TEConomy/BIO

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

Iowa

Iowa's bioscience industry is sizable, specialized and diverse in its employment concentration, and has grown significantly since 2012. The state's bioscience firms employed nearly 25,000 in 2014, up 7 percent over a 2-year period. Iowa is a national leader in the agricultural biosciences where the state accounts for 10 percent of U.S. employment, has a very high and specialized concentration relative to the national average (location quotient is 9.07), and has grown rapidly since 2012 (up 5 percent). Iowa also has a specialized employment concentration in bioscience-related distribution, which has grown by 3 percent since 2012. While employment is relatively modest, Iowa is emerging with strong recent job gains in two areas—medical devices and drugs and pharmaceuticals. Academic R&D in the biosciences is highly concentrated in Iowa both relative to all university R&D and on a per capita basis where Iowa has $159 in R&D per resident compared with $122 for the U.S. Iowa has increased its bioscience-related patent totals in recent years with the majority in agbioscience technologies.

Bioscience Performance Metrics

Summary of State Performance in Selected Bioscience-related Metrics

Metric	Iowa	United States	Quintile
Bioscience Industry, 2014			
Bioscience Industry Employment	24,762	1,655,680	III
Bioscience Industry Location Quotient	1.36	n/a	I
Bioscience Industry Establishments	1,266	77,283	III
Academic Bioscience R&D Expenditures, FY 2014			
Bioscience R&D ($ thousands)	$494,771	$38,873,926	III
Bioscience Share of Total R&D	66%	61%	II
Bioscience R&D Per Capita	$159	$122	I
NIH Funding, FY 2015			
Funding ($ thousands)	$159,954	$22,869,746	III
Funding Per Capita	$51	$71	III
Bioscience Venture Capital Investments, 2012–15 ($ millions)	$8.5	$48,742.10	IV
Bioscience and Related Patents, 2012–15	1,641	101,026	III

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.

Iowa

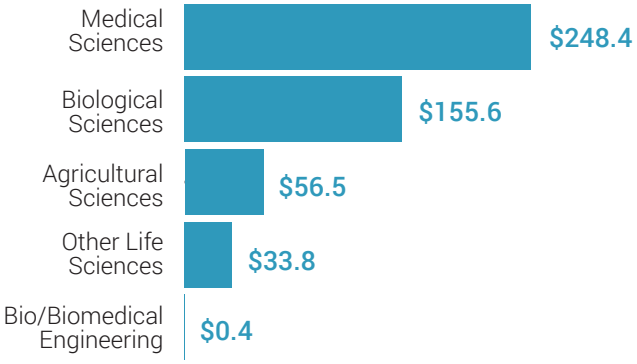
Industry Subsector	Iowa		United States	
	2014	2012–2014 Change	2014	2012–2014 Change
Agricultural Feedstock and Chemicals				
Establishments	127	-2.8%	1,811	2.2%
Employment	7,759	5.1%	77,545	1.5%
Location Quotient	9.07		n/a	
Direct-Effect Employment Multiplier	19.2		18.4	
Total Employment Impact	148,656		1,432,125	
Average Annual Wage	$70,847	5.5%	$80,640	6.3%
Bioscience-Related Distribution				
Establishments	820	-2.8%	37,833	2.8%
Employment	10,225	3.2%	452,325	2.3%
Location Quotient	2.05		n/a	
Direct-Effect Employment Multiplier	2.8		3.0	
Total Employment Impact	28,326		1,358,820	
Average Annual Wage	$69,494	4.6%	$90,458	6.2%
Drugs and Pharmaceuticals				
Establishments	50	28.2%	3,301	8.0%
Employment	3,054	22.2%	293,353	3.2%
Location Quotient	0.94		n/a	
Direct-Effect Employment Multiplier	8.4		11.0	
Total Employment Impact	25,536		3,242,627	
Average Annual Wage	$66,440	3.5%	$117,524	10.3%
Medical Devices and Equipment				
Establishments	49	2.1%	7,636	5.5%
Employment	1,733	35.2%	349,045	-0.1%
Location Quotient	0.45		n/a	
Direct-Effect Employment Multiplier	4.0		4.6	
Total Employment Impact	6,902		1,596,802	
Average Annual Wage	$46,491	7.7%	$79,537	5.1%
Research, Testing, and Medical Laboratories				
Establishments	220	15.3%	26,702	10.2%
Employment	1,992	-4.3%	483,412	3.4%
Location Quotient	0.37		n/a	
Direct-Effect Employment Multiplier	2.9		3.1	
Total Employment Impact	5,682		1,554,719	
Average Annual Wage	$66,275	7.4%	$97,485	6.8%
Total Bioscience Industry				
Establishments	1,266	1.1%	77,283	5.7%
Employment	24,762	7.0%	1,655,680	2.2%
Location Quotient	1.36		n/a	
Direct-Effect Employment Multiplier	6.4		5.5	
Total Employment Impact	159,574		9,185,094	
Average Annual Wage	$67,673	4.5%	$94,543	7.2%
Total Private Sector				
Establishments	93,351	4.6%	8,937,672	2.7%
Employment	1,280,079	3.2%	116,018,300	4.4%
Average Annual Wage	$41,964	5.5%	$51,148	4.3%

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

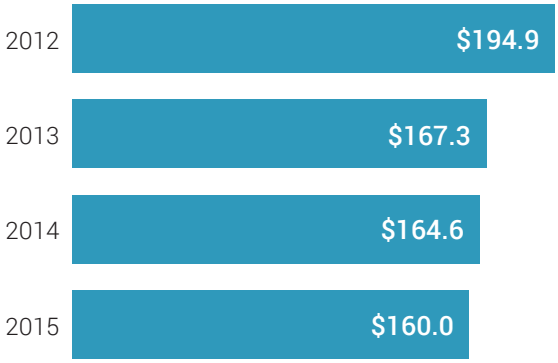
Iowa

Bioscience Research in Iowa

Bioscience Academic R&D Expenditures
$ Millions
FY 2014

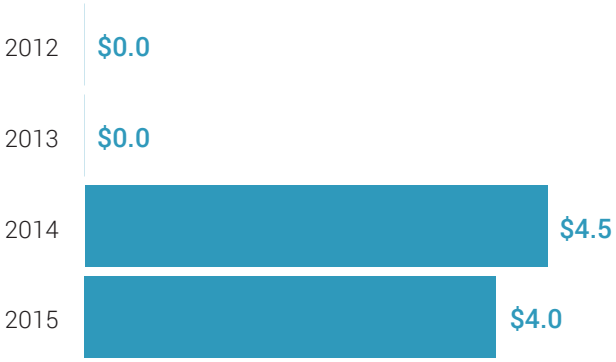


NIH Awards
$ Millions
FY 2012-2015

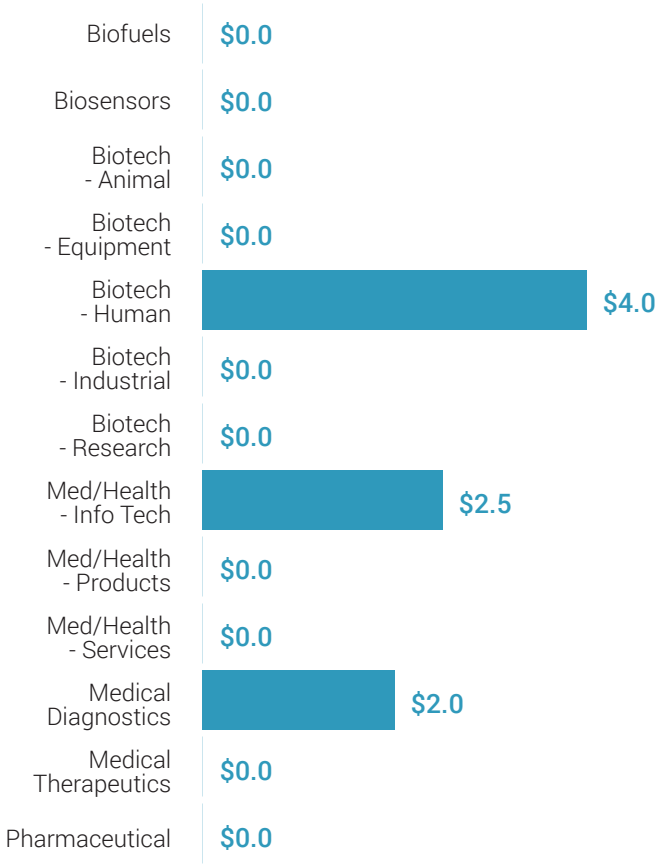


Bioscience Venture Capital in Iowa

Bioscience-Related Venture Capital Investments
$ Millions
2012-2015



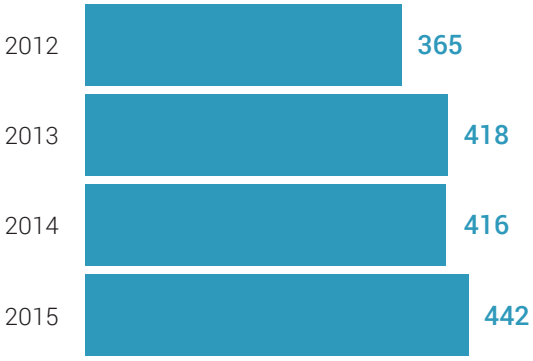
Bioscience-Related Venture Capital Investments by Segment
$ Millions
2012-2015



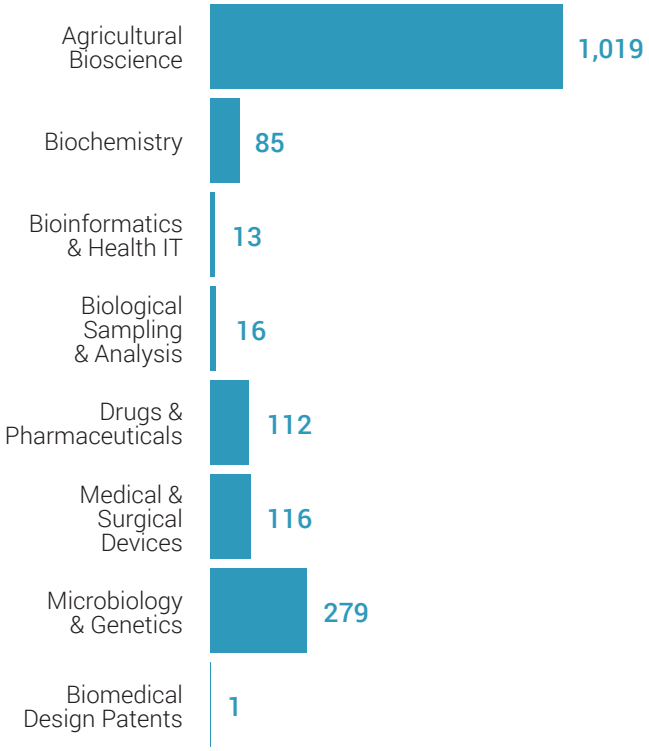
Iowa

Bioscience Patents in Iowa

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.

TECONOMY PARTNERS LLC
Innovating Tomorrow's Economic Landscape

Bio Biotechnology Innovation Organization