

# ACEC Private Industry Brief

## Health Care & Science+Technology

Spring 2023

### Market Scope

For engineering firms, the health care (HC) and science+technology markets are substantial with \$56 billion in HC design and construction estimated for 2023, according to FMI. There are 417 health care systems and 6,093 hospitals in the U.S. (Source: *American Hospital Association*.) Trends impacting the market include accelerated inventory growth in the life sciences sector, record-setting NIH funding, decarbonizing health systems, the prominence of telehealth, and a decline in VC investment. These trends create new design opportunities and challenges for engineering firms including specialized needs related to mechanical/electrical, HVAC, and commissioning services.

### Top Clients

The list below features the top 10 largest health systems by headquarters in 2023, ranked by number of hospitals. These systems include outpatient and other types of support service facilities.

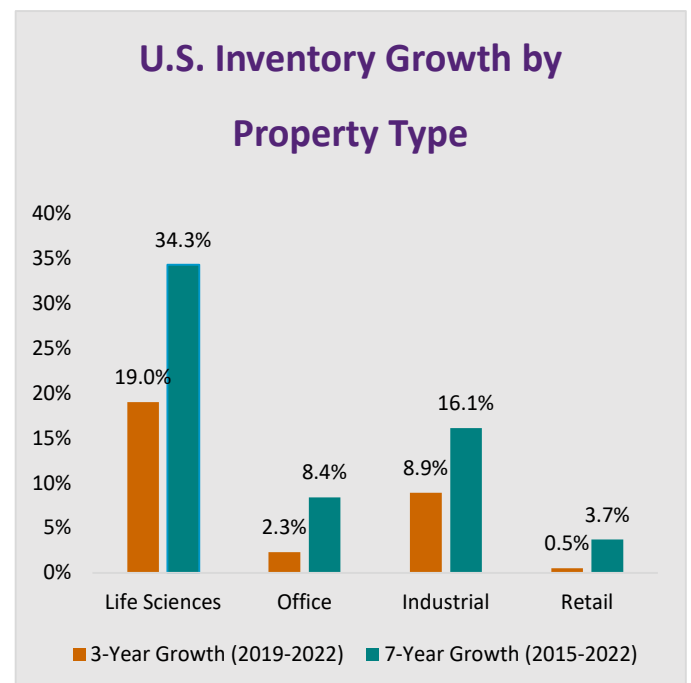
1. **HCA Healthcare** Nashville, TN: 182 hospitals
2. **Veterans Health Administration** DC: 171 hospitals
3. **CommonSpirit Health** Chicago, IL: 140 hospitals
4. **Ascension** St. Louis, MO: 139 hospitals
5. **Trinity Health** Livonia, MI: 88 hospitals
6. **LifePoint Health** Brentwood, TN: 84 hospitals
7. **Community Health Systems** Franklin, TN: 79 hospitals
8. **Advocate Health** Charlotte, NC: 67 hospitals
9. **Tenet Healthcare** Dallas, TX: 61 hospitals
10. **Christus Health** Irving, TX: 60 hospitals

Source: *Becker's Hospital Review 2023*

### 5 Current Market Trends

- ▶ **1. Life Sciences Experiences Accelerated Growth:** For the last decade, the life sciences market outpaced all other major commercial real estate (CRE) asset types in total U.S. inventory growth. According to a report from Cushman and Wakefield, total inventory for life sciences grew 34% over the course of seven years, between 2015 and 2022 and grew 19% over the last three years from 2019 to 2022. (See chart below for CRE asset class comparison.) This accelerated growth can be attributed to the aging population group over 65-years and the COVID-19 pandemic. The demand has translated into significant growth opportunities for engineering and construction firms.

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Source: *Cushman & Wakefield*

## Current Market Trends, *continued*

- **2. NIH Funding Hit 7-Year Record High:** National Institutes of Health (NIH) funding hit a new record in 2022 at \$36.7 billion, a 2.7% year-over-year (YoY) increase. This was the seventh year in a row that funding hit a new all-time high. Fifty percent of funding for life sciences markets are sourced from NIH. Between 2018 and 2022, Boston received \$14.8 billion; New York City, \$12.2 billion; and Baltimore-Suburban, Maryland, \$9.7 billion. The top systems to receive NIH awards for 2022 included Johns Hopkins University, \$840 million; the University of California, \$824 million; and the University of Pittsburgh, \$675 million. (See chart below for NIH award recipients and the map on page 4.)

Rank	Top NIH Award Recipients 2022	Award
1	Johns Hopkins University (Baltimore, MD)	\$840 M
2	University of California (San Francisco, CA)	\$824 M
3	University of Pittsburgh (Pittsburgh, PA)	\$675 M
4	Duke University (Raleigh-Durham, NC)	\$673 M
5	University of Pennsylvania in Philadelphia (Philadelphia, PA)	\$669 M

Source: U.S. National Institutes of Health, Cushman & Wakefield

- **3. U.S. Health Systems Focus on Reducing Carbon Emissions:** The U.S. Department of Energy has set health care sector priorities through its Better Buildings program. According to the Better Buildings Solution Center, "the U.S. healthcare system contributes 10% of the nation's carbon emissions and 9% of harmful non-greenhouse air pollutants." Therefore, the program brought together health care partners to collectively improve the systems while decarbonizing their footprint.

### Here are a few examples of health systems who committed to energy efficient designs:

- Kaiser Permanente First Medical Center Microgrid (CA); connects renewable energy and battery storage, saving \$394k annually.
- Gundersen Health Parking Ramp Solar Array (WI); one of the first LEED certified parking structures to use 100% renewable energy.

- **4. Telehealth Usage Remains Above Pre-COVID Numbers:** A survey of 28-30 million participants, in

2019 reported that 1% of participants participated in telehealth. In 2020 that number surged to 44%, and in Q1-Q3 of 2021 usage dropped to just 28%. During the same 2021 quarterly reported period, 27% of those visits were for behavioral health, a 19% increase in 2020. Telehealth was also utilized at a higher rate in urban areas where population density was higher. This survey was conducted by the Bipartisan Policy Center.

- **5. Venture Capital Funding Declines Amid Banking Headwinds:** Life sciences venture capital (VC) funding in North America hit a record high of \$49 billion in 2021, but funding dropped 40% in 2022 YoY. (See chart below.) Private equity (PE) funding also dropped 24% YoY to \$37.3 billion. Global VC and Initial Public Offering (IPO) funding also dropped 45% to \$66.6 billion in 2022. (Source: Pitchbook Data.) Overall, VC funding fell on a YoY basis in 2022 due to bank failures, volatile market conditions, and rising interest rates. The sector faces additional risk in 2023 as several biotech companies had investments and ties with the recent bank failures. Some markets are faring better than others including the San Francisco Bay area which has seen a 32% increase in VC funding. New Jersey saw a 76% increase and the Raleigh-Durham area reported being up 36% in 2022. (Source: Cushman & Wakefield. See map on page 4.)



Source: Cushman & Wakefield

## Government Affairs Action

► **Inflation Reduction Act:** The Inflation Reduction Act (IRA) made several modifications to the energy-efficient commercial buildings tax deduction in Section 179D. One key change supported by ACEC is an expansion of the allocation provision. Previously, only governmental entities could allocate the deduction to the primary designer of the energy-efficient systems. The IRA expanded the allocation provision to nonprofit entities, which will include non-profit hospitals and universities.

► **Pandemic Relief Funding:** Pandemic relief funding is available at the state and local level. According to a McKinsey report, the CDC listed the following by grant type, the amount allocated in billions, and expiration date:

- Epidemiology and lab enhancing and expansion; \$29 billion, expires 2024
- Strengthening U.S. public health infrastructure workforce and data systems, \$4 billion, expires 2027
- Crisis response cooperative agreement workforce, \$2 billion, expires 2023
- National initiative to address COVID-19 health disparities, \$2 billion, expires 2023
- Accelerating data modernization, \$.2 billion, expires 2024

► **FY2023 NIH Funding Increase:** In December 2022 NIH FY2023 finalized appropriations which enacted \$47.68 billion. This is a \$3 billion increase from the prior year and will be available until the end of 2025. The increase is due to underfunding in the prior year, under the “Pandemic Preparedness proposal” and ARPA-H, which focuses on biomedical research.

► **Public Health Emergency Set to End:** According to the U.S. Department of Health & Human Services the COVID-19 Public Health Emergency (PHE), declared under Section 319 of the Public Health Service (PHS) Act was slated to end on May 11, 2023, with daily reported cases down 92%, COVID related deaths down by more than 80% and related hospitalizations down 80%.

According to the Federation of State Medical Boards and the Bipartisan Policy Center, during the PHE states, allowed for physicians to practice across state lines providing areas with smaller population density to access critical health care services. This allowed for a temporary revision to the rule that a physician had to be licensed in the state where the patient was located. This was expected to change after May 11.

## Business Development Insight

### *“Vertical Villages,” the next trend in health care design*

According to a recent article titled *“Why vertical hospitals might be the next frontier in healthcare design”* by Building Design + Construction, “as cities densify, land values increase and the need for outpatient care services rise, hospitals are increasingly challenged to find space to expand.”

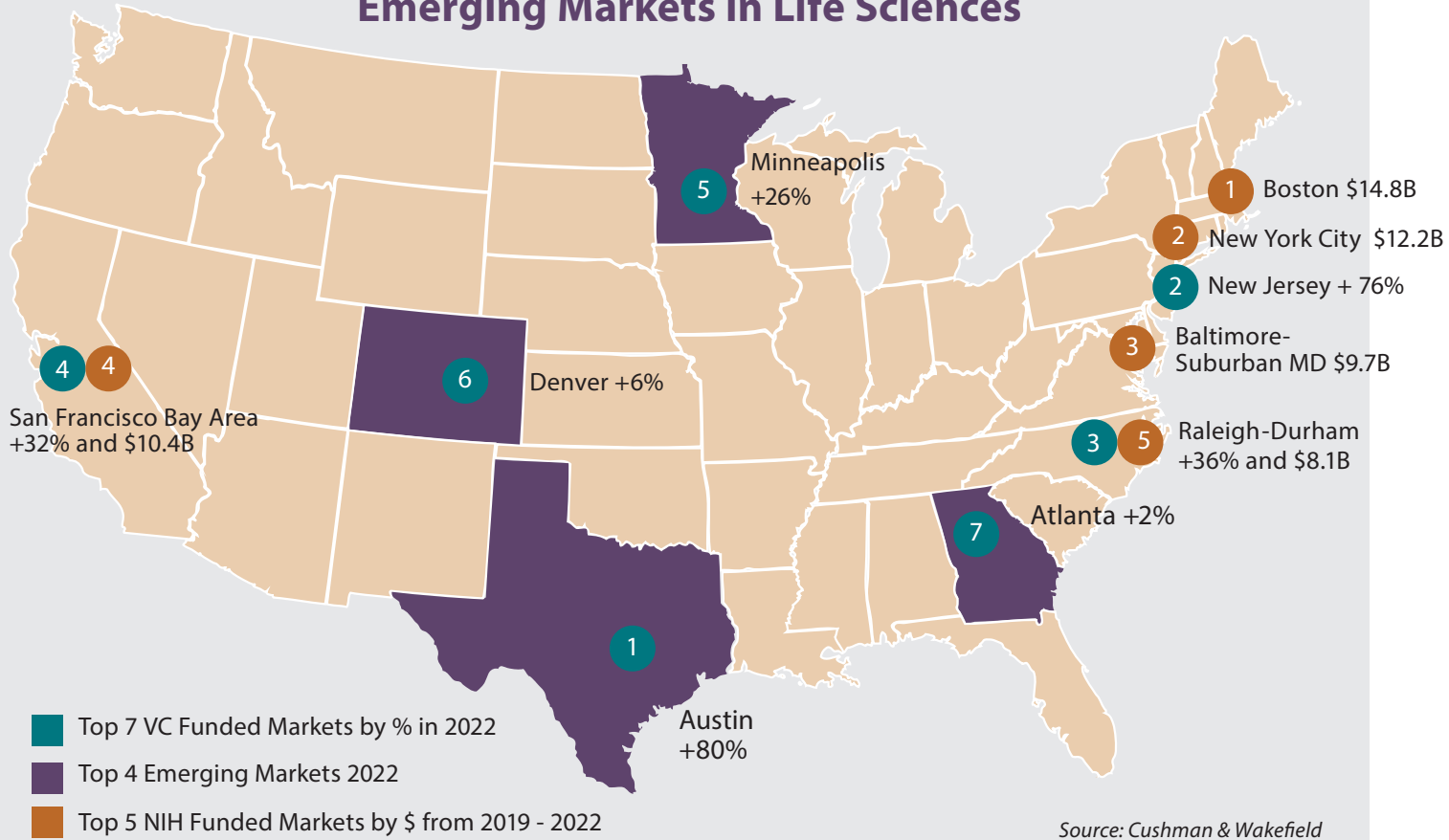
Further, per the American Hospital Association, 65% of community hospitals are in urban environments versus the 35% that are located rurally. Therefore, the design industry must look at a way to fit hospitals for expansion in densely populated and urban areas. One design solution is a vertical tower versus a horizontal plan. The high-rise hospital design would allow for co-location of clinical trials and research and development functions while creating extra revenue streams for building owners who could lease floor space to retail, meetings, conferences, or community needs. The vertically designed infrastructure could also ease travel distances, improve wayfinding, and provide access to natural sunlight. The new design could also bring new airflow challenges that would need to be addressed by the industries MEP and structural engineers.

When it comes to health care the architects often lead the design and contract. Therefore, it is key to know who the major players are in the market to team with for future work. Below are the top ten architectural firms participating in the health care space by revenue.

Rank	Top Health Care AE Firms 2022	Revenue
1	HDR*	\$290 M
2	CannonDesign	\$220 M
3	HKS*	\$196 M
4	Stantec*	\$154 M
5	Perkins and Will	\$148 M
6	SmithGroup	\$110 M
7	HOK	\$96 M
8	Perkins Eastman	\$88 M
9	NBBJ	\$84 M
10	HGA*	\$75 M

\*ACEC National Member  
Source: BDC Giants Report 2022

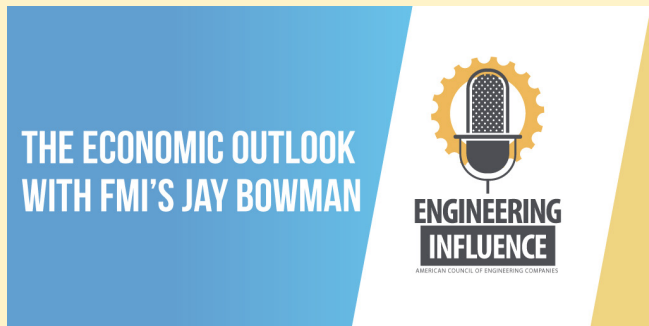
## NIH Funding, VC Growth & Emerging Markets in Life Sciences



### ACEC's Engineering Influence

Diana Alexander, Director of Private Market Resources interviewed Jay Bowman, a partner with consulting and investment firm FMI, on the Engineering Influence podcast to discuss economic conditions, forecasting and market trends for the engineering and construction industry. For the latest podcast:

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