

ACEC Private Industry Brief

Health Care & Science+Technology

Winter 2020

Market Scope

For engineering firms, the health care (HC) and science+technology (S+T) markets are large with \$45 billion in HC construction estimated for 2020, 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: 185 hospitals
2. **Ascension Health** St. Louis, MO: 151 hospitals
3. **CommonSpirit Health** Chicago, IL: 142 hospitals
4. **Community Health Systems** Franklin, TN: 105 hospitals
5. **Trinity Health** Livonia, MI: 92 hospitals
6. **LifePoint Health** Brentwood, TN: 86 hospitals
7. **Tenet Healthcare** Dallas, TX: 65 hospitals
8. **Vibra Healthcare** Mechanicsburg, PA: 65 hospitals
9. **Providence St. Joseph Health** Renton, WA: 51 hospitals
10. **Atrium Health** Charlotte, NC: 50 hospitals

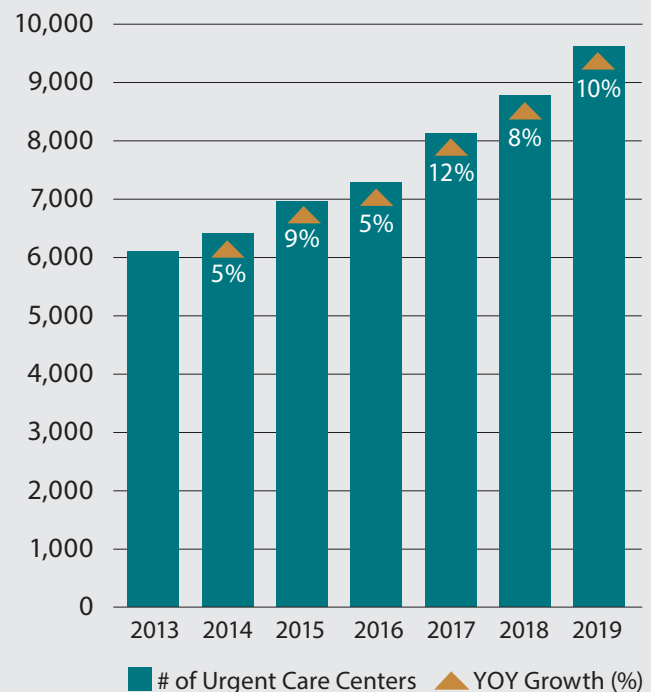
Source: Becker's Hospital Review

5 Current Market Trends

- ▶ **1. Outpatient-Focused Facility Growth:** Health care facilities continue the trend of dramatic decentralization away from hospitals and inpatient settings. As the number of hospitals continues to decline, there has been a dramatic surge in outpatient facilities—which serve a wider variety of treatments than ever before. These properties include urgent care centers (UCCs), which are defined as medical clinics with extended hours that are equipped to diagnose and treat a broad number of non-life or limb-threatening conditions. The chart below shows the dramatic increase in UCCs.

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Number of Urgent Care Centers



Source: Urgent Care Association

Current Market Trends, *continued*

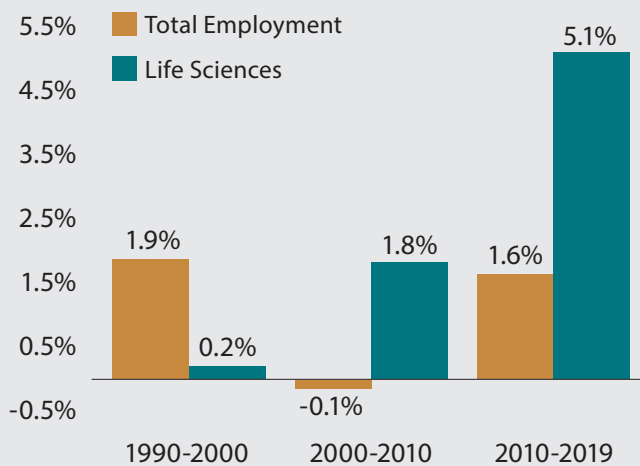
These UCCs are filling a gap created by the nationwide closure of many rural hospitals. UCCs have experienced an 18x increase from 2006-2016, according to a March 2018 FAIR Health white paper. The strong growth of UCCs is expected to continue, as government-allowed healthcare reimbursements continue to favor outpatient over inpatient treatments. Besides UCCs, ambulatory surgery centers have grown 82 percent since 2000, while hospitals declined five percent during the same period, according to the American Hospital Association. These centers average 15,500 square feet, housing multiple operating rooms. For less serious medical needs, patients are turning to the growing "medtail" outlets in existing retail establishments. These facilities include the growing CVS Minute Clinics and new HealthHUBs, Kroger Little Clinics, Walgreens Health Care Clinics, and Walmart Care Clinics.

- ▶ **2. Employment Surging in Health Care and Life Science Sectors:** Healthcare and social assistance jobs grew 23% between 2008-2018, and the medical sector is the largest employer in the U.S., at just over 13 percent of the workforce, according to the U.S. Bureau of Labor Statistics. Life sciences employment—which includes those in the biotechnology, pharmaceutical, biomedical device, genetics/genomes and research and development (R&D) sectors, has consistently outpaced total employment growth since 2000 (*see chart below*). These sectors are considered "recession resistant" by many economists, and that theory is backed up by employment changes during the recent recessions of 2001 and 2007-2009 (*see chart bottom right*). Unlike employees in other

market sectors, employees in HC and life sciences often cannot telework due to the nature of their jobs, so growth in demand for new facilities correlates strongly to the growth in employment.

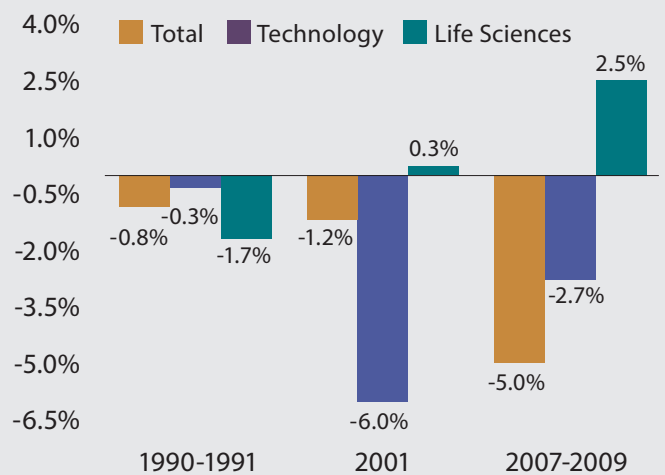
- ▶ **3. VC Funding Spikes:** Besides National Institutes of Health (NIH) grants and corporate R&D spending (*for more on these, see tables on page 3*) the third significant funding stream for R&D and capital spending comes from venture capital (VC) funding. VC funding grew to an impressive \$17.4 billion in 2019, from just \$3.7 billion in 2008 (source: Pitchbook and Cushman & Wakefield). For more on what geographic markets this funding impacts, see page 4.
- ▶ **4. CRE Developers are Creating Life Science Divisions:** Recognizing the growth in the HC and S+T markets, many commercial real estate (CRE) firms have begun creating specialized groups and funding to focus on developing laboratory space and incubators for emerging companies—often in former office buildings requiring substantial renovations. Examples include Tishman Speyer, Bellco Capital, Thor Equities, and MLP Ventures, according to *Commercial Property Executive* magazine.
- ▶ **5. Demographics Support Continued Growth:** The U.S. Census Bureau predicts that by 2030 the median age in the U.S. will top 40 for the first time ever as baby boomers age. 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. The top five metropolitan areas the U.S. Census expects 65+ age growth to be strongest in the coming years are: 1. Austin, TX; 2. Orlando, FL.; 3. Raleigh, NC; 4. Las Vegas, NV; and 5. Dallas, TX.

Life Sciences Employment Growth by Decade



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

Employment Change in Recessions



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

Government Affairs Action

Properties connected to the HC and S+T industries are part of the larger commercial real estate and 'vertical' markets that ACEC monitors and advocates for as part of its government affairs mission. Issues and recent actions affecting this market include the following:

- ▶ **Private Activity Bonds:** ACEC is working with stakeholders to advance the Public Buildings Renewal Act (H.R. 1251/S. 932) legislation to create \$5 billion in private activity bonds to support the design and construction of hospitals, schools, courthouses, libraries, city halls, law enforcement facilities, universities and other public and institutional buildings.
- ▶ **Energy Tax Incentives:** In December of 2019, Congress extended key energy tax incentive provisions that had expired, both retroactively for 2018 and 2019, and prospectively for 2020. These include the extension of the Section 179D energy-efficient commercial buildings tax deduction, an incentive for the installation of energy-efficient lighting, HVAC systems and building envelopes; and the Section 45 production tax credit for renewable energy. These energy tax provisions, along with a number of other tax measures, were key advocacy issues during the 2019 ACEC Annual Convention and Legislative Summit.

▶ **Additional ACEC Advocacy Efforts Related to the Health Care & S+T Market:**

✓ **WOTUS Redefinition:** ACEC successfully advocated for the repeal (which was announced by the U.S. Environmental Protection Agency and Dept. of the Army on September 12, 2019), and subsequent revision of the 2015 "Waters of the United States" (WOTUS) definition, which expanded what was considered a wetland and would have caused needless complications in permitting processes. The finalized redefinition was pre-published on January 23, 2020 and will become effective 60 days after publication in the Federal Register.

✓ **Permitting Improvements:** ACEC filed comments in March of 2020 supporting the White House Council on Environmental Quality's proposed rulemaking that proposes efficient, well-informed and timely federal decision making under the National Environmental Policy Act.

✓ **More Funding for Superfund & Brownfield Redevelopment:** ACEC supports stable funding so properties can be restored for productive commercial development.

✓ **Support for the NFIP:** Long-term reauthorization and reform of the National Flood Insurance Program (NFIP), including expansion of private-market protections, is important since flooding is the most impactful natural disaster type in the United States.

Business Development Insight

Track the firms and institutions investing in research and development

To better understand which HC institutions and biopharma firms may need upgraded or expanded laboratory, medical and administrative spaces, tracking which universities and hospitals are getting grant funding and what firms are investing in research and development (R&D) provides insight.

The first table below shows the top 10 universities whose medical schools received National Institutes of Health (NIH) funding in 2018. 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.

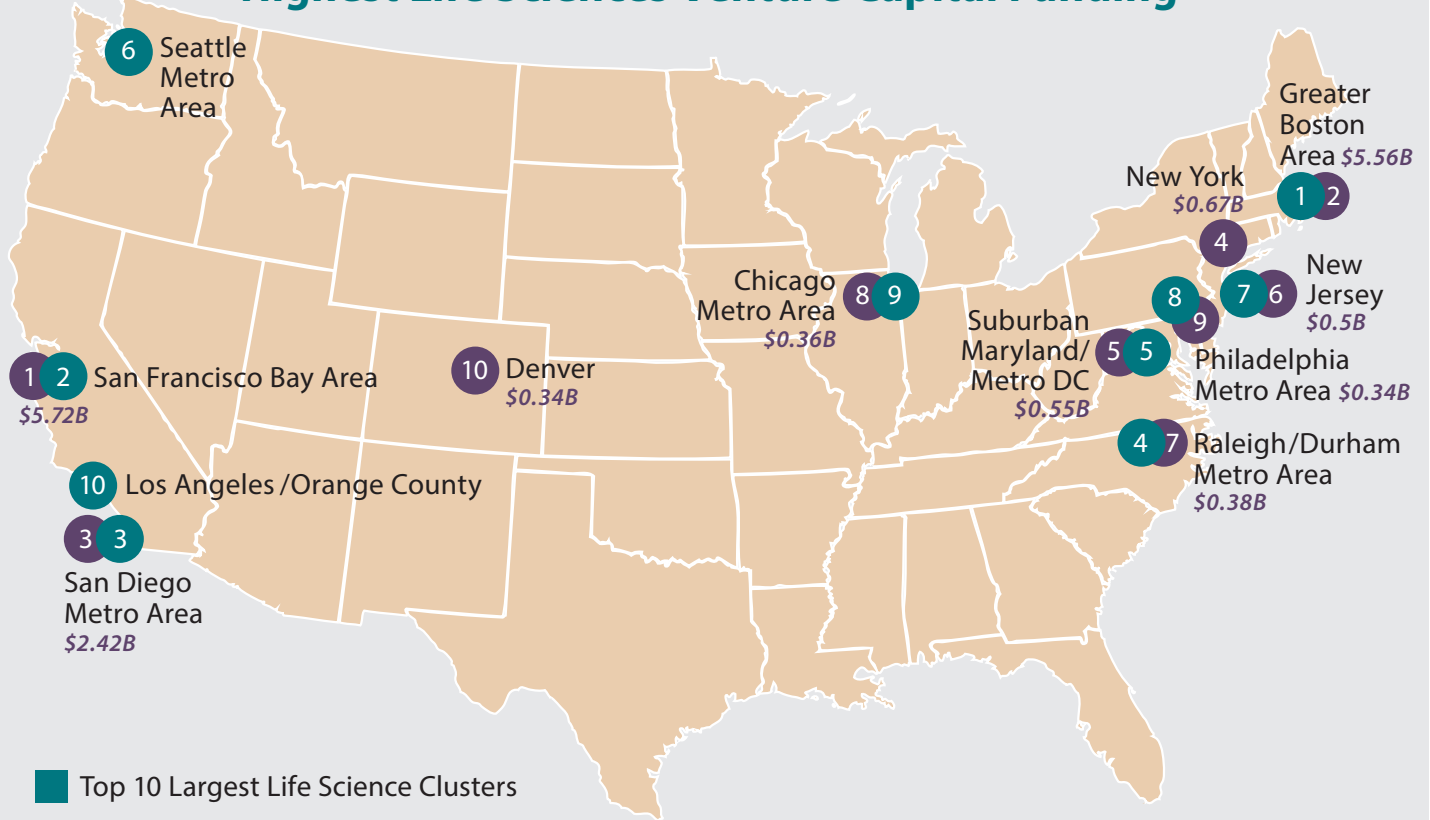
Rank	University Medical Schools	2018 NIH Funding
1	University of California, San Francisco	\$577.72 M
2	Johns Hopkins University (MD)	\$469.64 M
3	Stanford University (CA)	\$456.27 M
4	Washington University (MO)	\$449.34 M
5	University of Pennsylvania	\$425.23 M
6	University of Pittsburgh (PA)	\$415.67 M
7	Yale University (CT)	\$407.46 M
8	Columbia University (NY)	\$407.42 M
9	Duke University (NC)	\$384.59 M
10	University of Michigan, Ann Arbor	\$372.60 M

Source: Blue Ridge Institute for Medical Research

Rank	Biopharma Company (Headquarters)	2018 R&D Spend
1	Roche (Basel, Switzerland)	\$9.803 B
2	Johnson & Johnson (New Brunswick, NJ)	\$8.446 B
3	Novartis (Basel, Switzerland)	\$8.154 B
4	Pfizer (New York, NY)	\$7.962 B
5	Merck & Co. (Kenilworth, NJ)	\$7.908 B
6	Sanofi (Paris, France)	\$6.227 B
7	AbbVie (North Chicago, IL)	\$5.093 B
8	GlaxoSmithKline (Brentford, England)	\$4.987 B
9	Gilead Sciences (Foster City, CA)	\$3.897 B
10	Amgen (Thousand Oaks, CA)	\$3.657 B

Source: Pharmaceutical Executive Magazine

Top 10 Life Science Clusters & Regions with Highest Life Sciences Venture Capital Funding



Source: JLL, Statista

VC Funding Concentrated in Massachusetts and California

Although VC funding reached a peak in 2019 of \$17.4 billion (as discussed in trend #3, page 2) the funding and its resulting benefits are highly concentrated geographically. More than half of all VC funding goes to just the top two life science cluster markets of Boston and San Francisco. When factoring in the third market, San Diego, that translates to more than 80% of annual VC funding going to just two states: Massachusetts and California.

A life science cluster is a metropolitan region with a high density of life sciences employment and an R&D ecosystem of professionals employed not only by private companies, but also by leading academic research centers. Life science clusters are often located in regions also known for being high-tech employment centers.

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Further coverage can be found in *Engineering Inc.*'s regular column "The Private Side" as well as ACEC's quarterly economic reviews.

