



Santa Clara Investment Fund Research Report

Healthcare Sector

Fall 2023



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Overview

The healthcare sector is one of the fastest growing and largest sectors. The current size of the healthcare industry is \$7,975.87 billion in 2023, with a compound annual growth rate (CAGR) of 6.3%. As of this year the global healthcare sector is projected to reach \$665.37 billion dollars by 2028. Healthcare spending continues to account for almost 20% of US GDP, and it is estimated to reach up to \$6.2 trillion dollars by 2028. The global healthcare sector, characterized by its diversified industries, including pharmaceuticals, health insurance, hospitals, and medical equipment, is marked by the presence of dominant players as well as emerging competitors. This section dives into the sector's largest players, their competitive advantages, the rising contenders, and provides a market share analysis.

UnitedHealth Group, McKesson Corporation, CVS Health, AmerisourceBergen, and Cigna Corporation are among the top players within the healthcare sector. These organizations hold significant market share and have established reputations for delivering quality services and products to consumers and healthcare providers alike. Among the leaders of this industry, UnitedHealth Group stands out, commanding a significant market share in the health insurance sector. With approximately 14% of the U.S. market, UnitedHealth Group's dominant position is underpinned by a tapestry of strategic advantages, including diversified revenue streams, a robust technological foundation, an extensive network of healthcare providers, and a voluminous member enrollment. These elements collectively forge a formidable economic moat that safeguards its market lead.

Even with UnitedHealth dominating, the top players are not behind whatsoever in regard to overall success. McKesson plays a crucial role in pharmaceutical distribution. Its long-term relationships with manufacturers and healthcare providers create a sticky customer base, securing its market position. Additionally, CVS Health has carved a unique space by integrating pharmacy services, retail clinics, and healthcare benefits. This integrated approach to healthcare delivery enhances customer experience, promoting loyalty and offering multiple revenue streams, stabilizing the company's financial profile. Specializing in pharmaceutical distribution, AmerisourceBergen has mastered logistics and supply chain efficiency. Its partnership with Walgreens Boots Alliance provides a reliable customer base and consistent revenue flow. Finally, Cigna's diverse service offerings, ranging from health insurance to pharmacy benefit management, allow it to cater to varied customer needs. Its global presence also allows for risk diversification and access to international markets.
















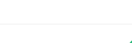



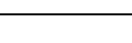
Teladoc Health, Inc., GoodRx Holdings, Inc., and One Medical represent the new wave of healthcare companies that are utilizing technology to redefine service delivery. These companies provide virtual healthcare services, prescription discount platforms, and primary care, respectively, making healthcare more accessible and affordable for a broader population. *Teladoc* leverages telemedicine technology to offer virtual medical consultations, enabling timely and convenient access to healthcare. *GoodRx* uses its platform to provide consumers with affordable prescription drugs by comparing prices from different pharmacies. Meanwhile,



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One Medical offers a membership-based primary care platform that integrates virtual and in-person care, providing a seamless and patient-centric experience.

Below is a chart summarizing the largest players in the healthcare industry:

Rank	Name	Market Cap	Price	Today	Price (30 days)	Country
1	 UnitedHealth UNH	\$499.64 B	\$539.40	▲ 2.64%		USA
2	 Elevance Health ELV	\$107.01 B	\$454.11	▲ 0.13%		USA
3	 CVS Health CVS	\$91.88 B	\$71.54	▲ 0.87%		USA
4	 HCA Healthcare HCA	\$64.57 B	\$237.42	▲ 1.04%		USA
5	 McKesson MCK	\$62.40 B	\$462.56	▲ 0.73%		USA
6	 Siemens Healthineers SHL.DE	\$55.78 B	\$49.83	▼ 0.98%		Germany
7	 Centene CNC	\$38.48 B	\$71.07	▲ 0.16%		USA
8	 AmerisourceBergen ABC	\$36.14 B	\$179.98	▼ 0.23%		USA
▲1 9	 Cardinal Health CAH	\$22.96 B	\$93.22	▲ 1.46%		USA
▼1 10	 AIER Eye Hospital 300015.SZ	\$22.73 B	\$2.44	▼ 2.63%		China

The CAGR of the healthcare sector as a whole is 6.3%. The revenue growth, according to Statista.com, is about 4.3 billion from 2022 to 2023 and jumps to almost an \$8b increase for 2024. This growth is expected to keep up, with projected sector revenues reaching \$9.8 billion by 2027. Despite this, the healthcare sector confronts notable challenges, including escalating costs, a shortage of healthcare professionals, and disparities in healthcare access. Nonetheless, it remains a vital and expanding industry with a pivotal role in the overall economy.

The healthcare sector is also anticipated to be the primary source of new job opportunities globally in the coming years. The Bureau of Labor Statistics (BLS) has projected the addition of 2.4 million jobs in this sector from 2019 to 2029, with an employment growth rate of 15%. Sub-industries within the sector encompass Biotechnology, Diagnostics & Research, Drug Manufacturers (General), Drug Manufacturers (Specialty & Generic), Health Insurance, Health Information, Medical Care Facilities, Medical Devices, Medical Distribution, Medical Instruments & Supplies, and Pharmaceutical Retailers.



Market Trends

The overall demand in the healthcare sector stems from both consumers and enterprises. Specifically, patients and healthcare providers are demanding more innovative and effective treatment plans. Enterprises like healthcare providers, technology companies, and others are continuously investing in their research and development processes for new drug discovery and improvements, technology development for devices and processes, improving women's healthcare, and more. On the other hand, consumers are looking for a more integrated system that allows for easier access and convenience. Enterprises are also taking advantage of AI developments to improve their research and development process.

In terms of new innovations in the industry, recent advancements in R&D for several drugs have presented promising opportunities for the future. For example, biopharmaceutical breakthroughs have advanced Alzheimer's treatment, primarily focusing on anti-amyloid antibodies to combat beta-amyloid plaques in the brain. Biogen and Eisai have introduced approved antibodies like Aduhelm and Leqembi, with promising results in slowing cognitive decline. Eli Lilly's drug, Donanemab, also currently awaits FDA approval. These drugs offer hope for Alzheimer's patients, though not cures, marking substantial progress in treatment. Analysts at Cowen project the AD market growing at a 90% CAGR between 2023-2027.

2023 has also seen strong demand for GLP-1 drugs, which treat weight loss and Type 2 diabetes, such as Novo Nordisk's Ozempic and Wegovy. Eli Lilly has also developed their own GLP-1, Mounjaro. GLP-1 agonists mimic the hormone called glucagon-like peptide 1. When blood sugar levels start to rise, these drugs stimulate the body to produce more insulin. The extra insulin helps lower blood sugar levels. In Q2 2023, sales of Ozempic reached \$3.2 billion, and Wegovy generated \$1.1 billion in sales. J.P. Morgan analysts project that the global GLP-1 market will reach \$71B by 2032.

Additionally, we cannot ignore how the rise of AI in the past year has created considerable potential across the healthcare industry. For the Medtech industry, this has been seen to improve its operations. The main advantages of this technology breakthrough include increasing operational efficiency, personalization of customer interactions, improving design and product creativity, and increasing comprehensive use of data and knowledge. These potential implementations demonstrate the different ways the value chain can be benefitted.

Generative AI models, such as GitHub Copilot X or Jasper, can address issues regarding high cost and insufficient labor in the software development processes. These programs can transform natural language into code suggestions, improving the efficiency for programmers. In addition, generative AI solutions are also capable of creating test cases, documenting code, and automating code reviews, which can be applied to the Medtech research process. Specifically, generative AI can reshape the medtech industry in various ways. For instance, the ability to further enhance image qualities can help improve the accuracy of diagnostics. Companies like Paige.ai and Pictorlabs.ai provide full digitalization of the pathology laboratory, AI based



histology, and other cutting-edge virtual technologies. Moreover, generative AI can also be used to automate patient-clinician interactions for consultation purposes as well as to automate processes and tasks. The purpose of generative AI within medtech services will be to increase data analysis and customer service efficiencies to maximize clinicians and doctors. Another usage of generative AI delves deeper into data analysis and patient diagnosis. Examples like identifying specific organ anomalies and developing treatment plans are potential implementations in the medtech industries (DiagnaMed).

The development of the digital healthcare ecosystem has been continuously improving in the last few years due to the pandemic. The digital healthcare ecosystem consists of the basic administrative tasks — such as compiling and organizing test results, patient information, etc. — providing actionable insights for clinicians, producing more personalized healthcare solutions for customers, supplying online teleconsultation, medical assistance, and medication services, etc. The purpose of such technology is aimed to offer lab and hospital professionals new innovative ideas and channels to improve their care, to lighten burden for healthcare services, and to spark new insights regarding patient care.

The gradual integration of the digital ecosystem into the healthcare world would change the healthcare system. A crucial aspect of the digital healthcare system is to integrate core products into the ecosystem. In a McKinsey & Company, payers and healthcare providers are more optimistic about the development compared to pharma respondents. It is likely that big-tech players, healthcare providers, and digital health startups will become the driving forces of the digital healthcare ecosystem. However, big-tech companies view payers, digital health startups, and healthcare providers as top players in this technology innovation. In addition, players also recognized that maintaining and operating the system by themselves could be too cost intensive. Regardless, the convenience provided by the digital healthcare ecosystem could be a breakthrough in the healthcare industry.

Fem tech has also been developing new technologies, and research studies that are also closely related to digital solutions developments, could potentially impact women's healthcare in the near future. More specifically, the reproductive health segment has been making breakthroughs that could impact the femtech segment of the healthcare industry in the long-run. One of the biggest recent breakthroughs is the development in artificial wombs. The purpose of artificial wombs is to nurture premature babies to ensure they have a safe environment for their health. Though this new technology has not been tested on humans yet, the breakthrough achieved with animals indicates a good sign. Furthermore, the FDA is closely working on regulations regarding artificial womb tests on humans. It is likely that this technology will take a few years to develop and be implemented into the current femtech segment, it remains crucial to investors as it could reshape women's healthcare, which would in turn, affect big-tech players and healthcare providers drastically.

There have been a handful of regulatory changes that have impacted the healthcare world over the past couple of years. For example The Inflation Reduction Act (IRA), passed in 2022, gave Medicare the power to negotiate drug prices in hopes of bringing down costs. Under



the law, price negotiation will start with 10 drugs in 2026, which the Biden administration named in late August. The law also penalizes drugmakers that raise prices faster than inflation within Medicare. The pharmaceutical industry has voiced concerns about R&D incentives, dubbing the act the “Innovation Reduction Act”. Medicare price controls will apply to all FDA-approved indications of a drug, rather than just the initial indication. Furthermore, there are different timelines for negotiating the prices of large and small-molecule therapeutics in healthcare. Large-molecule biologics can be considered for negotiation 11 years after approval, while small-molecule drugs are eligible after 7 years. Pharma executives have claimed that these guidelines will discourage R&D in small molecule therapeutics, and from adding second or third indications for the same drug. Additionally, drug manufacturers will be disincentivized from developing drugs for diseases that have a large patient population within Medicare.

Furthermore, on September 1, 2023, the Centers for Medicare & Medicaid Services (CMS) proposed new regulations aimed at increasing minimum staffing standards in nursing homes. The current federal legislation mandates that nursing homes maintain a licensed nurse on site at all times, whether they are registered nurses (RNs) or licensed practical nurses (LPNs), for a minimum of eight hours each day, seven days a week. Under the new regulations, a RN must be present at all times in long-term care facilities. Additionally, they would need to have minimum staffing ratios of 2.45 nursing assistant hours per resident day and 0.55 RN hours per resident day. According to the Kaiser Family Foundation, “Among all nursing facilities, fewer than 1 in 5 could currently meet the required number of hours for registered nurses and nurse aides, which means over 80% of facilities would need to hire nursing staff.” With the current staffing shortages, finding enough nurses to meet the requirements of the proposed rule will prove difficult for most of the country’s nursing homes.

In summary, the impact of legislation on the healthcare sector is complex and can vary depending on the specific industry and stakeholders involved. However, heavy regulations are necessary due to the nature of the products in this industry, therefore it is important to keep track of these changes and how it impacts different companies. Certain industries within the healthcare sector may benefit, while others may face significant challenges as a result of these legislative changes.



Key Drivers

Inflation in the economy has resulted in the increase in costs within the healthcare industry, affecting prices for various healthcare products and medical supplies across the nation. Moreover, The Federal Reserve's continued decision to keep interest rates high to combat this has resulted in a more expensive cost to borrow, which is critical for funding medical practices, R&D, and other parts of the healthcare industry. A recent surge in bond yields has also harmed the industry, with the 10-year US treasury note sitting at a 16 year high. A combination of all of these factors has resulted in the increased chance of US healthcare companies facing higher default risk as indicated in Q3 of this year. However, the companies that were tagged with higher risk were in drug retail, healthcare tech, and equipment, which tend to be more capital intensive industries. Insurance companies and other innovative businesses in the area still present more stable and positive prospects for the future. Moreover, it is important to note that inflation tends to impact healthcare prices substantially less in comparison to other industries.

In addition to this, due to the COVID-19 pandemic, healthcare supply input costs have increased significantly. Labor costs have grown 25% from before the pandemic. Non Labor costs, such as services and supplies have also increased. During times of economic downturn or recession, people are more likely to postpone medical treatments which results in a negative effect on revenue for the healthcare sector. Furthermore, people may have less disposable income and may be less likely to seek non-essential medical care. Again, this drives down the profit that the healthcare industry makes. During a recession, people may lose their jobs along with their health insurance, which can lead to a decrease in demand for healthcare services. While revenue may be driven down, healthcare is an essential need, thus the healthcare industry does not get impacted as harshly as some other non-essential industries.

According to Forbes, the top three largest players in the healthcare sector include Unitedhealth Group Incorporated, Johnson & Johnson, and CVS HealthCare. Some larger players within the healthcare sector may have strong economic moats, while others may have weaker moats. For example, pharmaceutical companies with patented drugs that have no or limited competition can have strong economic moats. Biotechnology companies with a pipeline of innovative and unique drugs in development can also have strong economic moats. On the other hand, medical device manufacturers may have weaker economic moats as they are often subject to rapid technological changes and may face intense competition from new entrants. Additionally, hospitals and other healthcare providers may also have weaker economic moats as they are heavily regulated and reimbursement rates are subject to change. It can be challenging for smaller companies within the healthcare sector to create their own moat or impact existing moats held by larger companies.

The healthcare sector is a highly regulated industry with significant barriers to entry, such as the high costs of research and development, clinical trials, and FDA approval. Additionally, larger companies often have significant resources and economies of scale that can



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make it difficult for smaller companies to compete. Especially during an economic downturn, it may be difficult for smaller companies to compete with the larger healthcare companies. However, small companies can still play a role in the healthcare industry by developing niche products or services, forming partnerships or collaborations with larger companies, or focusing on specific market segments. They can also leverage new technologies to create new opportunities and potentially disrupt existing markets.



Challenges and Opportunities

The healthcare industry has changed considerably post covid and continues to face obstacles and new opportunities. Consumer preferences have altered, a main consensus being decreased medical visits due to potential COVID exposure and opting to stay home instead of seeking needed medical help. This has led to the rise of telehealth services, which increased dramatically post-COVID. It has presented new opportunities, saving people ER visits and money but it will have a lasting effect on brick-and-mortar healthcare services if they do not adapt. A main challenge has included short staffing and increased turnover in recent years, leading to lost revenue, increased cost, and longer processing times. Many providers have turned to automated machinery to mitigate these shortages, for example, instead of employing someone to book appointments, chatbots will maintain basic administrative tasks. However, even with automation, the number of doctors/physicians continues to decrease and pose serious challenges for the future, especially for elderly and at-risk populations. Cybersecurity is a worry for many sectors, and health care is directly impacted as well. Quantum computers pose threats to personal information, and privacy, and potentially impact patients' well-being. Hackers will not only leak private files but can also change data which may have serious consequences on patient health. Health providers may be subject to large fines if the information is hacked and lose credibility and the trust of patients.

There are some unique opportunities on the horizon for healthcare. Being a sector that relies on data, it creates a rich environment for AI and machine learning. Big data and processing will also assist in transferring information and optimizing patient experience. AI is predicted to cut costs and time in developing drugs, improve diagnostics, customize treatments, and much more. Telehealth, as mentioned earlier, is another sector expected to grow to over \$200 billion dollars by 2030, compared to only \$40 billion in 2021. The healthcare industry, like any, has obstacles, but the opportunities available will transcend the industry landscape.



Outlook and Conclusion

Overall, the healthcare industry continues to face challenges presented by the current economic conditions, however, the expansion in new areas such as artificial intelligence and drug development provides us with an optimistic outlook on the future. The rising integration of technology and AI offers a unique opportunity for growth, opening new doors for innovation and profit amongst numerous companies. Additionally, due to the diverse range of companies found under the healthcare umbrella, it is important to understand the different sub industries and how they operate. For this reason, we are taking a mixed stance on this sector.

Parts of the overall sector still uphold its defensive attributes, however, a rise in interest rates and bond yields has harmed the operations of other more volatile verticals within healthcare. However, the majority of long term growth prospects for the healthcare industry as a whole presents a promising outlook for investments, especially after an uncommon drop in prices in the past couple of years. The necessity of healthcare services will continue to be demanded regardless of economic conditions, therefore this will consistently be a stable sector for years to come.