



US Healthcare Sector

NAICS: 62

prepared February 18th, 2022

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Coronavirus Update

Jan 18, 2022 -- Facilities Struggle Amid Record Level of COVID-19 Hospitalizations

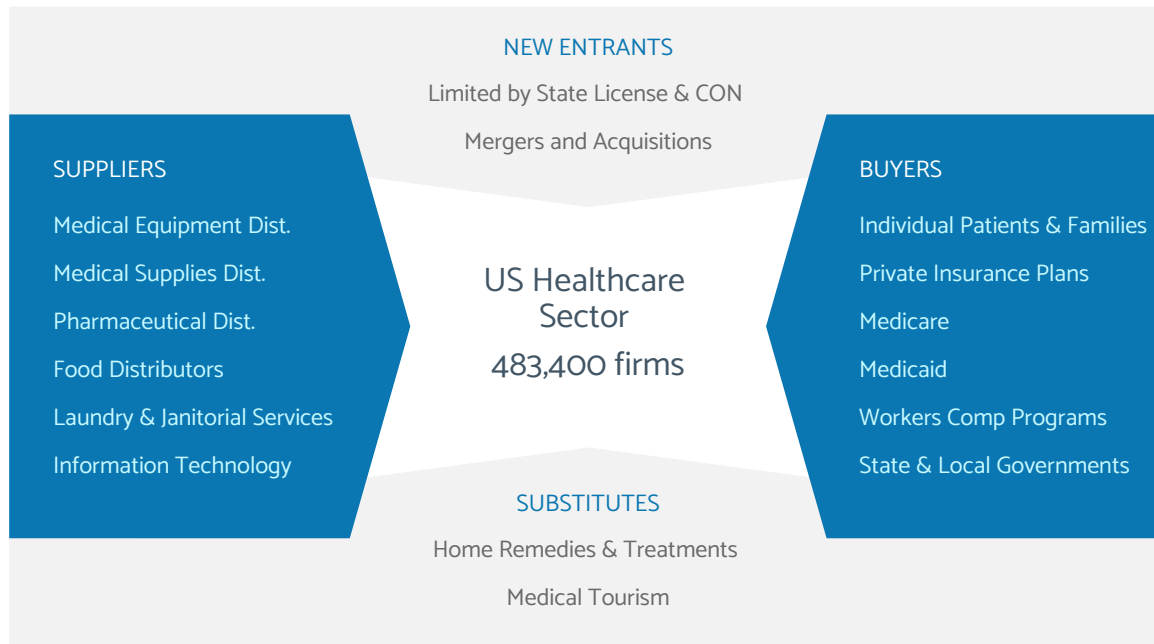
- The healthcare sector has faced a myriad of challenges, including increased demand for coronavirus tests and speed of lab processing, spikes in demand for beds and ventilation equipment, shifts in handling patient care, shortages of masks and other medical supplies, greater facility sanitation to prevent virus spread, inadequate staffing, and appointment cancellations.
- As of January 13, more than 208 million Americans were fully vaccinated, or about 62.7% of the US population. The CDC initially issued phased guidelines for prioritizing vaccine distribution, but on April 19, all Americans over age 16 became eligible to be vaccinated. On May 10, the USDA expanded emergency use authorization for Pfizer's vaccine to include children ages 12 to 15. On August 23, the Pfizer-BioNTech vaccine received full FDA approval. Rising numbers of "breakthrough cases" – where fully vaccinated people become infected – increased calls for booster shots. On September 23, the FDA announced it had approved third doses for those who have received two jabs of the Pfizer-BioNTech vaccine. Third doses were initially only available to people age 65 or older and people at risk of serious illness because of where they work or live. On October 20, the FDA approved boosters for those who received the Moderna and Johnson & Johnson (J&J) shots. On October 29, the FDA approved the Pfizer-BioNTech vaccine for children 5 through 11 years of age. On November 19, the FDA approved emergency use authorization of Pfizer-BioNTech and Moderna vaccine booster doses for all individuals who are 18 and older. On December 9, 2021, the FDA expanded eligibility of the Pfizer-BioNTech and Moderna vaccines for booster shots in 16- and 17-year-olds. The move came as the FDA and CDC urged Americans to get boosters amid the emergence of the Omicron variant of the coronavirus. In early January 2022, the FDA approved booster doses for children aged 12 to 17 years five months after their initial two doses. The FDA has also approved a "mix & match" approach that would allow Americans to receive a booster shot that's different from the one they initially received.
- In late November, scientists in South Africa identified a new coronavirus variant. The World Health Organization (WHO) assigned the Greek letter Omicron and designated it a "variant of concern." Omicron is much more transmissible than earlier variants but appears to cause illness that is often less severe than Delta and other previous variants. In response to Omicron, the Biden administration broadened its outreach efforts to provide booster shots and launched family vaccination centers to enable parents and children to get vaccinated together. In December, the administration announced it would buy 500 million rapid, in-home testing kits and distribute them for free to Americans. In mid-January, the Biden administration announced it would purchase another 500 test kits. It also launched a website where American families can order up to four free rapid test kits. Free tests are also available at community health centers, rural clinics, and federal COVID-19 testing sites.
- By mid-January 2022, US hospitalizations reached 150,000, the highest number since the pandemic began. As with earlier waves during the pandemic, the significant increase in new cases overwhelmed some hospitals, and elective surgeries and non-essential healthcare services were again postponed in hard-hit regions. As cases hit all-time highs, healthcare workers calling in sick left beds empty at some hospitals as there were not enough workers to safely care for patients, according to The Wall Street Journal. To cope with staffing shortages, some hospitals ask doctors to discharge patients earlier to free up beds, ask staffers to work overtime, hire temporary nurses, and enlist volunteers.
- The FDA gave the green light for healthcare providers to treat severe coronavirus cases with medicines already on the market that suppress the immune system and prevent it from attacking the respiratory system. Respiratory distress from the lungs filling with fluid and subsequent lack of oxygen to the blood system is the major cause of death in coronavirus patients. Stopgap medications include remdesivir and dexamethasone. Some health experts suggest new antiviral drugs will be valuable tools in fighting COVID-19. Pharmaceutical firms Merck and Pfizer have developed antiviral pills that interfere with viral replication and reduce the severity of the disease. The Merck pill, molnupiravir, reduced hospitalization and death by 30% when taken within the first five days of symptoms. Pfizer's medication, Paxlovid, reduced hospitalization and death by nearly 90% when taken within the first three days of symptoms. Both treatment regimens require a total of 30-40 pills taken over five days. Both drugs received FDA approval in December. Government distribution of the first 65,000 treatment courses of Pfizer's antiviral began in late December, according to The New York Times. Pfizer said by the end of January, it would produce enough pills to treat 265,000 Americans. By that time, Merck is expected to have shipped about 378,000 courses of its antiviral medication.
- In mid-March, President Biden signed the \$1.9 trillion American Rescue Plan Act (ARPA), which includes several key healthcare provisions. The bill has \$123 billion in funding to COVID-19-related policy, including \$50 billion for testing and contact tracing, \$16

billion for vaccine distribution and supply chain enhancements, and \$10 billion for the use of the Defense Production Act to distribute medical supplies. The bill also increased the Affordable Care Act (ACA) subsidies for nearly everyone who buys their own healthcare coverage. The expansion also offers subsidies to individuals with incomes too high to have participated previously. Low-income people who live in states that have not opted to expand Medicaid via the ACA will not qualify for the subsidy increases. From the pandemic onset through June 2021, nearly 12 million Americans enrolled in Medicaid/CHIP, the health coverage programs for the poor. The ranks of Medicaid/CHIP swelled to 83.2 million – or about a fourth of the US population – as people lost their jobs due to the pandemic. Amid the increased ACA subsidies under ARPA, about 13.8 million people signed up for 2022 healthcare coverage through HealthCare.gov or state-run exchanges. Enrollment in ACA plans was up 21% compared to the enrollment period in 2021.

- In November 2020, REGEN-COV, a monoclonal antibody treatment developed by Regeneron Pharmaceuticals, received emergency use authorization (EUA) from the FDA. GlaxoSmithKline and Vir Biotechnology received EUA for their antibody treatment sotrovimab in May 2021. Monoclonal antibody treatments are lab-made molecules that mimic natural antibodies that target infections, such as those caused by the novel coronavirus. The drugs have been effective in helping to reduce hospitalizations when administered soon after infection. Initially approved only for high-risk patients, in May 2021, the FDA broadened its criteria for who is considered high-risk, which made about 75% of the adult US population eligible for monoclonal antibody treatment, according to The Wall Street Journal. However, monoclonal antibodies saw only limited use until the Delta variant began driving cases higher. REGEN-COV saw strong demand in states with low vaccination rates and high Delta infections, which quickly set up antibody-drug infusion centers to help relieve hospital overcrowding. The US government has purchased about 1.5 million doses of the REGEN-COV treatment and made it available to patients free of charge. In mid-September, Regeneron Pharmaceuticals said the US government would buy an additional 1.4 million doses of REGEN-COV. In mid-November, the US government entered a contract to purchase 300,000 doses of GlaxoSmithKline's antibody-drug sotrovimab. On December 23, 2021, the federal government paused the distribution of the antibody medications by Regeneron and Eli Lilly as they proved ineffective against the Omicron variant. GlaxoSmithKline's antibody-drug sotrovimab seems effective against Omicron, and on January 11, the US government ordered another 600,000 doses, which GlaxoSmithKline and Vir say they will deliver in the first quarter of 2022.
- The effects of the COVID-19 pandemic on the US healthcare system are not yet fully calculated, but they are expected to persist for years, according to an analysis by Fitch Ratings. It seemed as if the pandemic's end could be in sight in the early summer. Still, rising cases of the more contagious Delta variant hit many hospitals hard, especially in areas of the country with low vaccination rates. The current vaccines protect well against coronavirus, but they appear less effective at preventing breakthrough cases driven by the Omicron variant. The recent wave of hospitalizations also leads to patients postponing elective and routine care, which is expected to have long-term ramifications for the healthcare system. Patients with long-haul COVID-19 symptoms will also increase long-term utilization of the healthcare system and push costs up. Burnout among hospital staff in hard-hit areas will likely exacerbate labor shortages and put upward pressure on wages, contributing further to hospitals' rising costs. Large, for-profit hospital systems so far seem to be withstanding the hardships of the pandemic, but smaller systems and hospitals are likely to face significant financial challenges.
- Early in the pandemic, hospitals voluntarily waived cost-sharing requirements for patients hospitalized for COVID-19, shielding about 88% of fully-insured people from out-of-pocket costs associated with co-pays and deductibles, according to the Peterson-KFF Health System Tracker. However, recent Peterson-KFF analysis suggests that more than 70% of the two largest insurers in all 50 states and Washington DC are no longer waiving such costs. Another 10% of plans aim to phase out the waivers by the end of October. Some healthcare industry watchers suggest that with the widespread availability of vaccines, insurers are ready to let hospitalized COVID-19 patients, most of whom are unvaccinated, shoulder more of the financial responsibility for their care.
- On September 9, the Biden Administration announced that businesses with more than 100 employees would have to require their workers to be vaccinated or be subject to at least weekly COVID-19 testing, according to The Wall Street Journal. The requirements will be implemented through a temporary standard issued by the Labor Department's Occupational Safety and Health Administration (OSHA). The administration will also require vaccination for healthcare workers in most facilities that receive Medicare and Medicaid reimbursements. In late November, a federal judge issued a preliminary injunction blocking the vaccine requirement for healthcare workers because it was unconstitutional. More than two dozen states, business groups, individual businesses, labor unions, and religious organizations have sued to block the mandate for private businesses. Due to lawsuits in several circuit courts, federal law required them to be consolidated and heard in a single court chosen by lottery. In mid-November, the lottery was held, and the case was set to be heard in the Sixth US Circuit Court of Appeals. On December 17, the Sixth US Circuit Court of Appeals overturned the lower court's ruling, and some businesses immediately appealed the ruling to the

Supreme Court. On January 13, the Supreme Court blocked the vaccine requirement for companies with 100 or more employees. However, the court allowed the mandate to stand for healthcare facilities that accept Medicare and Medicaid payments. Some healthcare insiders worry the mandate could make the healthcare worker shortage worse. According to the CDC, as of September 2021, about 30% of workers surveyed at more than 2,000 hospitals were unvaccinated.

Sector Structure



The healthcare sector is comprised of 483,400 firms that employ 17.2 million workers and generate \$2.5 trillion in annual revenue.

- The healthcare sector represents 7% of the nation's Gross Domestic Product (GDP) and employs 11% of the country's workers.
- The sector is fragmented: the 20 largest firms represent 16% of revenue. The 50 largest firms represent 24.5% of revenue.
- In addition to employer firms, the healthcare sector has nearly 1.3 million owner-operated establishments with no employees that generate \$57.6 billion annually. Subsectors with the highest numbers of nonemployer establishments are home healthcare services (17.2%) and offices of physicians (10.7%). The owner of nonemployer firms typically performs the work or uses contract labor.
- In recent years, the sector has shed about 47,000 establishments annually, which equals about 7% of existing establishments. However, the sector has added about 51,000 new establishments annually, which is equivalent to 7.6% of existing establishments. As a result, the healthcare sector has an average gain rate of 6.3%.

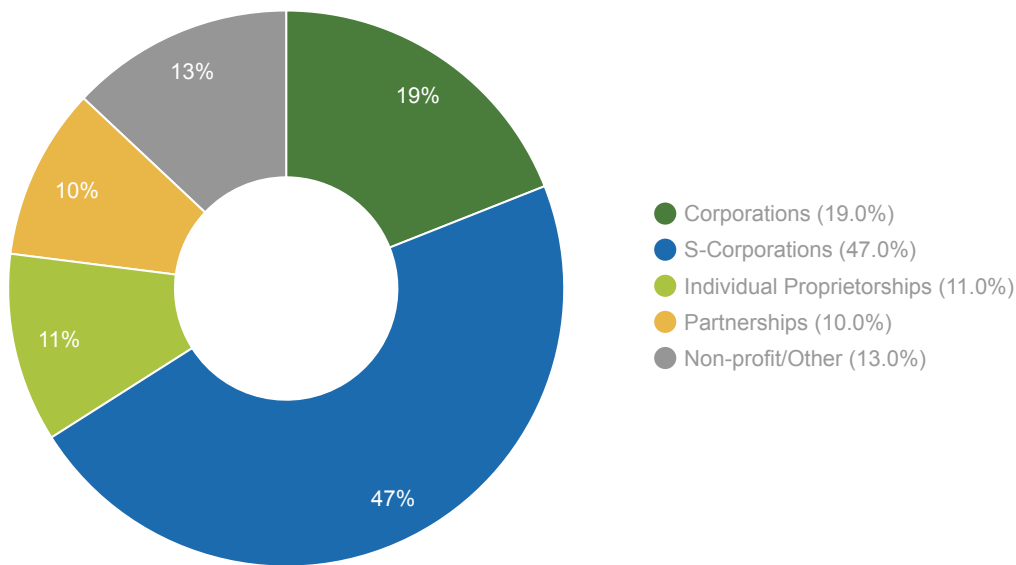
US Healthcare Sector Subsectors

SUBSECTOR	NO. FIRMS	AVG. REVENUE PER FIRM (\$K)	AVG. NO. OF EMPLOYEES / FIRM	AVG. REVENUE / EMPLOYEE (\$K)
Offices of Physicians (NAICS: 6211)	153,602	\$3,097	17	\$177
Offices of Dentists (NAICS: 6212)	117,846	\$1,068	8	\$133
Offices of Other Health Practitioners (NAICS: 6213)	122,534	\$686	7	\$93
Outpatient Care Centers (NAICS: 6214)	17,049	\$9,859	60	\$164
Medical & Diagnostic Labs (NAICS: 6215)	6,696	\$8,006	44	\$184
Home Healthcare Services (NAICS: 6216)	21,826	\$3,871	70	\$55
Total	487,636	\$4,793	35	\$136

SUBSECTOR	NO. FIRMS	AVG. REVENUE PER FIRM (\$K)	AVG. NO. OF EMPLOYEES / FIRM	AVG. REVENUE / EMPLOYEE (\$K)
Other Ambulatory Healthcare Services (NAICS: 6219)	6,389	\$6,092	53	\$116
General Medical & Surgical Hospitals (NAICS: 6221)	2,468	\$406,342	2,234	\$182
Psychiatric & Substance Abuse Hospitals (NAICS: 6222)	422	\$56,280	557	\$101
Other Specialty Hospitals (NAICS: 6223)	335	\$132,130	778	\$170
Nursing Care Facilities (NAICS: 6231)	8,492	\$13,999	186	\$75
Residential Mental Disability and Substance Abuse Facilities (NAICS: 6232)	9,880	\$4,456	78	\$57
Continuing Care Retirement Communities (NAICS: 6233)	17,112	\$3,788	61	\$63
Other Residential Care Facilities (NAICS: 6239)	2,985	\$2,615	44	\$59
Total	487,636	\$4,793	35	\$136

Source: Census Bureau

Industry Demographics



Source: US Census Bureau



Female Owned

29.3%



Minority Owned

22.8%



Veteran Owned

5.7%

Source: Census Bureau

Geographic Breakdown

STATE	NO. ESTABLISHMENTS	% OF TOTAL US ESTABLISHMENTS	NET CHANGE 2018	% CHANGE
Alabama	8588	1.2%	-6	-0.1%
Alaska	2172	0.3%	-29	-1.3%
Arizona	17076	2.3%	433	2.6%
Arkansas	6556	0.9%	151	2.4%
California	96957	13.2%	1368	1.4%
Colorado	14010	1.9%	-22	-0.2%
Connecticut	9217	1.3%	274	3.1%
Delaware	2107	0.3%	47	2.3%
Florida	54479	7.4%	762	1.4%
Georgia	21522	2.9%	630	3.0%
Hawaii	2970	0.4%	-9	-0.3%
Idaho	4530	0.6%	99	2.2%
Illinois	28444	3.9%	275	1.0%
Indiana	14212	1.9%	317	2.3%
Iowa	6655	0.9%	131	2.0%
Kansas	6336	0.9%	84	1.3%
Kentucky	9191	1.2%	83	0.9%
Louisiana	10266	1.4%	-16	-0.2%
Maine	3442	0.5%	-29	-0.8%
Maryland	14127	1.9%	63	0.4%
Massachusetts	15070	2.0%	238	1.6%
Michigan	22896	3.1%	75	0.3%
Minnesota	13579	1.8%	369	2.8%
Mississippi	5043	0.7%	23	0.5%
Missouri	13558	1.8%	-111	-0.8%
Montana	2785	0.4%	20	0.7%
Nebraska	4459	0.6%	86	2.0%
Nevada	6766	0.9%	144	2.2%

STATE	NO. ESTABLISHMENTS	% OF TOTAL US ESTABLISHMENTS	NET CHANGE 2018	% CHANGE
New Hampshire	2770	0.4%	21	0.8%
New Jersey	23945	3.3%	483	2.1%
New Mexico	3950	0.5%	-4	-0.1%
New York	45819	6.2%	48	0.1%
North Carolina	19446	2.6%	249	1.3%
North Dakota	1523	0.2%	25	1.7%
Ohio	23527	3.2%	43	0.2%
Oklahoma	8645	1.2%	-33	-0.4%
Oregon	11400	1.5%	78	0.7%
Pennsylvania	29263	4.0%	187	0.6%
Rhode Island	2449	0.3%	-40	-1.6%
South Carolina	8955	1.2%	320	3.7%
South Dakota	1844	0.3%	56	3.1%
Tennessee	13278	1.8%	237	1.8%
Texas	60229	8.2%	1091	1.8%
Utah	7341	1.0%	131	1.8%
Vermont	1471	0.2%	8	0.5%
Virginia	17263	2.3%	392	2.3%
Washington	17073	2.3%	128	0.8%
West Virginia	3703	0.5%	11	0.3%
Wisconsin	12492	1.7%	370	3.1%
Wyoming	1478	0.2%	6	0.4%

Source: Census Bureau

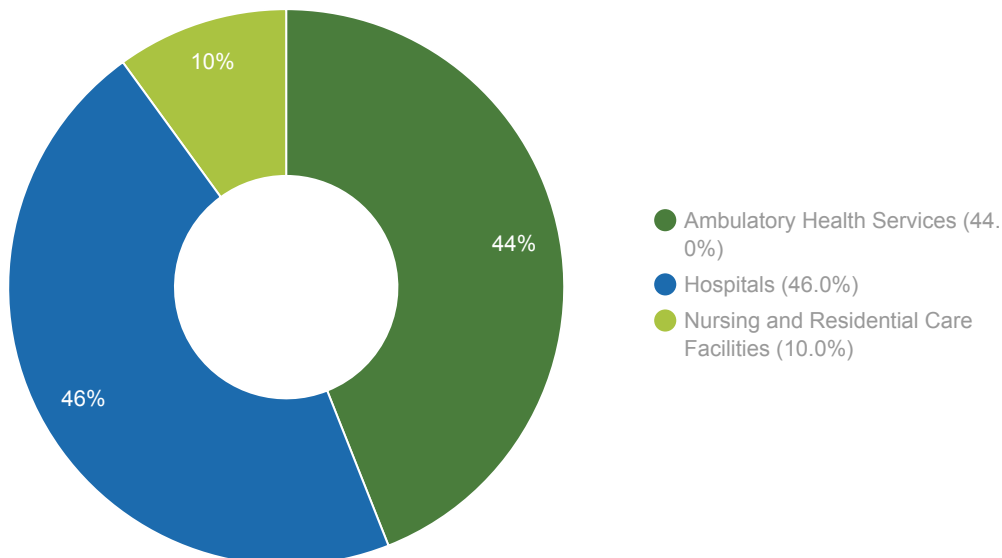
How the Sector Operates

Products and Operations

The healthcare sector provides medical and therapeutic care to patients and day-to-day living assistance and services to facility residents. Labs provide testing services to healthcare providers and patients. Facilities provide a wide range of health services, such as physician care, psychiatric care, physical/occupational therapy, medication management, nutrition planning, dental care, hearing and vision services, image production (CT, MRI, PET), specimen testing, and hospice care. Other services may include food service, social services, social and religious activities, transportation, housekeeping, and laundry service.

- Revenue for healthcare providers is dominated by fees for patient care and services, and supplemented by the resale of pharmaceuticals and other medical merchandise, as well as the rental of medical equipment.
- Other sources of revenue include contributions, gifts and grants (government or private) and investment income.
- The number of exam rooms, operating rooms or beds limits the volume of patients that can be treated or admitted into a living facility. Staffing levels also impact the volume of care that can be provided.
- Firms and practices often rely on referrals or requests for testing from other healthcare providers.

Healthcare Sector Revenue



Source: US Census Bureau

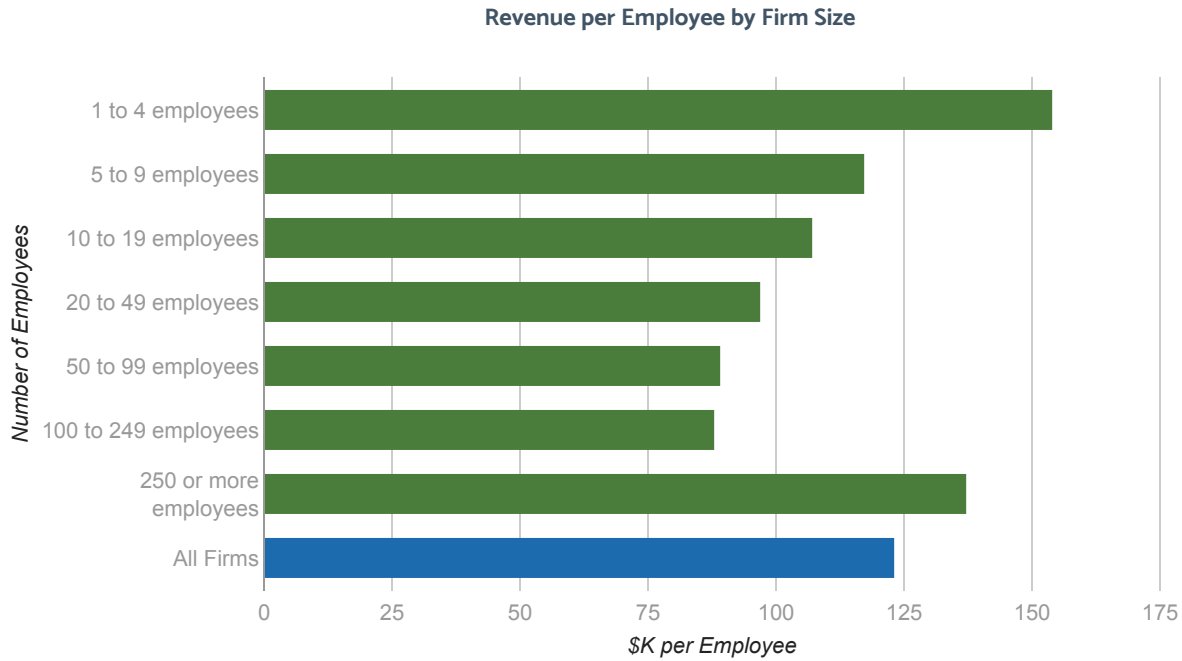
In the medical setting, patients are typically admitted to see a healthcare provider or arrive for a scheduled appointment. For new patients, healthcare providers obtain personal and health information (history, current condition) about the patient as well as their form of payment (insurance, Medicare/Medicaid, out-of-pocket). For existing patients, updates to personal, health and payment information is requested before or while the patient is seen.

In the nursing home, assisted living and continuing care retirement community (CCRC) setting, an assessment of a new resident's needs is conducted to develop a care plan and place the patient at the appropriate level of living arrangement. Existing residents are assessed regularly to determine if a change in care or living arrangement is necessary. Home healthcare workers provide care at the patient's home.

Healthcare facilities employ or contract a wide range of workers including doctors, physician assistants, nurses (registered, LPN, aides), therapists, lab technicians, billing specialists, cleaning staff, and foodservice staff (hospitals, residential care) and administrators. Competent staff in billing and accounting is critical due to the complexities of filing for government funding and insurance reimbursements.

Because managing documentation, coding and billing for numerous third-party payers is complex, most companies rely on computerized information systems to store and process information. Software systems allow companies to customize reimbursement claims for specific payers and quickly adapt to changes in regulations or reimbursement rates.

Healthcare practices and services are highly regulated at the state and federal levels by health departments and the Centers for Medicare and Medicaid Services (CMS). Oversight is intense regarding standards of care and the protection of patients' and residents' medical records and financial information. Providers work closely with health insurers and CMS to set reimbursement rates for their services.



Source: US Census Bureau

Technology Investment

Medical technology changes at a rapid pace, requiring healthcare providers to frequently invest in new equipment in order to stay current and provide the highest quality care. Firms may choose to lease equipment to minimize up-front costs. Healthcare information management systems, such as electronic health records (EHR) programs, can improve operations and reduce expenses, helping to justify the large investments of time and capital required for their implementation.

Electronic Health Records (EHR)

EHR systems store patient information digitally, capture real-time information and help firms manage care more effectively. More sophisticated systems can provide diagnostic analysis and offer treatment plans. Congress authorizes incentive funding for healthcare providers to use and upgrade EHR systems to improve operations. Long-term plans for EHR include standardizing patient record formats to allow information sharing between healthcare providers.

Practice Management Systems

Healthcare providers invest in practice management software to automate patient scheduling, billing, accounting, and reporting functions. Practice management systems are now available via the Internet in “Software as a Service” (SaaS) versions that eliminate the need for physician practices to purchase and manage computer servers.

Medical & Diagnostic Equipment

Medical equipment used to diagnose and treat patients can be expensive. This technology includes magnetic resonance imaging (MRI) and computerized tomography (CT) machines, ultrasound equipment, fluoroscopes, therapeutic lasers, vital sign monitors, laboratory equipment, surgical robots, and health wearables. Specialized equipment tends to be more expensive than generalized equipment. A multi-physician practice may purchase one piece of equipment and share it to reduce cost and increase its utilization rate.

Health Wearables

Health wearables are devices that are worn or attached to the body to track vital information or administer medication. Examples include smart watches that measure heart rhythm and sleep patterns, glucose readers attached to the body that allow diabetics to digitally scan and read their blood sugar levels without pricking fingers, and portable oxygen machines the size of a purse.

Telehealth

Telehealth allows healthcare providers to communicate with patients over a smart device. Healthcare providers use telehealth to diagnose ailments, share test results, renew prescriptions, conduct follow-up visits, and monitor patient progress over video chat or phone call. Telehealth eliminates the need for patients or healthcare workers to travel for a face-to-face visit. The use of telehealth services increased significantly during the Covid-19 pandemic.

Surgical Robots

Surgical robots provide precision, flexibility and control to physicians while performing complex procedures. Robots may be combined with augmented reality technology to provide real-time information (blood pressure, heart rate) to the physician during the procedure. Robots are typically used in minimally invasive procedures that are performed through small incisions. Generally, one arm includes a camera and the other is equipped with various surgical instruments. The surgeon controls the arms from a console near the operating table with a monitor that magnifies and provides a high-definition 3D view of the surgical site.

Customized Medicine

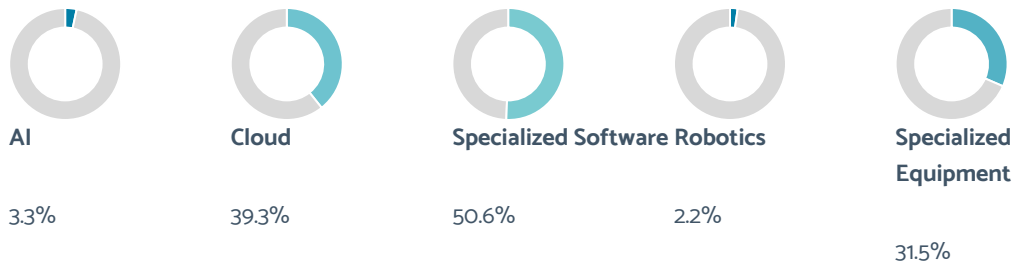
This form of medicine uses the patient’s genetic code to customize treatment to the individual. Physicians can use customized

medicine to select treatments or medicines that are more effective. In the case of cancer, customized medication can be produced based on the patient's genes and proteins to attack and more easily destroy tumors. Customized medicine is also used to treat rheumatoid arthritis by attacking the genes of the disease and weaken its effect on the patient.

CRISPR

CRISPR (clustered regularly interspaced short palindromic repeats) is a technology used to modify the genes of bacteria to kill viruses. The technology edits infected DNA strands or can be used to turn genes on or off. The technology has the potential to prevent and treat diseases including cancer, HIV and sickle cell anemia. However, the technology is controversial as it could be used to customize DNA.

Percent of US Healthcare Sector firms investing in technology



Source: Census Bureau

Global Perspective

Global Market Size

The global healthcare services market generated revenue of more than \$6.4 trillion in 2020, according to The Business Research Company. The COVID-19 pandemic reduced most countries' healthcare spending amid social distancing and other restrictions that led non-essential surgeries and medical appointments to be cancelled or postponed. COVID-19 hospitalizations combined with declines in routine care put further financial stress on many countries' healthcare systems. In some countries, including the US, healthcare spending declined as job losses reduced contributions to employment-based health insurance, according to The Economist. However, the worldwide healthcare services market is expected to see growth of 9.4% in 2021 with revenue of more than \$7 trillion, according to The Business Research Company. The sector should then experience average annual growth of 7%, reaching a value of about \$9.1 trillion by 2025. North America accounts for 40% of the global healthcare services market. Asia Pacific is the second-largest regional market with a 25% share.

Large Companies

COMPANY	HOME COUNTRY
Ascension Health	US
Cleveland Clinic Health System	US
CommonSpirit Health	US
Community Health Systems	US
Fosun International	China
Fresenius SA	Germany
HCA Healthcare, Inc.	US
Ramsay Health Care	Australia
Spire Healthcare Group PLC	UK
Tenet Healthcare Corporation	US

Key Global Trends

Ageing Population Drives Demand – Rising global population and an overall aging trend are projected to increase demand for healthcare services. By 2030, the number of people over age 60 will rise 56% to 1.4 billion, compared to about 960 million in 2017, according to the United Nations. The aging of the world's population is most acute in the developing world. Africa's population is aging the fastest, followed by Latin America, the Caribbean, and Asia. It's estimated that by 2050, more than three-quarters of those over age 60 will live in less developed countries. Due to higher life expectancy than men, women make up a majority of the world's elder population.

Pandemic Underscores Care Inequalities – In general, wealthier nations have had better access to pandemic-related healthcare services – including vaccines – than developing countries. Co-led by the Global Alliance for Vaccines and Immunizations (GAVI), the Coalition for Epidemic Preparedness Innovations (CEPI), and the World Health Organization (WHO), the COVAX initiative was set up to ensure poorer nations have access to vaccines. Nearly 80 wealthy countries have signed on to help fund COVAX. Wealthy nations have to pay full price for vaccines, in part to help subsidize poorer ones that cannot afford to vaccinate their populations. COVAX aims to deliver about two billion doses in more than 90 low- and middle-income countries in 2021, according to The New York Times. Some advocacy groups suggest the need for more equitable access to healthcare should be a key lesson of the pandemic.

Controlling Noncommunicable Diseases – The pandemic showed that communicable diseases are still a major threat to global health, and that populations in developing countries are especially vulnerable. However, as incomes and standards of living in emerging markets rise, so too do the rates of noncommunicable diseases (NCDs) such as heart disease, cancer, and diabetes. As some developing markets become more affluent, they have seen rises in sedentary lifestyles, dietary changes, and obesity which have led to higher rates of NCDs and morbidity. However, established economies still account for the highest number of deaths related to NCDs. On a global basis, NCDs account for about 71% of deaths; the percentage climbs to more than 80% in the most developed economies, according to the World Health Organization.

Digital Transformation – The pandemic exacerbated a gap between global demand for healthcare services and the personnel levels required to supply them. Healthcare providers' adoption of digital tools jumped years ahead in a matter of months. A key example is virtual care that uses video or chat technologies in place of riskier in-person visits. In a Deloitte survey of doctors and nurses in several countries in the European Union, more than two-thirds said their organizations had used digital technology to provide patients with virtual support. Many countries, including the US, China, Japan, South Korea, Canada, and EU member states are increasingly leveraging artificial intelligence (AI) to improve healthcare outcomes and increase efficiency. Key clinical areas where AI is being used include symptom analysis and diagnosis, accelerating scientific research, smart workforce management tools, and reducing medication errors. In nonclinical healthcare settings AI can automate administrative tasks and detect and prevent fraud and waste.

Sector Trends

Trends are affected by the COVID-19 pandemic.

Changes in revenue, employment, business practices, trade and forecasts are occurring rapidly and data reporting by the government lags the changes. We are tracking changes in the “Coronavirus Update” chapter for those industries most affected and on our [Covid-19 Updates Webpage](#).

Ageing Demographic Drives Demand

As the baby boomer generation ages, the population of elderly adults with healthcare needs will grow. Hospitalizations, treatments, procedures, imaging and lab testing related to high blood pressure, diabetes, arthritis, cancer, and other chronic conditions common to an aging population will increase. Demand for home healthcare, nursing care and assisted living facilities is also on the rise. The number of adults age 65 and over accounted for 17% of the US population in 2020. That figure is projected to reach 21% by 2030.

Incentives For Electronic Health Records (EHR) Systems

Each year, Congress authorizes incentive funding for healthcare providers to use and upgrade EHR systems to improve operations. By storing patient information digitally, EHR systems capture real-time information and help providers manage care more effectively. More sophisticated systems can provide diagnostic analysis and offer treatment plans. Long-term plans for EHR include standardizing patient record formats to allow information sharing between healthcare providers.

High Deductible Insurance Plans Increasingly Popular

Enrollment in High Deductible Insurance Plans/Health Savings Accounts (HDIP/HSAs) has steadily increased from 7 million people covered by plans like these in 2012 to over 30 million in 2020. HDIP/HSA plans allow individuals to pay lower premiums in exchange for significantly higher deductibles (up to \$7,000-\$14,000) and encourage patients to better manage healthcare costs. Unfortunately, HDIP/HSA plans have become especially popular with low-income households, which then tend to delay treatment due to lack of funds, resulting in patients who are sicker and ultimately require more care. Enrollment in HDIP/HSA plans has grown, as both corporations and individuals attempted to manage spiraling premium costs.

Labor Shortage Deepens

Healthcare providers struggle with shortages of nurses, medical technicians, pharmacists, and other clinical workers. Inadequate staffing compromises quality patient care, increases stress on employees, slows processing, and leads to labor turnover. Meanwhile, demand for healthcare, driven by the aging population, continues to grow, putting increased pressure on healthcare providers to find skilled labor. Aside from greater demand, the shortages will be exacerbated by the large number of healthcare practitioners retiring from their fields. By 2028, hospitals will face a projected shortage of over 2.1 million Registered Nurses (RN), according to the Bureau of Labor Statistics.

Sector Challenges

Impact of Healthcare Reform

The continuing debate over healthcare reform makes long-term planning a challenge. Healthcare legislation aimed at expanding coverage and cutting costs has created a high level of uncertainty and has fundamentally changed the way healthcare providers operate. Generally speaking, planned changes to reimbursement structures reduce payments received and require healthcare providers to create more integrated programs for delivering care. Expanding Medicaid also increases the potential for additional cases for which reimbursement does not fully cover the cost of care. However, increased patient coverage benefits healthcare providers by growing the pool of more profitable privately-insured patients and reducing uncompensated care. However, healthcare providers that perform worse than their peers on specified quality measures can face reduced funding from CMS and be penalized when patients incur a secondary diagnosis that was not present upon admission (such as infections).

Managing Rising Costs

The costs - particularly labor costs - of providing healthcare have increased steadily and have generally outpaced inflation. Other increasing costs for prescription drugs, professional fees, and liability insurance have also affected profitability. These rising costs, combined with flat or reduced reimbursement rates from insurers and government programs, have squeezed margins, forcing many to cut programs or staff or to delay major projects.

Maintaining Skilled Staffing

Healthcare providers struggle with shortages of nurses, medical technicians, pharmacists, and other clinical workers. Inadequate staffing compromises quality patient care and increases stress on employees, leading to turnover. Meanwhile, demand for healthcare, driven by the aging population, continues to grow, putting increased pressure on providers to find skilled labor. Aside from greater demand, the shortages will be exacerbated by the large number of healthcare practitioners retiring from their fields. By 2028, providers will face a projected shortage of over 2.1 million Registered Nurses (RN), according to the Bureau of Labor Statistics. Healthcare providers with high turnover rates incur additional recruiting and hiring costs, pay more overtime, and experience difficulty providing quality patient service. High staff turnover can be a sign of poor management.

Adapting to Changing Standards

Healthcare providers face near-term regulatory changes in Medicare billing and payments. Medicare billing codes changed from the ICD-9 to ICD-10 standards on October 1, 2013, and practices were required to be compliant by October 1, 2015. ICD-10 increases the number of diagnoses from 13,000 to more than 68,000 and the number of procedures from 4,000 to 72,589. ICD-11 is under evaluation in the US and could replace ICD-10 in 2023. Practices need to make sure their billing software is ready for new standards or they face disruptions in their cash flow. Complying with mandates adds cost to physician practices at a time when they are under pressure to reduce costs.

Conflict with Insurers

While healthcare providers depend on private insurers for revenue, both groups struggle to agree on how best to treat patients. Common sources of conflict involve denial of coverage for care, referrals, and reimbursement rates. Large managed care organizations can represent a sizable part of an individual provider's business, leaving little ability to negotiate. Continuing efforts to contain healthcare costs have resulted in reduced reimbursement rates for many services. Since patients enjoy sizable savings by seeking treatment from participating healthcare providers, being "in-network" becomes increasingly important.

Growing Base of Government-funded Patients

Enrollment by the elderly, the poor, and the disabled in government programs has increased steadily over the last decade. The number of patients enrolled in Medicare, Medicaid, and other government programs has increased. The Medicare population in particular is expected to grow significantly as baby boomers age and put increased strain on the healthcare system. Economic difficulty has forced others to rely on Medicaid, including a record number of children.

Malpractice Draws Litigation

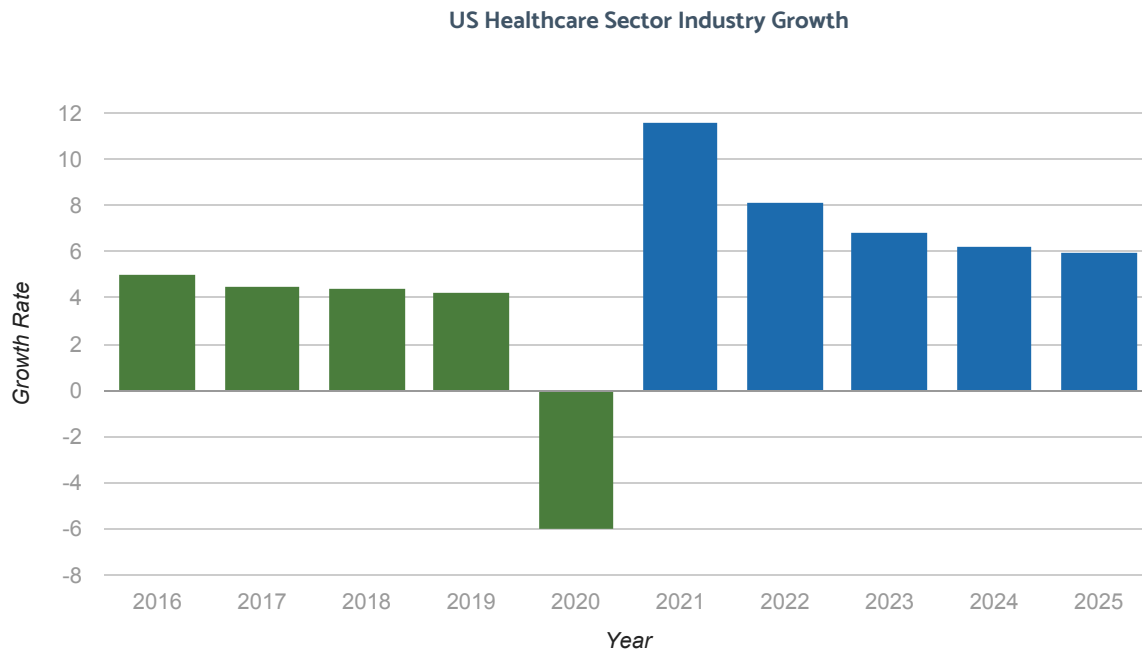
Healthcare providers may not have established policies or procedures that insulate them from malpractice. Smaller providers may lack the resources to develop policies or ensure implementation of safety procedures. Issues that could lead to litigation include failure to sterilize equipment, errors in specimen testing or patient diagnosis, surgical mistakes, neglect and mistreatment, failing to obtain proper consent, and early discharge. Even simple procedures have risks of complications. Lawsuits can be costly and severely damage a provider's reputation and trustworthiness. Liability insurance is expensive and availability may be limited.

Sector Forecast

Sales for the US healthcare industry are forecast to grow at a 7.7% compounded annual rate from 2020 to 2025, greater than the growth of the overall economy.

Vertical IQ forecasts are based on the Inforum inter-industry economic model of the US economy. Inforum forecasts were prepared by the Interindustry Economic Research Fund, Inc.

Last Update: August 2021



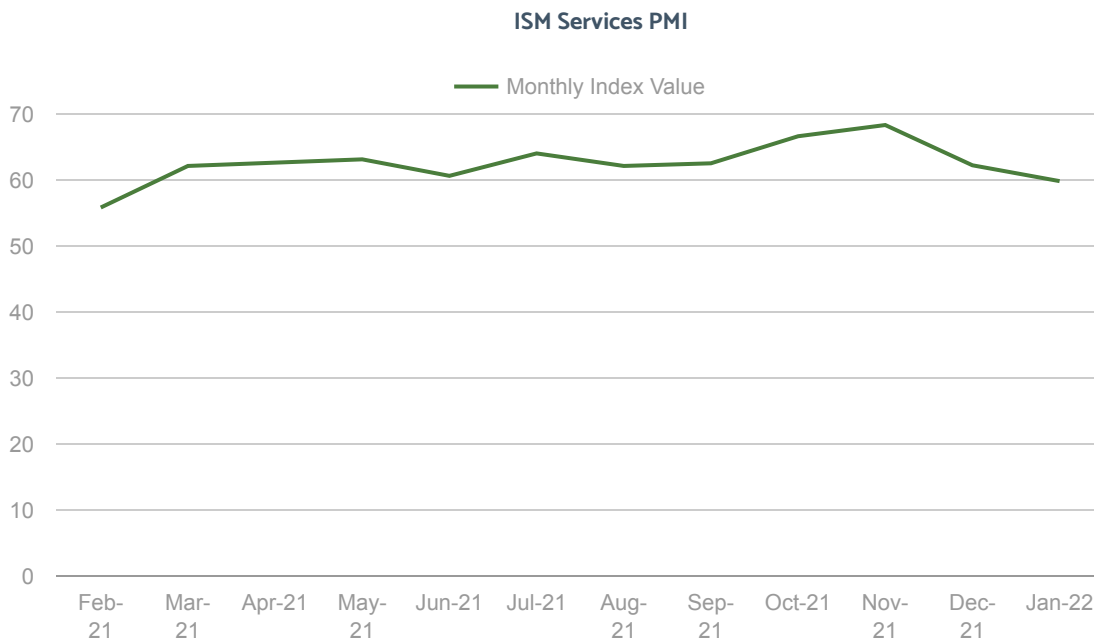
Source: Interindustry Economic Research Fund, Inc.

Sector Indicators and Drivers

ISM Services PMI

In January, the Services PMI® registered 59.9 percent, 2.4 percentage points below December's seasonally adjusted reading of 62.3 percent.

The 15 services industries reporting growth in January – listed in order – are: Construction; Retail Trade; Health Care & Social Assistance; Public Administration; Real Estate, Rental & Leasing; Utilities; Professional, Scientific & Technical Services; Other Services; Educational Services; Finance & Insurance; Mining; Management of Companies & Support Services; Transportation & Warehousing; Wholesale Trade; and Accommodation & Food Services. The three industries reporting a decrease in January are: Agriculture, Forestry, Fishing & Hunting; Arts, Entertainment & Recreation; and Information.



Source: ISM

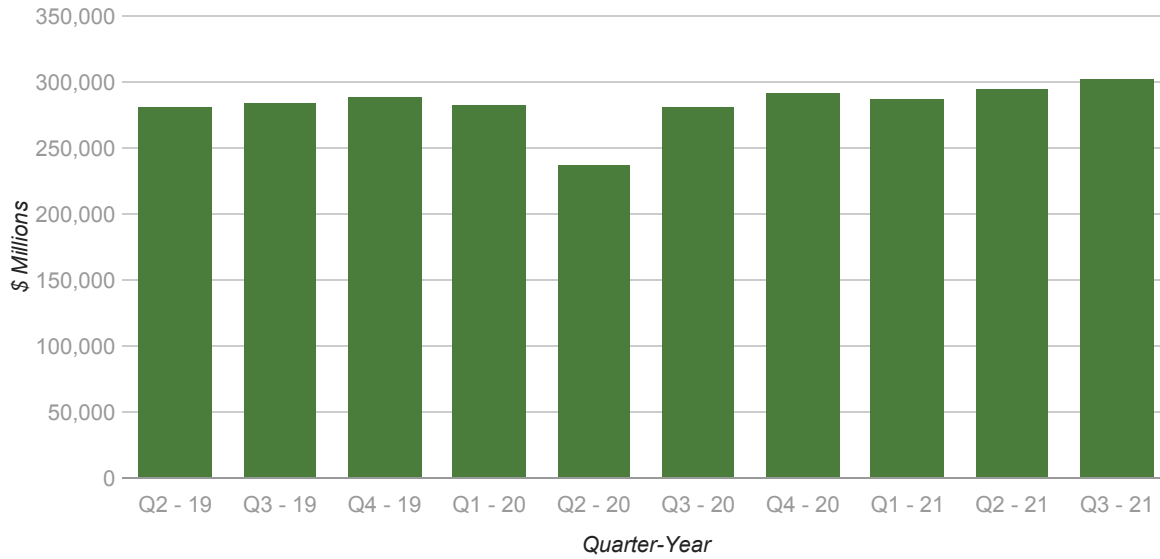
The ISM Services PMI is based on data compiled monthly from purchasing and supply executives nationwide by the Institute for Supply Management. Diffusion indexes have the properties of leading indicators and are convenient summary measures showing the prevailing direction of change and the scope of change. A Services PMI® reading above 50 percent indicates that the services economy is generally expanding; below 50 percent indicates that it is generally declining.

Revenue Trends

Ambulatory healthcare services revenue rose from a year ago

Seasonally adjusted revenue for ambulatory healthcare services was \$303.4 billion in Q3 2021, a 7.7% change compared to a year ago and a 27.4% change from the previous quarter, according to the latest data from the Census Bureau.

Quarterly Ambulatory Healthcare Services Revenue

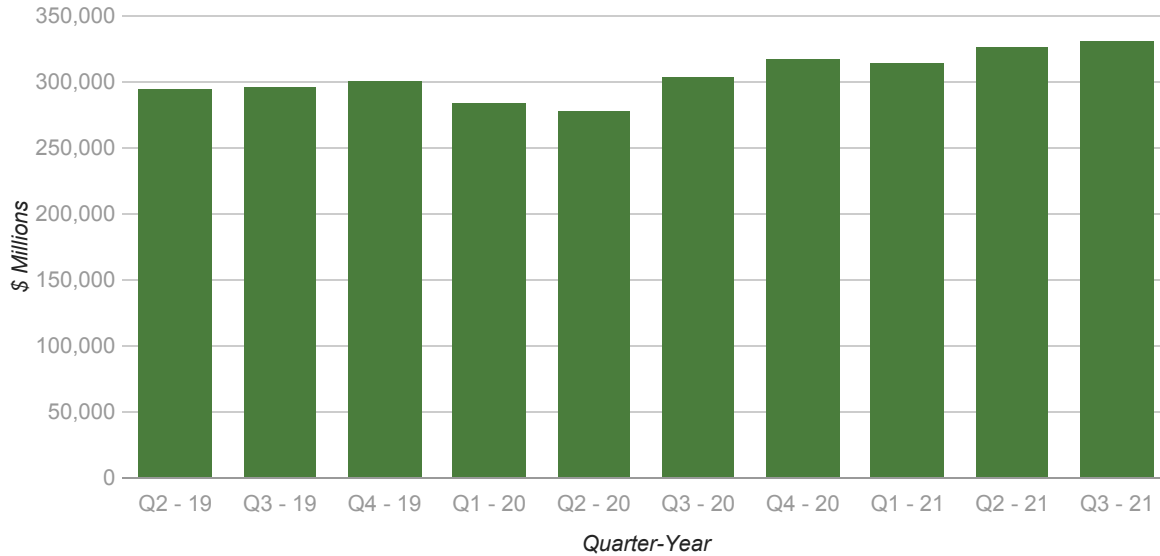


Source: Census Bureau

Hospital revenue rose from a year ago

Seasonally adjusted revenue for hospitals was \$332.5 billion in Q3 2021, a 9.16% change compared to a year ago and a 19.26% change from the previous quarter, according to the latest data from the Census Bureau.

Quarterly Hospital Revenue

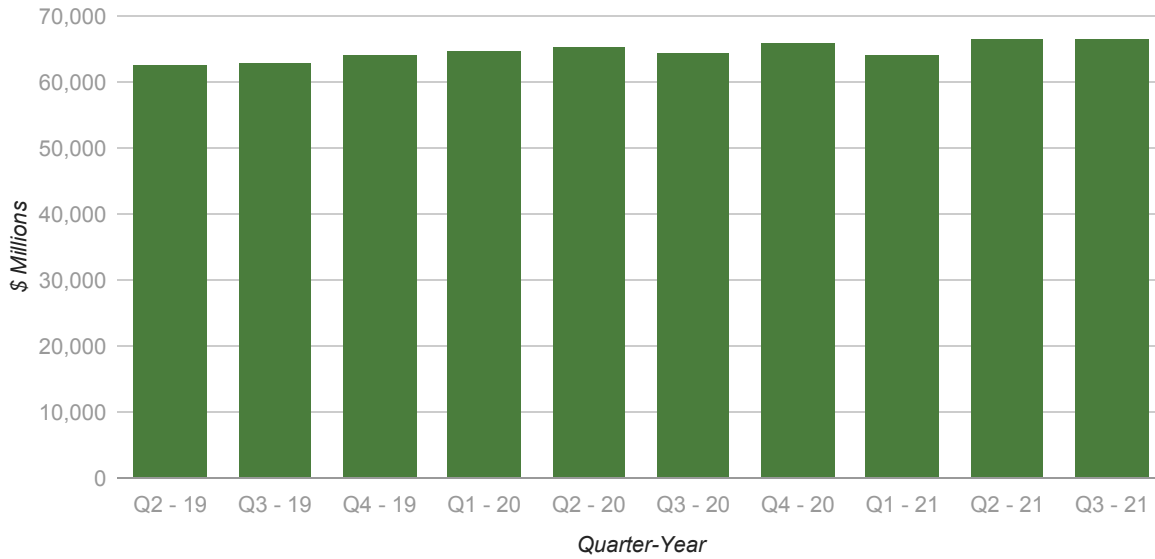


Source: Census Bureau

Nursing and residential care facilities revenue rose from a year ago

Seasonally adjusted revenue for nursing and residential care facilities was \$66.6 billion in Q3 2021, a 3.14% change compared to a year ago and a 1.88% change from the previous quarter, according to the latest data from the Census Bureau.

Quarterly Nursing and Residential Care Facilities Revenue



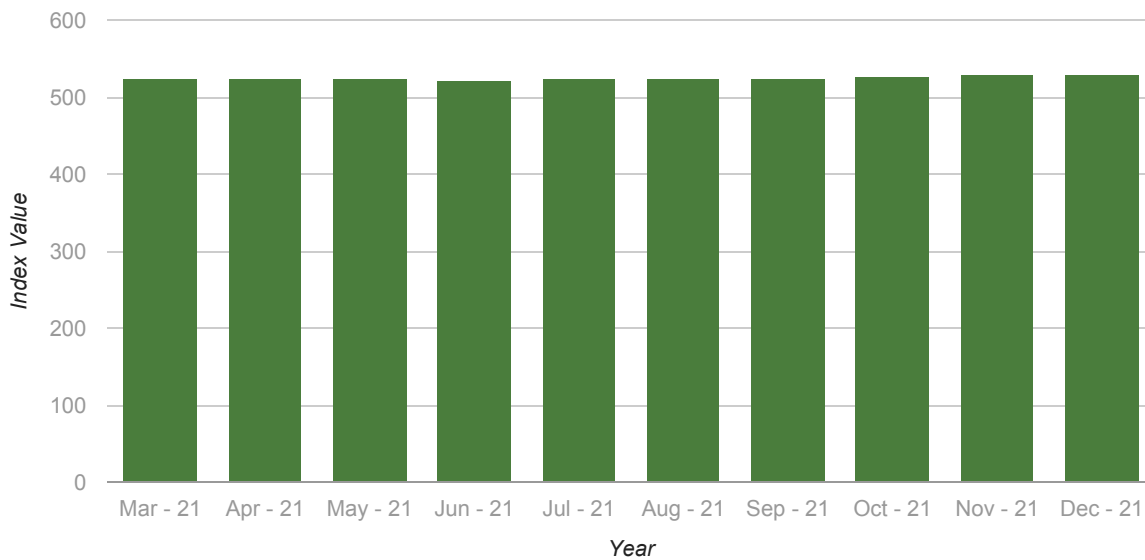
Source: Census Bureau

Pricing Trends

Medical care services prices rose from a year ago

The percentage change in the Consumer Price Index for medical care services was 2.17% in December 2021 compared to a year ago and 0.22% compared to the previous month, according to the latest data from the Bureau of Labor Statistics.

Consumer Price Index for Medical Care Services

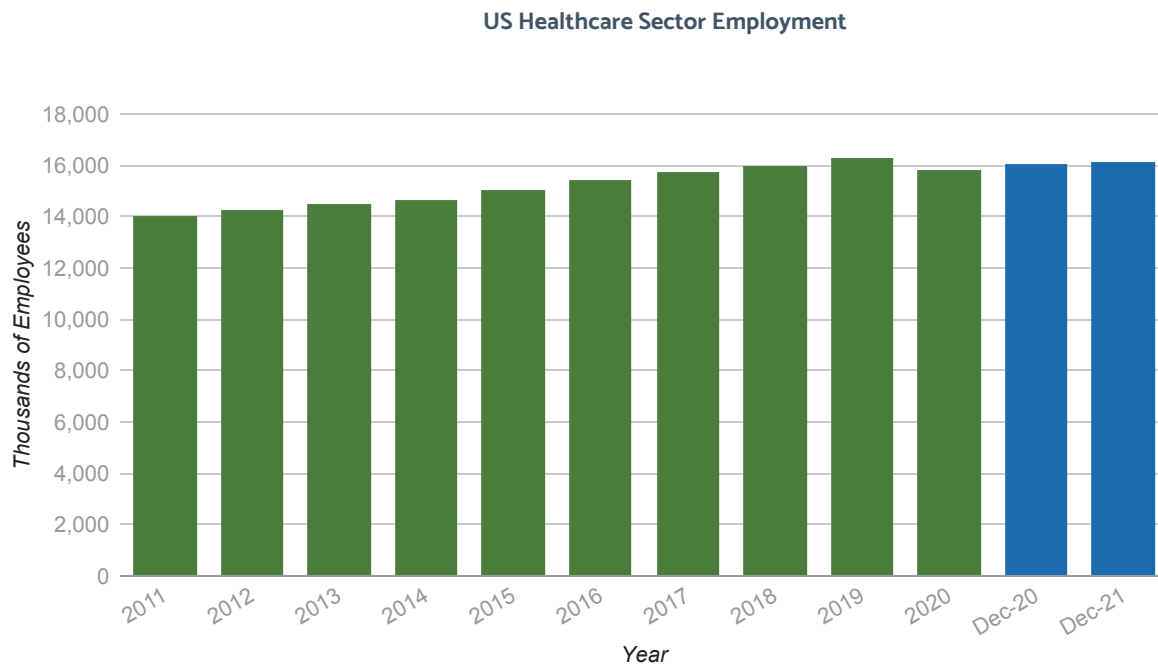


Source: Bureau of Labor Statistics

Employment and Wage Trends

Employment by healthcare services increases

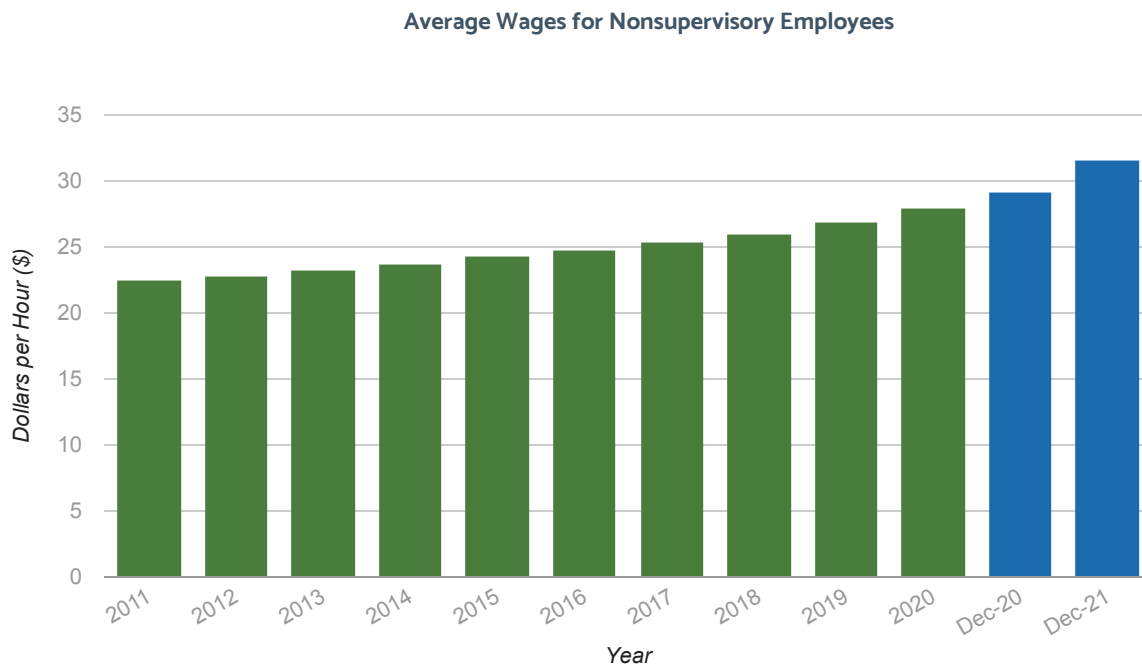
Overall employment by healthcare services changed 0.6% in December compared to a year ago, according to the latest data from the Bureau of Labor Statistics.



Source: Bureau of Labor Statistics

Wages at healthcare services rise

Average wages for nonsupervisory employees at healthcare services were \$31.44 per hour in December, a 8.3% change compared to a year ago.



Source: Bureau of Labor Statistics

Cash Flow Management

Firms primarily generate revenue by treating patients and caring for residents in nursing centers, assisted living facilities, and at home. Payment may be received at the time of service or billed to patients or insurers. Healthcare firms rely heavily on reimbursements from Medicare and Medicaid, private insurers, managed care organizations and patients. Reimbursement rates vary depending on numerous factors, including the provider, the type of service rendered, the severity of the patient's condition, and wage adjustments based on geography. Firms usually accept cash, check and credit or debit cards for patient payments, and may also offer third-party financing for large bills.

Accurate, timely billing is critical to maximizing reimbursement rates and cash flow. Patient mix can also affect cash flow, with private pay individuals paying more and faster than those relying on government funding. Medicare and Medicaid can be slow to pay and may deny coverage after expenses have been incurred. Dependence on government funding can significantly affect cash flow as the government modifies reimbursements rates annually. Electronic billing can expedite the billing and receivables processes and help companies improve cash flow. Audits to monitor compliance with coding regulations help minimize billing errors.

Some firms are paid through capitated payment plans, in which the firm provides services at a set monthly reimbursement rate based on the number of covered members in a plan. Capitated plans can produce a steadier revenue stream than fee-for-service arrangements.

Payroll is typically the largest expense for healthcare providers. Other expenses include medical supplies, lab fees, malpractice or liability insurance, and general office supplies. The cost of food can also vary for hospitals and residential care facilities.

Key performance measures include occupancy rate and length of stay, number of patients or cases, revenue per staff member, net collection rate, mix of payers, equipment utilization, and total overhead rate.

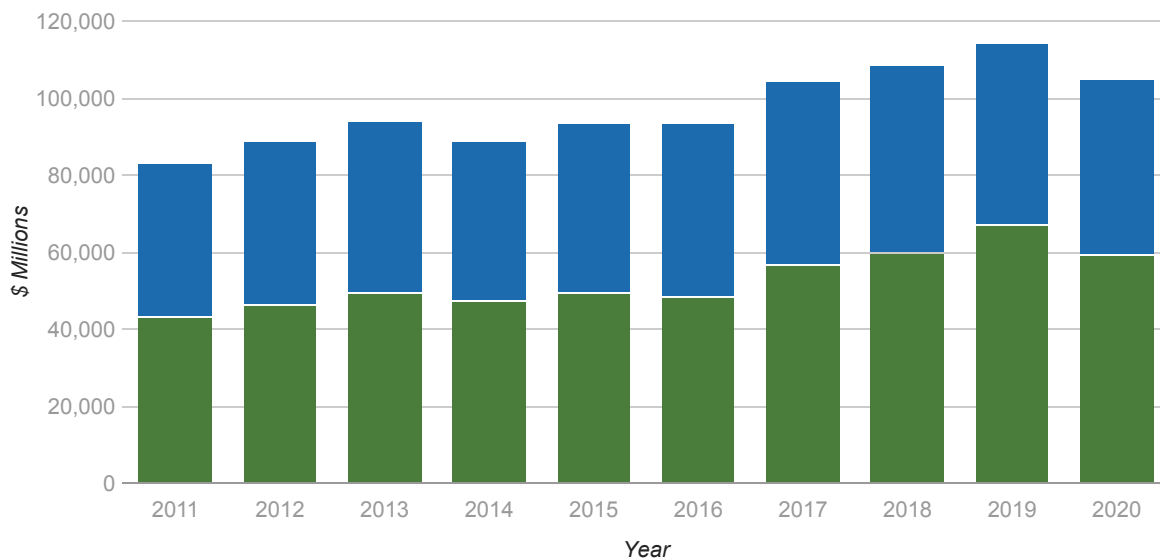
Capital and Foreign Investment

The healthcare sector is moderately capital intensive, and requires investment in facilities, equipment and inventory. The sector spends about 4-5% of annual revenue on capital expenditures, which is equivalent to about \$108-117 billion per year. The average healthcare firm spends less than \$240,000 per year on capital investments.

Healthcare firms invest in a wide variety of equipment and machinery including beds and exam tables, imaging machinery, lab and diagnostic equipment, computers and software, foodservice equipment and appliances, seating and wheelchairs, tables and desks, and transport vehicles.

The cost of starting a new medical practice varies by the type of practice, but typically requires an investment of \$200,000 to \$300,000. Outfitting an exam room typically costs \$5,000 - \$6,000 for a family practice and is often higher for specialty practices. For ambulatory surgery centers, the cost to set up an operating room ranges from \$500,000 to \$1,000,000. Construction costs for nursing homes and assisted living center average \$200 to \$270 per square foot depending on the market, according to Weitz Construction. Because expansions and renovations are costly, firms may complete large projects in phases.

**Total Capital Expenditures by Healthcare Firms
Firms with Employees**



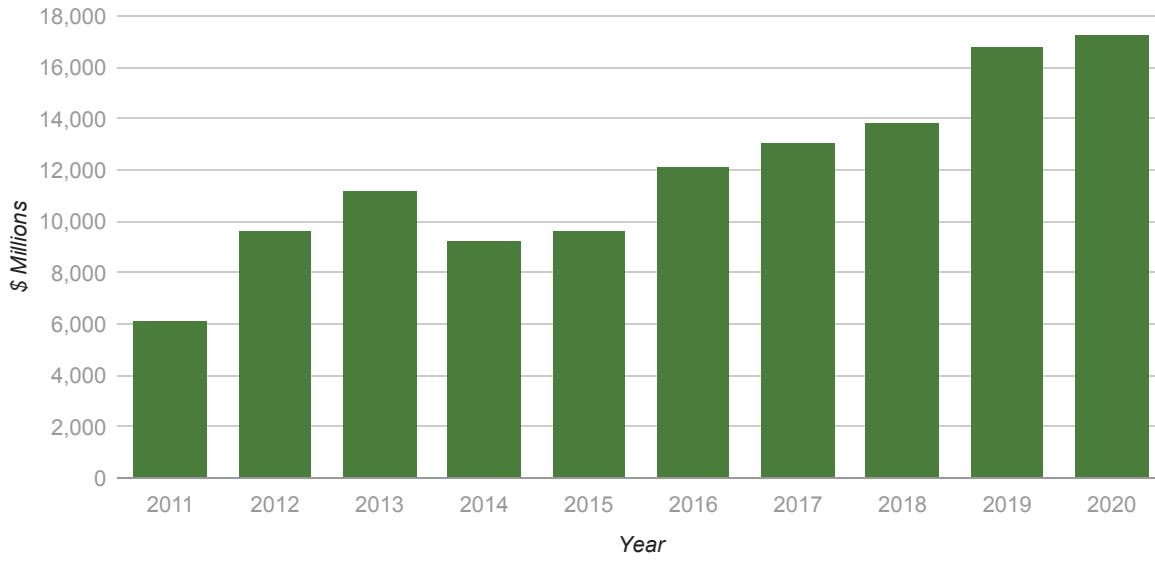
Source: Census Bureau

Foreign Investment

The US is an attractive market for foreign investors, but the healthcare sector is not a major target. Foreign direct investment (FDI) in the healthcare sector represents less than 1% of total FDI in the US. Foreign investors use their funds to acquire US firms, finance the establishment of new firms and expand existing operations. Foreign spending to develop new companies from the ground up or to expand existing businesses is called greenfield investment. Within the healthcare sector, foreign direct investment increased over the past decade.

Annual investment in the US healthcare sector by foreign interests rose 2.8% in 2020 to \$17.3 billion. Total FDI in the US rose 4.2% in 2020.

Foreign Direct Investment in US Healthcare Sector



Source: Bureau of Economic Analysis

Financial Benchmarks

The following financial benchmark data is based on annual financial statements submitted by member institutions of the Risk Management Association from Q2 of the first year listed through Q1 of the following year.

Financial Ratios (US Healthcare Sector, Industry-wide)

MEASURE	2018-19	2019-20	2020-21
Current Ratio [?]	1.57	1.62	1.79
Quick Ratio [?]	1.37	1.40	1.59
Days Inventory [?]	4.72	6.28	5.48
Days Receivables [?]	31	30	33
Days Payables [?]	22.15	26.03	23.33
Pre-tax Return on Revenue [?]	5.02%	5.17%	6.69%
Pre-tax Return on Assets [?]	7.63%	8.12%	8.59%
Pre-tax Return on Net Worth [?]	19.89%	20.19%	22.41%
Interest Coverage [?]	8.28	8.74	8.40
Current Liabilities to Net Worth [?]	.54	.51	.55
Long Term Liabilities to Net Worth [?]	1.07	0.98	1.06
Total Liabilities to Net Worth [?]	1.61	1.49	1.61
<i>Number of Firms Analyzed</i>	<i>13,529</i>	<i>10,116</i>	<i>7,270</i>

Income Statement (US Healthcare Sector, Industry-wide)

ITEM	2018-19	2019-20	2020-21
Revenue	100.0%	100.0%	100.0%
Cost of Sales	33.92%	32.11%	33.28%
Gross Margin	66.08%	67.89%	66.72%
Officers Compensation	5.69%	5.37%	5.94%
Salaries-Wages	21.35%	21.93%	21.67%
Rent	3.03%	3.16%	3.11%
Taxes Paid	2.45%	2.52%	2.45%
Advertising	0.43%	0.45%	0.46%
Benefits-Pensions	2.57%	2.63%	2.65%
<i>Number of Firms Analyzed</i>	<i>13,529</i>	<i>10,116</i>	<i>7,270</i>

ITEM	2018-19	2019-20	2020-21
Repairs	0.74%	0.75%	0.75%
Bad Debt	1.41%	1.46%	1.55%
Other SG&A Expenses	12.92%	14.39%	12.69%
EBITDA	15.49%	15.23%	15.45%
Amortization-Depreciation	4.02%	3.76%	3.93%
Operating Expenses	54.61%	56.42%	55.2%
Operating Income	11.47%	11.47%	11.52%
Interest Expense	2.5%	2.31%	2.26%
Other Income	-0.24%	-0.16%	-1.99%
Pre-tax Net Profit	9.21%	9.32%	11.25%
Income Tax	0.13%	0.12%	-0.26%
After Tax Net Profit	9.08%	9.2%	11.51%
<i>Number of Firms Analyzed</i>	<i>13,529</i>	<i>10,116</i>	<i>7,270</i>

Balance Sheet (US Healthcare Sector, Industry-wide)

ASSETS	2018-19	2019-20	2020-21
Cash	24.83%	25.9%	35.32%
Receivables	11.77%	11.65%	8.35%
Inventory	1.32%	1.31%	1.08%
Other Current Assets	3.37%	3.57%	2.93%
Total Current Assets	41.28%	42.43%	47.68%
Net Fixed Assets	37.05%	36.5%	30.8%
Net Intangible Assets	10.32%	8.35%	11.76%
Other Non-Current Assets	11.35%	12.71%	9.76%
<i>Total Assets</i>	<i>100.0%</i>	<i>100.0%</i>	<i>100.0%</i>
LIABILITIES			
Accounts Payable	4.92%	4.61%	3.4%
Loans/Notes Payable	14.59%	12.79%	16.05%
Other Current Liabilities	17.97%	18.44%	16.36%
<i>Number of Firms Analyzed</i>	<i>13,529</i>	<i>10,116</i>	<i>7,270</i>

LIABILITIES

Total Current Liabilities	37.48%	35.84%	35.81%
Total Long Term Liabilities	39.1%	36.48%	45.43%
Total Liabilities	76.58%	72.32%	81.24%
Net Worth	23.42%	27.68%	18.76%
Total Liabilities & Net Worth	100.0%	100.0%	100.0%
<i>Number of Firms Analyzed</i>	<i>13,529</i>	<i>10,116</i>	<i>7,270</i>

Vertical IQ financial benchmark data is based on data provided by the Risk Management Association (RMA) and Powerlytics, Inc. RMA's Annual Statement Studies provide comparative industry financial benchmarks based on financial statements of small and medium business clients of RMA's member institutions. Additional detail on income statement line items is provided using Powerlytics financial benchmarks, which are based on reporting submitted to the IRS. Additional detail on these data sources can be found at [RMA](#) and [Powerlytics](#).

Quarterly Insight

4th Quarter 2021

Antiviral Drugs Poised for FDA Emergency Use Approval

Some health experts suggest new antiviral drugs will be valuable tools in fighting COVID-19. Pharmaceutical firms Merck and Pfizer have developed antiviral pills that interfere with viral replication and reduce the severity of disease. The Merck pill reduced hospitalizations and deaths by 30% when taken within the first five days of symptoms. Pfizer's medication reduced hospitalizations and deaths by nearly 90% when taken within the first three days of symptoms. Both treatment regimens require a total of 30-40 pills taken over five days. As of early December, the Merck and Pfizer drugs were awaiting emergency use authorization by the FDA.

3rd Quarter 2021

Pandemic's Effects to Be Felt For Decades

The effects of the COVID-19 pandemic on the US healthcare system are not yet fully calculated, but they are expected to persist for years, according to analysis by Fitch Ratings. In the early summer it seemed as if the pandemic's end could be in sight, but rising cases of the more contagious Delta variant hit many hospitals hard, especially in areas of the country with low vaccination rates. The current vaccines protect well against coronavirus, but their effectiveness on possible future mutations is unknown. The current wave of hospitalizations is also leading to patients postponing elective and routine care which is expected to have long-term ramifications for the healthcare system. Patients with long-haul COVID-19 symptoms will also increase long-term utilization of the healthcare system and push costs up. Burnout among hospital staff in hard-hit areas will likely exacerbate labor shortages and put upward pressure on wages, contributing further to hospitals' rising costs. Large, for-profit hospital systems so far seem to be withstanding the hardships of the pandemic, but smaller systems and hospitals are likely to face significant financial challenges.

Sector Terms

Ambulatory Care

Care provided outside of a hospital

Capitated Contracts

Healthcare plan that pays a flat fee for each patient covered to a provider

CMS

Centers for Medicare and Medicaid Services

CON

Certificate of Need, required by some states before a new medical facility can be built

CPT

Procedure codes used by Medicare to determine reimbursement for medical services

EHR

Electronic Health Records

EMR

Electronic Medical Records

Episode

Defined by Medicare as a 60-day period - a patient may receive multiple visits within a single episode

Fee-for-service

The reimbursed or out-of-pocket price for medical consultation or treatment

Gross Charges

Total amount charged to a payer for a surgery or procedure

HIE

Health Information Exchange, State-sponsored networks to share patient data

ICD-9 or ICD-10

Diagnostic codes used by Medicare to determine reimbursement for medical services

MCO

Managed Care Organization

Meaningful Use

Standards for use of an EHR system to qualify for federal funding

MedPAC

Medicare Payment Advisory Committee

Participating Bond Transaction (PBT)

Financing for hospital-and-physician-group joint ventures

PCMH

Patient-Centered Medical Home, a set of standards to improve primary care

PPACA

Patient Protection and Affordable Care Act. Also known as "Healthcare Reform" or "Obamacare"

Prospective Payment Systems (PPS)

Outlines predetermined base payments for services

Reimbursement Rate

Amount paid by Medicare, Medicaid, or insurance companies for patient services

RVU – Relative Value Unit

A measure used by Medicare to determine physician compensation for a particular service

Stark Law

Federal law that prohibits self-referral by physicians to ancillary medical facilities in which they have a financial interest

Web Links

[Agency for Healthcare Research and Quality](#)

Research site for the US Department of Health & Human Service

[American Medical Association](#)

News and education

[Medical Group Management Association](#)

Research and education from association of practice administrators

[Modern Healthcare](#)

News and business issues for healthcare executives

[National Center for Health Statistics](#)

Statistics on all aspects of US healthcare

[Centers for Disease Control and Prevention](#)

Statistics on nursing homes

[McKnights Long Term Care News](#)

News and trends

[MedPAC](#)

News, trends, analysis from Medicare Payment Advisory Commission

Related Profiles

US Construction Sector

NAICS: 23 SIC: 15, 16,17

US Manufacturing Sector

NAICS: 31-33 SIC: 20-39

US Mining and Energy Extraction Sector

NAICS: 21 SIC: 10, 12, 13, 14

US Retail Sector

NAICS: 44, 45 SIC: 52, 53, 54, 55, 56, 57, 59

US Wholesale Sector

NAICS: 42 SIC: 50xx, 51xx

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