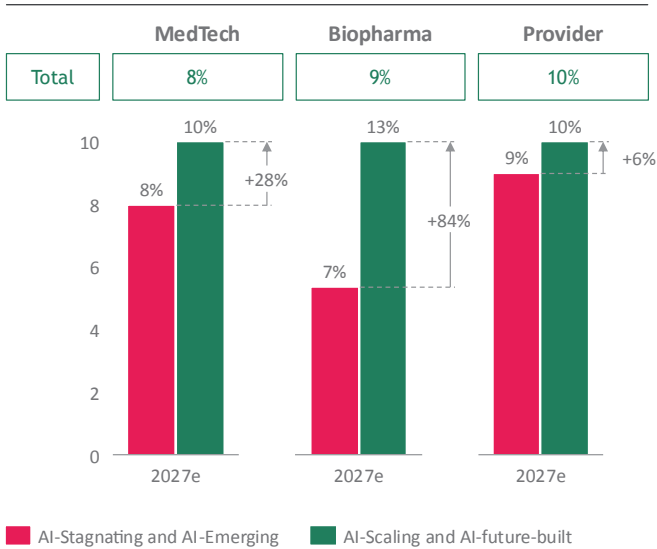
Productivity

Leveraging GenAI for drafting and process redesign has enabled significant efficiency improvements in clinical reporting processes for a global biopharma organization. Initially, the “as-is” process for clinical study reports involved an extensive timeline of approximately 17 weeks, dominated by manual drafting and iterative review cycles. With the introduction of GenAI, the organization has reduced drafting time by 35% by automating first drafts and focusing human intervention on selected edits. In parallel, process redesign has optimized review workflows, with the potential to reduce total lead time by 70%—from 17 weeks to a streamlined 5 weeks in the envisioned “new normal.” In addition to reducing time to market, this transformation has enabled the organization to redeploy resources toward higher-value tasks, such as enhancing report quality and addressing complex regulatory requirements.

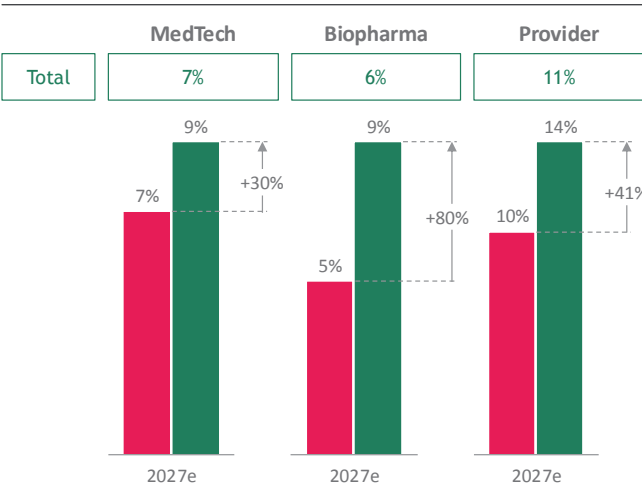
EXHIBIT 1

Expected future impact of GenAI within health care

Expected cost (Opex) reduction



Expected revenue increase



Question: (A): What % cost reduction do you expect from AI in operational expenses; (B): What % revenue growth do you expect from AI?  
Source: BCG Build for the Future 2024 Global Study (merged with DAI); n=30





# What It Takes to Champion GenAI Transformations

Successfully implementing GenAI requires more than just technological adoption—it demands a comprehensive, organization-wide transformation. Many health care companies struggle to realize the full value of GenAI, as they approach it as a standalone tool rather than integrating it into their broader strategy.

BCG's **Stairway to GenAI Impact** framework highlights the key phases organizations go through when deploying GenAI, emphasizing the importance of **strategic scaling, clear value definition, and user adoption**. Drawing on these insights and BCG's experience with health care clients, we have identified three critical learnings that companies must embrace in order to maximize GenAI's potential in the health care industry.

## 1. Prioritize end-to-end transformations instead of isolated use cases

Many organizations fall into the trap of launching multiple disconnected GenAI pilots across different departments without a clear strategic vision, definition of user needs, or considering technological synergies across functions. While these initiatives may deliver incremental improvements, they often fail to generate tangible business value. Without a well-defined enterprise-wide scaling approach, these fragmented efforts reinforce the perception that GenAI's benefits are overhyped and difficult to achieve. Additionally, most companies aim too low, focusing on smaller-scale, productivity-driven initiatives that fall short of transformative impact.

In contrast, leading companies take a holistic end-to-end transformation approach, allocating more than 80% of their AI investments to reshaping core functions and developing innovative, scalable solutions. An end-to-end transformation is best accomplished and supported

through a GenAI transformation office, which can safeguard value through target setting, tracking, enablement, and accountability enforcement. The transformation office can also ensure a rigorous process to prioritize high-potential GenAI use cases and establish accountability. Furthermore, a proper change-management program will be required because the transformation will significantly affect organizational culture.

## 2. Establish clear links between efficiency gain and P&L impact

Furthermore, we have learned that realizing measurable financial impact from GenAI requires a clear connection between efficiency gains, P&L impact, and a diligently EBIT-focused transformation. Many organizations struggle to translate productivity benefits into direct cost savings or revenue growth, thereby limiting the perceived value of their GenAI investments.

To overcome this, companies must establish EBIT impact targets from the outset and integrate GenAI-driven efficiencies into financial planning. Organizations that take a structured, end-to-end approach—including process automation, workflow redesign, and workforce optimization—often achieve efficiency gains of up to 50%.

Moreover, sustaining value over time requires actively redirecting productivity gains. Freeing up employee time through GenAI should not result in inefficiencies creeping

back into operations. Instead, leaders must strategically reallocate resources to higher-value activities, ensuring continuous improvement and maximizing ROI.

## 3. Ensure and promote high user adoption to drive efficiency gains

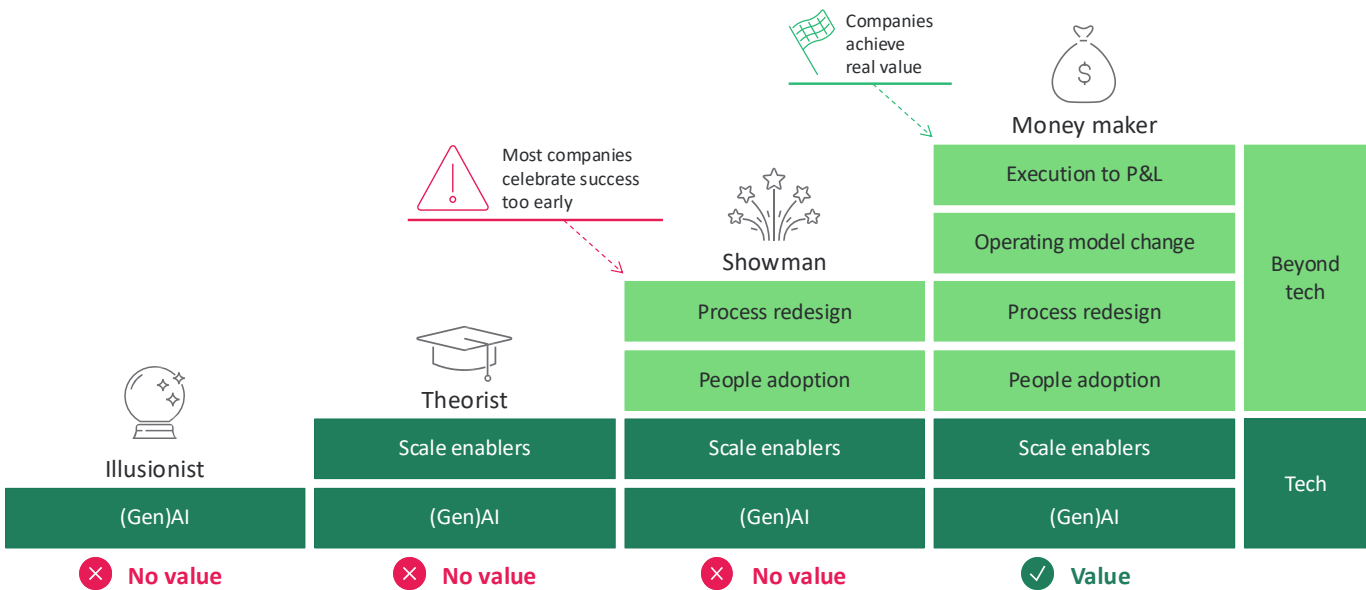
Scaling GenAI across an organization requires more than just deploying the technology—it demands widespread user adoption. However, we find that most companies that try to scale GenAI struggle with low user adoption. Often, employees feel excluded and do not receive sufficient training; as a result, they fail to incorporate the tool effectively into their workflow, and thus the anticipated efficiency gains remain unrealized.

Leading organizations adopt the 10/20/70 principle, referring to how companies should apportion time and resources, recognizing that, while algorithms (10% of the effort) and technology (20%) are essential to a GenAI implementation, people and process changes (70%) require the most attention.

Companies that invest in structured training and change management programs can double enterprise-wide adoption rates, increasing from 30% to 60%—unlocking greater efficiency and long-term value.

### EXHIBIT 2

## The GenAI Staircase to Success



Source: BCG analysis.



**In summary,** from our work on more than 500 GenAI projects for clients in a variety of industries, we have learned that the key is to target EBIT gains from the outset and not just focus on an implementation program that companies hope will mature into a value creator. In the health care industry, where GenAI represents one of the most transformative advancements of our generation, leaders must approach implementation with a clear-eyed focus on process, people, and organizational culture—not just technology. Excessive hype and unrealistic expectations can derail progress, but a disciplined, strategic approach can unlock significant value. Establishing mechanisms such as a GenAI transformation office ensures accountability and alignment, helping organizations maintain focus on measurable results. By taking the right steps at the outset, leaders can navigate the complexities of GenAI and drive meaningful, long-term impact.

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