



2012 CALIFORNIA BIOMEDICAL INDUSTRY REPORT HIGHLIGHTS

2012 Biomedical company CEO Survey Highlights

A survey of approximately 100 CEOs from California biomedical companies, a joint project of the California Healthcare Institute, BayBio and PwC, revealed:

Challenges to Biomedical Industry Growth

- The regulatory environment, lack of access to capital, and related lack of innovation/R&D productivity were ranked by CEOs as the top three threats to the industry's growth in the next five years.
- Nearly three quarters (74 percent) of biomedical industry CEOs surveyed said their companies have had to delay a research or development project in the past year. That compares to 69 percent of the responding companies reporting delayed projects in 2010.
- Lack of funding was the top reason for project delays, cited by 40 percent of CEOs surveyed. Twenty-eight percent of CEOs said projects were delayed by regulators, and 26 percent cited a change in corporate priorities or strategy.
- Eight in 10 CEOs surveyed agreed or strongly agreed that the current U.S. Food and Drug Administration (FDA) regulatory approval process has slowed the growth of their organization.
- Eight in 10 CEOs surveyed do not believe that U.S. FDA has the best regulatory approval process in the world, and three-quarters believe that within five years, another country could conceivably recreate the ecosystem that has made the U.S. the leading biomedical region in the world.
- Nearly 78 percent of CEOs surveyed said their firm had been courted by other countries and/or states within the past year. Boston, North Carolina and Minneapolis/St. Paul were cited as the top three most attractive biomedical markets for R&D innovation in the U.S. outside of California.

California Operations

- More California companies held their operations steady or expanded operations within California during the past year than those that reduced operations. Twenty percent of companies expanded manufacturing and 43 percent expanded research and development (R&D) operations within California.
- Among the companies that expanded their in-state operations, the largest percentage (66 percent) credited California's culture of entrepreneurship and innovation as the most influential factor in their decision. The state's highly skilled workforce was the second most cited factor, followed by the fact that the company was founded in California.
- Twenty percent of California companies reduced their R&D operations in California over the past year, and the same percent said they also had reduced manufacturing operations. Among companies that reduced operations in California over the past year, 32 percent cited "cost-cutting initiatives" as their motive. The other top-ranked reasons cited were "overall business climate/cost of doing business" (31 percent) and because "operations were expanded elsewhere outside of California" (21 percent).
- When asked about their companies' plans over the next two years, 57 percent of CEOs said they expect to increase R&D within California, and nearly as many, 56 percent, said they would expand out-of-state manufacturing, a reflection of California's desirability as an R&D hub as well as the state's ongoing loss of manufacturing jobs.

- CEOs expect reductions in activity over the next two years to hit their California facilities harder than facilities located elsewhere. More than one in ten CEOs (13 percent) expect to reduce their California R&D workforce and 20 percent expect to reduce their California manufacturing workforce.

Access to Capital

- Forty-four percent of biomedical CEOs surveyed said they will look to licensing agreements and corporate partnerships as a source of financing in the next 12 months, double the number of CEOs who last year said their companies are using this avenue.
- Corporate venture funding, the investment of corporate funds into external endeavors, is expected to become a much more crucial source of funding to the industry, with 30 percent of CEOs surveyed saying they will tap corporate venture capital as a finance source in the next 12 months, versus only 10 percent who did so in the past 12 months.
- Though still only a small contributor to the finance equation, disease foundations/non-governmental organizations are growing as a funding source for 11 percent of CEOs who plan to use these funds in the next 12 months, versus only 4 percent who did last year.
- Nearly three-quarters (72 percent) of CEOs said that access to capital is extremely important, and the most influential state policy issue influencing their decision to keep biomedical research, innovation and investment in California, followed by (in order of importance) tax incentives for innovation (60 percent), corporate taxation (51 percent), workforce preparedness (47 percent).

Workforce Development

- While biomedical company CEOs cited California's skilled workforce as one of the top three factors for being located in California, they rated the specific skills of the emerging labor pool as only adequate. They rated California's workforce as highest on computer skills but only adequate in math, science and reading and writing skills. They rated the workforce to be least prepared for conducting research.
- Two-thirds (66 percent) of biomedical company CEOs felt that California's workforce would best benefit from improvements in Kindergarten through the 12th grade education.

A Snapshot of California's Biomedical Industry

- **Companies:** California is home to 2,323 biomedical companies, the largest number of biomedical companies of any state in the country.
- **Revenues:** California's biomedical companies generated total estimated annual revenue \$115.4 billion in 2010, up from \$114 billion in 2009. Total biomedical exports by California companies totaled \$18.6 billion.
- **Employment:** The biomedical industry directly employed approximately 267,271 people in California in 2010.
- **Employment Trends:** Approximately 6,300 biomedical jobs, or 2.3 percent of California's biomedical workforce, have been lost across the state since 2008, when biomedical employment peaked at approximately 273,559 jobs. Contraction in the biomedical workforce has returned employment levels to 2006 levels. Although the overall biomedical industry in California saw a decline in jobs between 2009 and 2010, San Diego and Orange Counties both experienced substantial gains of 14 percent and 8 percent, respectively. Early indications of 2011 data show the highest rate of growth in biomedical jobs coming from Riverside and San Bernardino Counties.
- **Employment by sector:** California's largest biomedical sector by number of jobs is the medical devices, instruments and diagnostics sector, employing approximately 107,467 Californians, or 40.2 percent of the state's total biomedical employment. The biopharmaceutical sector provided 82,621

jobs (30.9 percent); Academic research provided 39,603 jobs (14.8 percent); Wholesale trade provided 31,432 jobs (11.8 percent); and laboratory services provided 6,148 jobs (2.3 percent).

- **Employment by geographic cluster:** The largest cluster of biomedical jobs in California is the San Francisco Bay area, with 51,255 jobs, or 19.2 percent of the total biomedical industry workforce. Los Angeles County accounts for 42,463 jobs (15.9 percent); Orange County accounts for 30,092 jobs (11.3 percent); San Diego County accounts for 27,510 jobs (10.3 percent); Venture & Santa Barbara Counties account for 9,463 jobs (3.5 percent), Riverside/San Bernardino Counties account for 6,338 jobs (2.4 percent) and Sacramento County accounts for 2,990 (1.1 percent).
- **Wages:** California biomedical companies paid employees in California a total of \$20.4 billion in 2010. The average annual wage for the industry across the state in 2010 was approximately \$75,600, up nearly 6 percent from \$72,300 in 2009.
- **Wages by sector and cluster:** Biopharmaceutical companies in California paid the industry's highest annual wages, approximately \$105,998. The academic research sector paid employees nearly half that, at \$58,612 annually. Employees in both the biopharmaceutical and academic research sectors realized a 6 percent increase in salaries in 2010.
- **NIH grants:** California's researchers and entrepreneurs garnered \$3.3 billion in National Institutes of Health (NIH) grants, the greatest amount of NIH funding of any state, or approximately 15 percent of total NIH funding in the U.S. In 2011, NIH grants to California researchers surpassed those received in Massachusetts by approximately 36 percent. NIH grants in California peaked in 2004 at \$3.6 billion. At nearly 8 percent below the 2004 record, 2011 marked a slight decrease in NIH funding from 2010.
- **Venture Capital Investment:** As they have in the past, life sciences companies attracted the largest share of VC investments in California in 2010, a total of \$2.7 billion in 2010. However, in 2011, the state's software industry surpassed the state's biotechnology, medical devices and diagnostics sectors in money raised. Venture capital investing in the U.S. rose to \$28.4 billion in 2011, an increase of 22 percent over the prior year. The life sciences sector (biotech and medical devices combined) accounted for 27 percent of all venture capital dollars invested in the U.S. in 2011. The top funding destinations in the life sciences sector in 2011 were San Francisco Bay, Boston, San Diego metro, New York and Orange County.
- **Product development:** In 2010, U.S. biomedical companies had 5,057 new products in development from discovery through market introduction, of which California companies accounted for 1,365 products or 27 percent of the total pipeline, including 699 products in process from the investigational new drug (IND) filing to the end of Phase III clinical trials. While California companies are developing pipeline products across the full spectrum of indications, the three largest areas on which California's biomedical industry are focused involve treatments for cancer, neurological conditions and infectious diseases.

2012 CEO Survey Methodology

CHI and BayBio worked with PwC to collect and administer data for the 2012 California Biomedical Industry CEO Survey. The survey was conducted in November 2011 and targeted approximately 100 companies that conduct business in California in the areas of pharmaceuticals, biotechnology, medical devices, diagnostics or medical equipment. A full copy of the 2012 California Biomedical Industry Report is available at www.chi.org, www.baybio.org or www.pwc.com/us/us/Calbiomedical2012.

Media Contacts:

Nicole Beckstrand California Healthcare Institute, beckstrand@chi.org, 858-456-8881
Travis Blaschek-Miller, BayBio, travis@baybio.org, 650-871-7101x207
Art Karacsony, PwC US, attila.karacsony@us.pwc.com, 973-236-5640