

TEconomy/BIO

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

North Dakota

North Dakota has a growing bioscience industry with 4,159 employed in 2014 across 524 business establishments around the state. The state experienced a nearly 4 percent increase in bioscience industry employment from 2012 through 2014, driven by job gains in four of its five major industry subsectors including its largest—bioscience-related distribution. North Dakota has a specialized employment concentration in two subsectors—bioscience-related distribution and agricultural feedstock and chemicals. The state’s research universities conducted nearly \$110 million in bioscience-related R&D in 2014 which translates into a highly concentrated research base relative to the state’s population—\$148 in bioscience R&D per capita compared with \$122 for the U.S. average.

Bioscience Performance Metrics

Summary of State Performance in Selected Bioscience-related Metrics

Metric	North Dakota	United States	Quintile
Bioscience Industry, 2014			
Bioscience Industry Employment	4,159	1,655,680	V
Bioscience Industry Location Quotient	0.77	n/a	III
Bioscience Industry Establishments	524	77,283	IV
Academic Bioscience R&D Expenditures, FY 2014			
Bioscience R&D (\$ thousands)	\$109,840	\$38,873,926	IV
Bioscience Share of Total R&D	51%	61%	IV
Bioscience R&D Per Capita	\$148	\$122	II
NIH Funding, FY 2015			
Funding (\$ thousands)	\$15,608	\$22,869,746	V
Funding Per Capita	\$21	\$71	V
Bioscience Venture Capital Investments, 2012–15 (\$ millions)	\$33.5	\$48,742.10	IV
Bioscience and Related Patents, 2012–15	81	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.



North Dakota

Industry Subsector	North Dakota		United States	
	2014	2012–2014 Change	2014	2012–2014 Change
Agricultural Feedstock and Chemicals				
Establishments	11	-21.4%	1,811	2.2%
Employment	503	7.3%	77,545	1.5%
Location Quotient	2.00		n/a	
Direct-Effect Employment Multiplier	20.4		18.4	
Total Employment Impact	10,270		1,432,125	
Average Annual Wage	\$67,308	12.2%	\$80,640	6.3%
Bioscience-Related Distribution				
Establishments	418	15.7%	37,833	2.8%
Employment	2,793	3.9%	452,325	2.3%
Location Quotient	1.90		n/a	
Direct-Effect Employment Multiplier	2.6		3.0	
Total Employment Impact	7,336		1,358,820	
Average Annual Wage	\$64,755	7.9%	\$90,458	6.2%
Drugs and Pharmaceuticals				
Establishments	2	0.0%	3,301	8.0%
Employment	26	-33.9%	293,353	3.2%
Location Quotient	0.03		n/a	
Direct-Effect Employment Multiplier	7.6		11.0	
Total Employment Impact	199		3,242,627	
Average Annual Wage	\$64,066	37.3%	\$117,524	10.3%
Medical Devices and Equipment				
Establishments	6	25.0%	7,636	5.5%
Employment	138	5.8%	349,045	-0.1%
Location Quotient	0.12		n/a	
Direct-Effect Employment Multiplier	3.9		4.6	
Total Employment Impact	535		1,596,802	
Average Annual Wage	\$51,919	7.4%	\$79,537	5.1%
Research, Testing, and Medical Laboratories				
Establishments	86	33.2%	26,702	10.2%
Employment	699	3.3%	483,412	3.4%
Location Quotient	0.45		n/a	
Direct-Effect Employment Multiplier	2.6		3.1	
Total Employment Impact	1,843		1,554,719	
Average Annual Wage	\$62,576	31.3%	\$97,485	6.8%
Total Bioscience Industry				
Establishments	524	17.1%	77,283	5.7%
Employment	4,159	3.9%	1,655,680	2.2%
Location Quotient	0.77		n/a	
Direct-Effect Employment Multiplier	5.0		5.5	
Total Employment Impact	20,753		9,185,094	
Average Annual Wage	\$64,269	11.9%	\$94,543	7.2%
Total Private Sector				
Establishments	29,531	8.3%	8,937,672	2.7%
Employment	376,070	9.1%	116,018,300	4.4%
Average Annual Wage	\$52,076	11.2%	\$51,148	4.3%

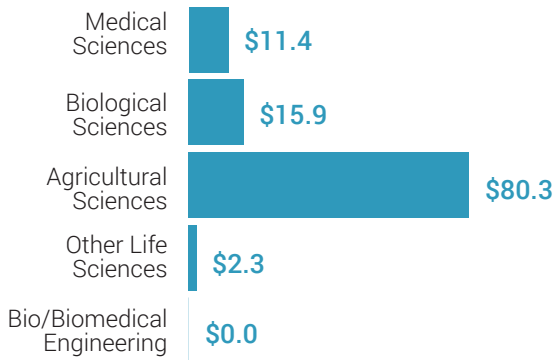
Note: U.S. employment metrics include Puerto Rico.



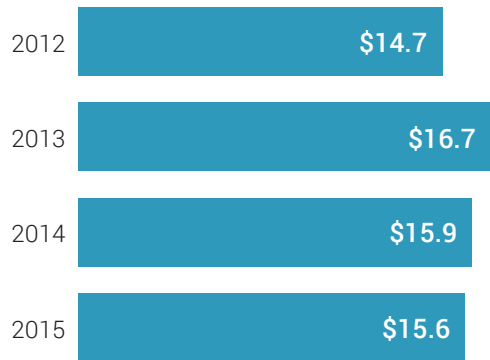
North Dakota

Bioscience Research in North Dakota

Bioscience Academic R&D Expenditures
\$ Millions
FY 2014

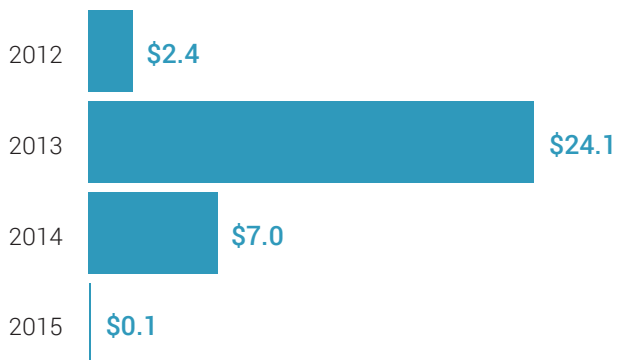


NIH Awards
\$ Millions
FY 2012-2015

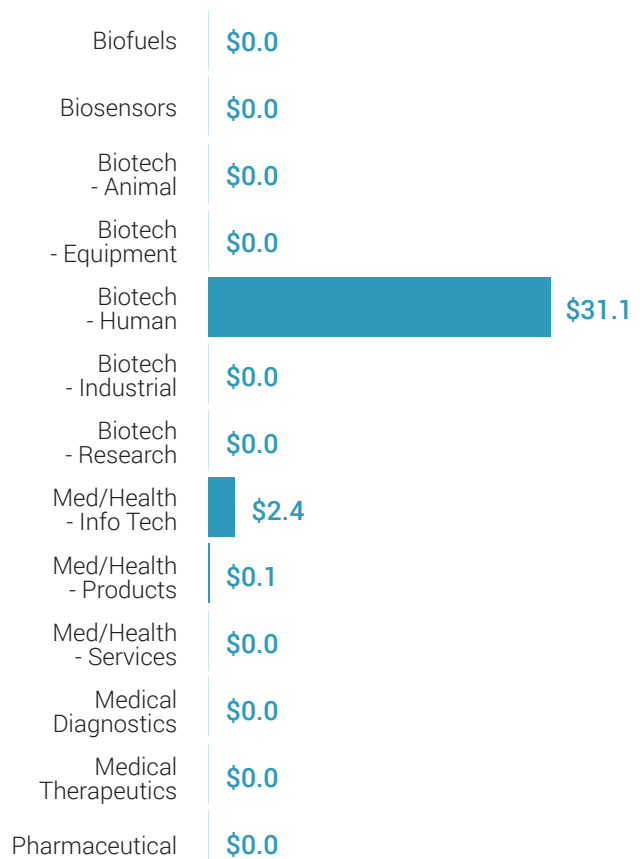


Bioscience Venture Capital in North Dakota

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



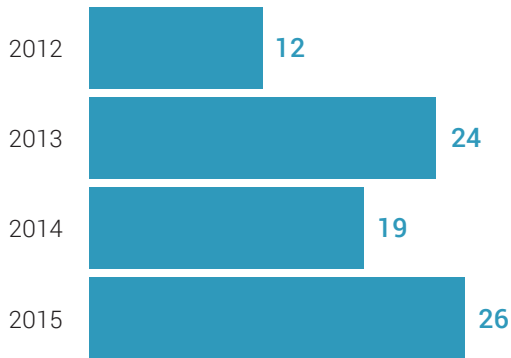
Bioscience-Related Venture
Capital Investments by Segment
\$ Millions
2012-2015



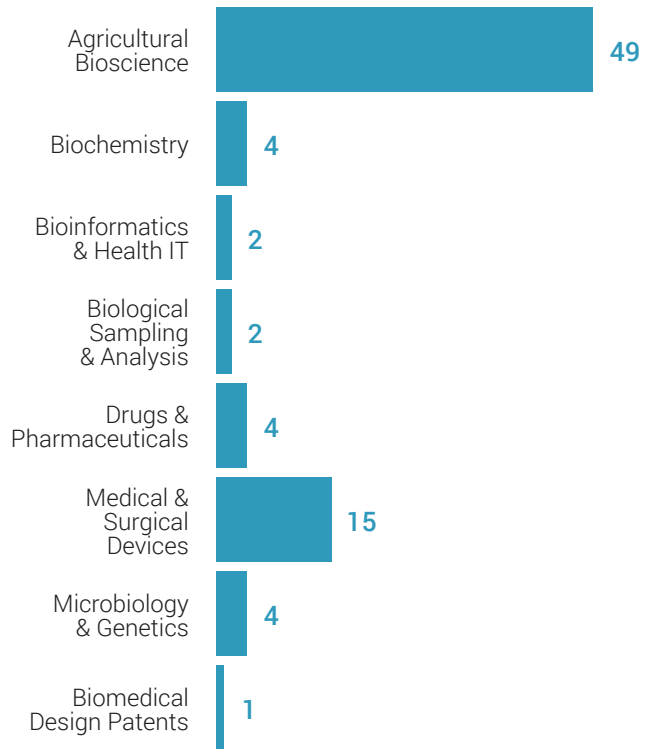


Bioscience Patents in North Dakota

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.

