

ACEC Private Industry Brief

Health Care & Science+Technology

Spring 2022

Market Scope

For engineering firms, the health care (HC) and science+technology (S+T) markets are substantial with \$51 billion in HC construction estimated for 2022, according to FMI. There are more than 600 health care systems and 6,000 hospitals in the U.S. (source: American Hospital Association and the U.S. Agency for Healthcare Research and Quality). In addition to hospitals, facility types include outpatient centers and medical office buildings (MOBs), as well as laboratory, production and administrative space for pharmaceutical, biotechnology, and university clients. A wide range of engineering services are provided to these clients, often with specialized needs related to mechanical/electrical, HVAC, and commissioning.

Top Clients

The list below features the top 10 largest health systems, ranked by their number of hospitals. All of these systems also include other facility types that serve outpatient needs and support services. The list notes the headquarters location for each system.

1. **HCA Healthcare** Nashville, TN: 184 hospitals
2. **Veterans Health Administration** DC: 151 hospitals
3. **Ascension** St. Louis, MO: 139 hospitals
4. **CommonSpirit Health** Chicago, IL: 137 hospitals
5. **Trinity Health** Livonia, MI: 92 hospitals
6. **Community Health Systems** Franklin, TN: 84 hospitals
7. **LifePoint Health** Brentwood, TN: 84 hospitals
8. **Tenet Healthcare** Dallas, TX: 65 hospitals
9. **Post Acute Medical Health** Enola, PA: 64 hospitals
10. **Christus Health** Irving, TX: 60 hospitals

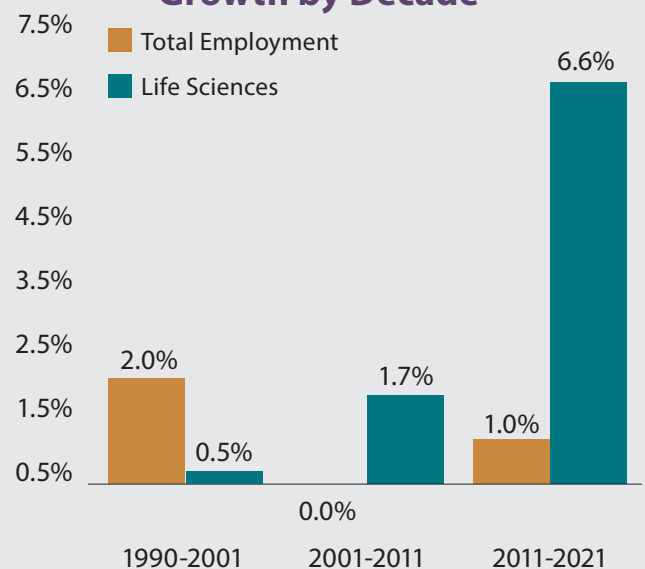
Source: Becker's Hospital Review

5 Current Market Trends

- ▶ **1. A Recession-Proof Market with Labor Constraints:** Even before the global COVID-19 pandemic began in early 2020, the health care and life sciences industries were considered by many analysts over the last two decades to be 'recession proof' due to driving demand and the necessity of services connected to this market (see *employment table below*). That trend has only accelerated in the last few years, and having modern facilities for those who work in the health care and life sciences industries is key—as many employees cannot work remotely, and competition for labor is fierce. The front-line health-care worker shortage and turnover has been greatly impacted by the pandemic, with 62% of workers reporting that worry or stress has had a negative impact on their mental health, according to the American Hospital Association.

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Life Sciences Employment Growth by Decade



Source: U.S. Bureau of Labor Statistics, Cushman & Wakefield

Current Market Trends, *continued*

▶ **2. VC Investment in Life Sciences Surges, Facilities are in High Demand:**

Venture capital (VC) continues to pour into the life sciences sector, reaching \$36.1 billion in 2020, a 482% increase in 15 years (see table below). According to Colliers nearly 60% of all VC deals benefit companies in the Greater Boston and San Francisco Bay areas—the two largest life science clusters nationwide. This wave of capital drives real estate markets and developers are building to suit this market, or even transforming existing office buildings when feasible. A recent report by commercial real estate firm CBRE showed that in the Boston-Cambridge market life sciences space vacancy was 1.1% with office space at 12.7%; in the San Francisco Bay area the story was the same, with 2.6% life sciences vacancy, compared to 14.8% for office space (Q3 2021).

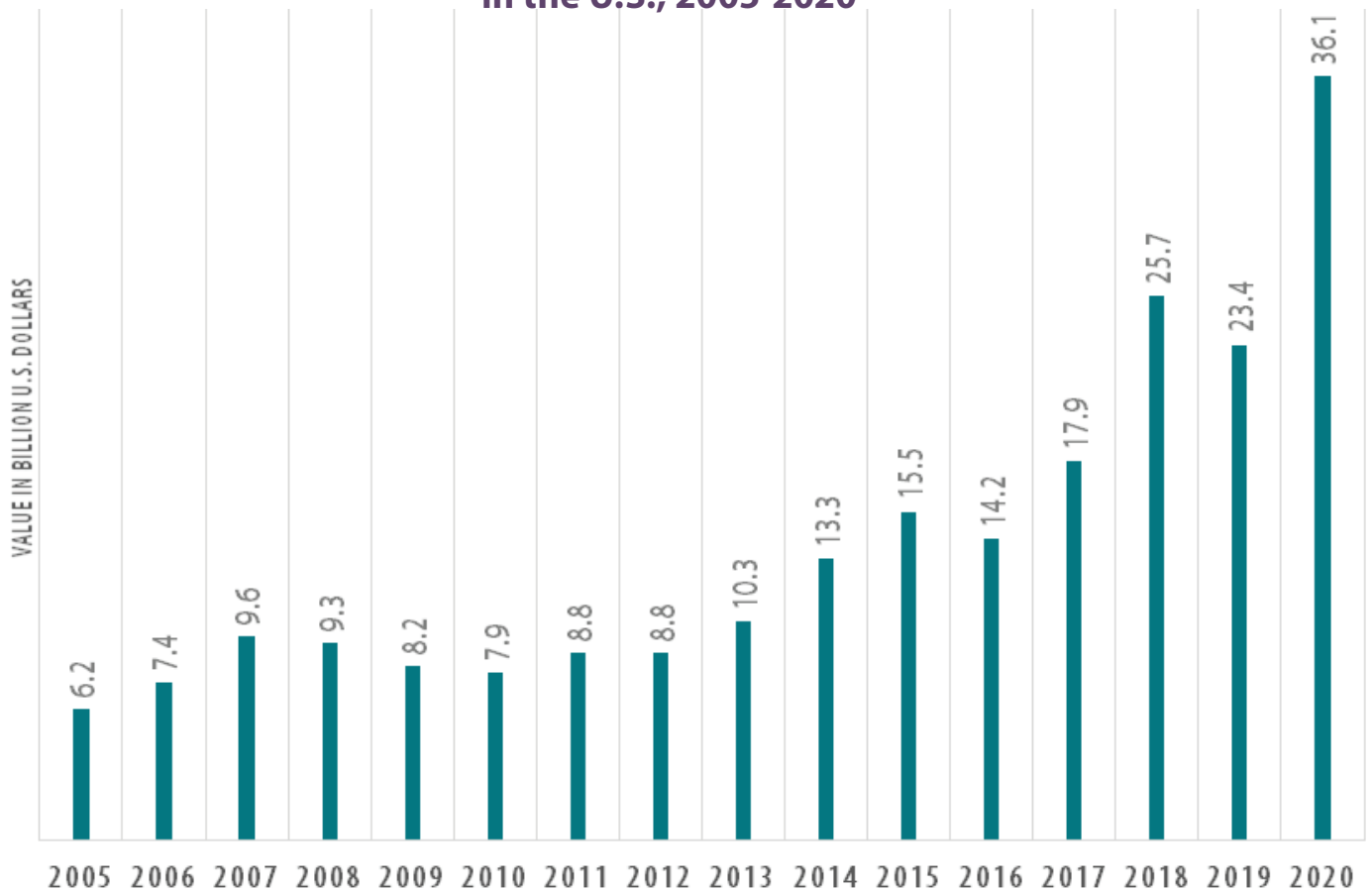
▶ **3. Telehealth Leaps Forward:** The need to social distance during the pandemic created a huge and sudden market for telehealth patients during 2020. Long embraced by health care systems and doctors—who saw telehealth as a way to reach underserved and rural patients—it is also a

cost-effective practice. During the height of the COVID-19 pandemic patients were quick to embrace telehealth out of necessity. A 2021 paper by McKinsey & Company details that in February 2021 telehealth use was 38 times higher than pre-pandemic.

▶ **4. Focus on Energy Efficiency and Decarbonization:** Hospitals typically use three times the energy of other commercial buildings and, according to Energy Star, health care organizations spend over \$6.5 billion on energy each year. By adopting energy-efficient strategies, health care facilities can save money, meet carbon emission goals, and improve the air quality of communities—furthering commitments to public health.

▶ **5. Demographics Support Continued Growth:** By 2030 all Baby Boomers will be age 65 or older. At an estimated 73 million, according to the U.S. Census Bureau, this generation is the second-largest age group after Millennials. With people 65 and older visiting the doctors 2.5x more than those age 25-44 (source: Marcus & Millichap Research Services) the need for facilities will continue to grow in large part due to demographics.

Venture Capital Invested in Life Sciences in the U.S., 2005-2020



Source: Statista

IIJA: Relevant Funding

On November 15, 2021, President Biden signed into law H.R. 3684, the Infrastructure Investment and Jobs Act (IIJA). The bipartisan IIJA, enthusiastically supported by ACEC, presents a rare opportunity for advancement of sustainable infrastructure by undertaking an unprecedented level of transportation, energy, water, and environmental investments. These programs will produce benefits for decades to come. Detailed below are aspects of the bill which potentially impact the HC & S+T market throughout the United States.

- ▶ **Power and Grid, \$65 B:** Funds grid reliability and resiliency, including support for a new federal entity called the Grid Deployment Authority; critical minerals and supply chains for clean energy technology; key technologies related to carbon capture, hydrogen, direct air capture, and energy efficiency; and energy demonstration projects detailed in the bipartisan Energy Act of 2020.
- ▶ **Broadband, \$65 B:** Funds grants to states for broadband deployment; expansion of private activity bond projects to include broadband infrastructure; and support for middle-mile deployment efforts.
- ▶ **Water Infrastructure, \$55 B:** Includes \$23.4 B in funds for the bipartisan Drinking Water and Wastewater Infrastructure Act of 2021. Also included is \$15 B for lead service line replacement and \$10 B to address Per- and Polyfluoroalkyl Substances (PFAS).
- ▶ **Resiliency, \$47.2 B:** Funds cybersecurity to address critical infrastructure needs; waste management; flood and wildfire mitigation; drought; coastal resiliency; ecosystem restoration; heat stress; and weatherization.
- ▶ **Legacy Pollution, \$21 B:** Funds clean up of brownfield and superfund sites; reclaim abandoned mine lands; plug orphan oil and gas wells; and improve public health.
- ▶ **Western Water Infrastructure, \$8.3 B:** Funds Bureau of Reclamation western water infrastructure, including for aging infrastructure; water storage; water recycling and reuse; waterSMART; and drought contingency plans.
- ▶ **Electric Vehicle Charging, \$7.5 B:** Funds alternative fuel corridors and to build out a national network of electric vehicle charging infrastructure to facilitate long-distance travel and to provide convenient charging where people live, work, shop, and receive health-care services.

Business Development Insight

Track the firms and institutions investing in research and development

Tracking funding to research institutions, along with the research and development (R&D) spending at biopharma companies, offers insights into which organizations may be upgrading and expanding laboratory, medical, and administrative spaces.

The first table below shows the top 10 research institutions that received National Institutes of Health (NIH) funding in FY 2021.

The second table lists the top 10 biopharma companies that invested in R&D (which is not the 10 largest by sales or revenue). Institutions and companies investing in their futures are also investing in their facilities.

Rank	Research Institute	2021 NIH Funding
1	Johns Hopkins University (MD)	\$824.86 M
2	New York University School of Medicine	\$809.31 M
3	Duke University (NC)	\$731.24 M
4	University of California, San Francisco	\$709.02 M
5	Leidos Biomedical Research, Inc. (MD)	\$653.18 M
6	University of Pennsylvania	\$641.79 M
7	Washington University (MO)	\$623.44 M
8	Stanford University (CA)	\$611.35 M
9	University of Michigan at Ann Arbor	\$609.04 M
10	Massachusetts General Hospital	\$600.67 M

Source: National Institutes of Health

Rank	Biopharma Company (Headquarters)	2020 R&D Spend
1	Roche (Basel, Switzerland)	\$11.301 B
2	Johnson & Johnson (New Brunswick, NJ)	\$9.563 B
3	Bristol Myers Squibb (New York, NY)	\$9.237 B
4	Merck & Co. (Kenilworth, NJ)	\$9.231 B
5	Pfizer (New York, NY)	\$8.884 B
6	Novartis (Basel, Switzerland)	\$8.484 B
7	GlaxoSmithKline (Brentford, England)	\$5.908 B
8	Sanofi (Paris, France)	\$5.890 B
9	AbbVie (North Chicago, IL)	\$5.830 B
10	Takeda (Osaka, Japan)	\$4.393 B

Source: Pharmaceutical Executive Magazine

Top 10 Life Science Clusters



■ Top 10 Largest Life Science Clusters

Source: JLL

New ACEC Book Explores Climate Change, Built Environment

ACEC has just published ***Climate Change and the Built Environment***. Edited by Patricia Gary and Lisa Churchill, and authored entirely by women, this book is a resource for design professionals, owners, lawyers, contractors, and construction industry stakeholders—or anyone seeking to understand the complex problem of climate change and the built environment. The authors provide practical guidance and vital industry information and expertise, including design strategies for mitigation and adaptation, new project approaches, contracting practices, and legal and insurance insights. Topics also include the next evolution of building, from green and smart to resilient; climate adaptive stormwater management; and looking ahead to designing a resilient future.

To order, visit: <https://education.acec.org/diweb/catalog/item?id=8387708>

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