



TEconomy/BIO

**The Value of Bioscience Innovation in Growing Jobs and Improving Quality of Life 2016**

**Hawaii**

Hawaii’s bioscience industry employed 3,301 in 2014 across 201 business establishments. Two-thirds of the state’s bioscience jobs are within the research, testing, and medical labs subsector which is well concentrated with 4 percent greater employment in Hawaii relative to the national average (location quotient is 1.04). Average annual wages in the bioscience industry are just over \$60,000 in Hawaii, 41 percent greater than the state’s private sector average. Hawaii’s 201 bioscience-related patents issued since 2012 primarily focused in medical and surgical devices.

**Bioscience Performance Metrics**

Summary of State Performance in Selected Bioscience-related Metrics

| Metric   | Hawaii    | United States | Quintile |
|--|-----------|---------------|----------|
| <b>Bioscience Industry, 2014</b>                                     |           |               |          |
| Bioscience Industry Employment                                       | 3,301     | 1,655,680     | V        |
| Bioscience Industry Location Quotient                                | 0.46      | n/a           | V        |
| Bioscience Industry Establishments                                   | 201       | 77,283        | V        |
| <b>Academic Bioscience R&amp;D Expenditures, FY 2014</b>             |           |               |          |
| Bioscience R&D (\$ thousands)  | \$130,272 | \$38,873,926  | IV       |
| Bioscience Share of Total R&D  | 40%       | 61%           | V        |
| Bioscience R&D Per Capita  | \$92      | \$122         | III      |
| <b>NIH Funding, FY 2015</b>  |           |               |          |
| Funding (\$ thousands)   | \$48,395  | \$22,869,746  | IV       |
| Funding Per Capita   | \$34      | \$71          | IV       |
| <b>Bioscience Venture Capital Investments, 2012–15 (\$ millions)</b> | \$3.7     | \$48,742.10   | V        |
| <b>Bioscience and Related Patents, 2012–15</b>                       | 201       | 101,026       | V        |

State ranking figures for bioscience performance metrics are calculated as quintiles, where:

top quintile – I II III IV V – bottom quintile

For source notes, see end of State Profile.



**Hawaii**

| Industry Subsector                                 | Hawaii   |                  | United States |                  |
|--|----------|------------------|---------------|------------------|
|  | 2014     | 2012–2014 Change | 2014          | 2012–2014 Change |
| <b>Agricultural Feedstock and Chemicals</b>        |          |                  |               |                  |
| Establishments                                     | 7        | 0.0%             | 1,811         | 2.2%             |
| Employment   | 80       | 104.2%           | 77,545        | 1.5%             |
| Location Quotient                                  | 0.24     |                  | n/a           |                  |
| Direct-Effect Employment Multiplier                | 14.7     |                  | 18.4          |                  |
| Total Employment Impact                            | 1,176    |                  | 1,432,125     |                  |
| Average Annual Wage                                | \$44,674 | 28.4%            | \$80,640      | 6.3%             |
| <b>Bioscience-Related Distribution</b>             |          |                  |               |                  |
| Establishments                                     | 104      | -2.8%            | 37,833        | 2.8%             |
| Employment   | 938      | -4.6%            | 452,325       | 2.3%             |
| Location Quotient                                  | 0.48     |                  | n/a           |                  |
| Direct-Effect Employment Multiplier                | 2.7      |                  | 3.0           |                  |
| Total Employment Impact                            | 2,555    |                  | 1,358,820     |                  |
| Average Annual Wage                                | \$61,083 | 6.3%             | \$90,458      | 6.2%             |
| <b>Drugs and Pharmaceuticals</b>                   |          |                  |               |                  |
| Establishments                                     | 4        | -20.0%           | 3,301         | 8.0%             |
| Employment   | 98       | -21.5%           | 293,353       | 3.2%             |
| Location Quotient                                  | 0.08     |                  | n/a           |                  |
| Direct-Effect Employment Multiplier                | 9.4      |                  | 11.0          |                  |
| Total Employment Impact                            | 918      |                  | 3,242,627     |                  |
| Average Annual Wage                                | \$56,404 | 17.4%            | \$117,524     | 10.3%            |
| <b>Medical Devices and Equipment</b>               |          |                  |               |                  |
| Establishments                                     | 2        | 0.0%             | 7,636         | 5.5%             |
| Employment   | 12       | -54.4%           | 349,045       | -0.1%            |
| Location Quotient                                  | 0.01     |                  | n/a           |                  |
| Direct-Effect Employment Multiplier                | 4.1      |                  | 4.6           |                  |
| Total Employment Impact                            | 49       |                  | 1,596,802     |                  |
| Average Annual Wage                                | \$49,032 | 54.0%            | \$79,537      | 5.1%             |
| <b>Research, Testing, and Medical Laboratories</b> |          |                  |               |                  |
| Establishments                                     | 83       | -8.7%            | 26,702        | 10.2%            |
| Employment   | 2,173    | -7.6%            | 483,412       | 3.4%             |
| Location Quotient                                  | 1.04     |                  | n/a           |                  |
| Direct-Effect Employment Multiplier                | 2.7      |                  | 3.1           |                  |
| Total Employment Impact                            | 5,853    |                  | 1,554,719     |                  |
| Average Annual Wage                                | \$60,333 | 1.9%             | \$97,485      | 6.8%             |
| <b>Total Bioscience Industry</b>                   |          |                  |               |                  |
| Establishments                                     | 201      | -5.6%            | 77,283        | 5.7%             |
| Employment   | 3,301    | -6.3%            | 1,655,680     | 2.2%             |
| Location Quotient                                  | 0.46     |                  | n/a           |                  |
| Direct-Effect Employment Multiplier                | 4.2      |                  | 5.5           |                  |
| Total Employment Impact                            | 13,755   |                  | 9,185,094     |                  |
| Average Annual Wage                                | \$60,009 | 3.8%             | \$94,543      | 7.2%             |
| <b>Total Private Sector</b>                        |          |                  |               |                  |
| Establishments                                     | 36,351   | 1.1%             | 8,937,672     | 2.7%             |
| Employment   | 503,912  | 4.3%             | 116,018,300   | 4.4%             |
| Average Annual Wage                                | \$42,566 | 4.2%             | \$51,148      | 4.3%             |

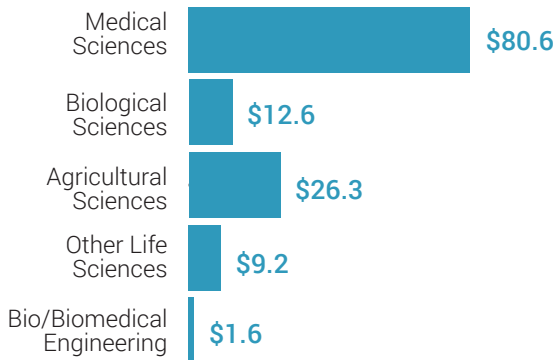
Note: U.S. employment metrics include Puerto Rico.



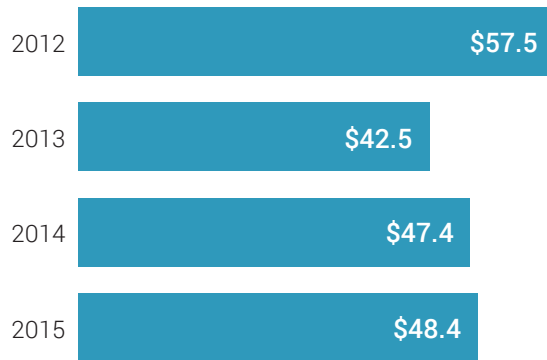
**Hawaii**

**Bioscience Research in Hawaii**

Bioscience Academic R&D Expenditures  
\$ Millions  
**FY 2014**



NIH Awards  
\$ Millions  
**FY 2012-2015**

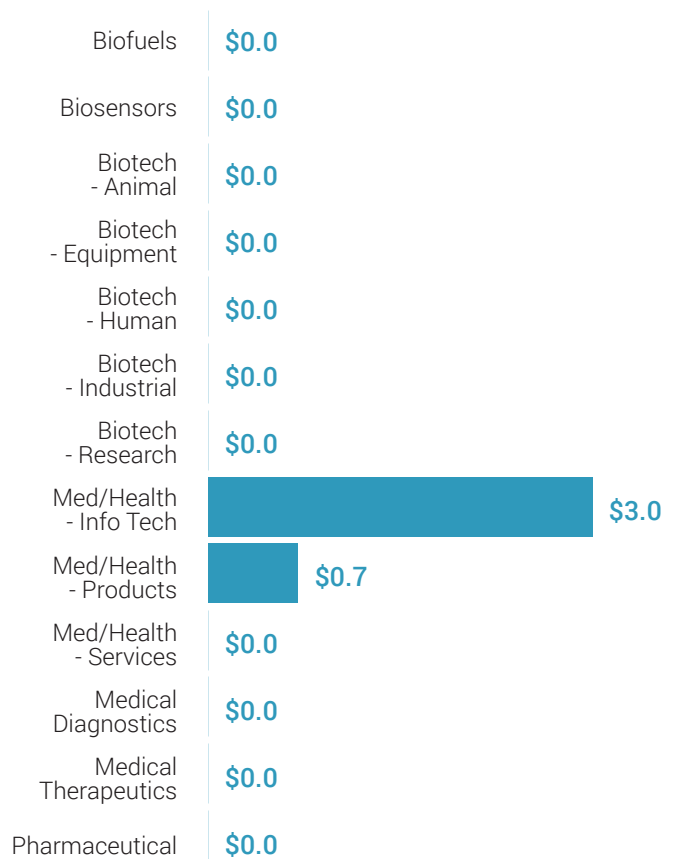


**Bioscience Venture Capital in Hawaii**

Bioscience-Related Venture  
Capital Investments  
\$ Millions  
**2012-2015**



Bioscience-Related Venture  
Capital Investments by Segment  
\$ Millions  
**2012-2015**



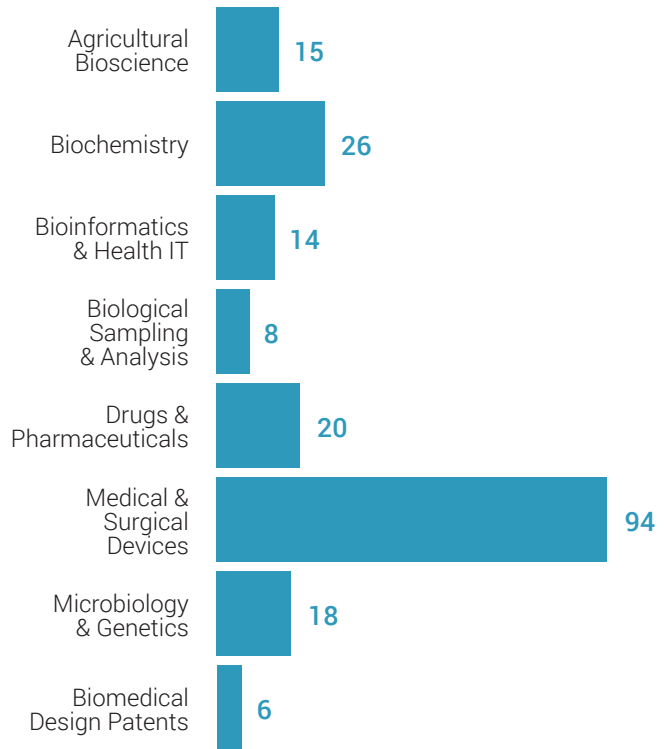


Bioscience Patents in Hawaii

Bioscience-Related U.S. Patents 2012-2015



Bioscience-Related U.S. Patents by Segment 2012-2015



Source Notes

**Employment, Establishments, and Wages:** U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW), enhanced file from the IMPLAN Group, LLC.

**Employment Multipliers:** IMPLAN Group, LLC state-level Input/Output models.

**Academic R&D Expenditures:** National Science Foundation (NSF) Higher Education Research and Development (HERD) Survey.

**NIH Funding:** National Institutes of Health, NIH Awards by Location & Organization (summary information within RePORT database).

**Venture Capital:** Thomson Reuters Thomson ONE venture capital database.

**Patents:** U.S. Patent & Trademark Office data from Thomson Reuters Thomson Innovation patent analysis database.

For a more detailed discussion of the data and methodology used, please see the Appendix to the full national report.

