



TEconomy/BIO

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

North Carolina

North Carolina’s bioscience industry is large, growing, and highly specialized with a diverse set of niche strengths. The state industry employed more than 70,000 in 2014 while operating 3,179 business establishments. The concentration of employment in the bioscience industry is 46 percent greater across North Carolina’s economy relative to the national average—its location quotient is 1.46. The state has an employment specialization in three of the five major subsectors—drugs and pharmaceuticals; research, testing, and medical labs; and agricultural feedstock and chemicals. Statewide, the bioscience industry had 6.6 percent job growth from 2012 to 2014, with three subsectors contributing gains including especially large gains in research, testing, and medical labs. North Carolina is among the top tier across all states in key measures of bioscience R&D and innovation including in academic R&D, NIH research funding, and venture capital investments. State research universities had bioscience-related academic R&D spending exceed \$2 billion in 2014.

Bioscience Performance Metrics

Summary of State Performance in Selected Bioscience-related Metrics

Metric	North Carolina	United States	Quintile
Bioscience Industry, 2014			
Bioscience Industry Employment	70,466	1,655,680	I
Bioscience Industry Location Quotient	1.46	n/a	I
Bioscience Industry Establishments	3,179	77,283	I
Academic Bioscience R&D Expenditures, FY 2014			
Bioscience R&D (\$ thousands)	\$2,049,435	\$38,873,926	I
Bioscience Share of Total R&D	75%	61%	I
Bioscience R&D Per Capita	\$206	\$122	I
NIH Funding, FY 2015			
Funding (\$ thousands)	\$1,055,163	\$22,869,746	I
Funding Per Capita	\$105	\$71	I
Bioscience Venture Capital Investments, 2012–15 (\$ millions)	\$1,262.1	\$48,742.10	I
Bioscience and Related Patents, 2012–15	3,102	101,026	II

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 Carolina

Industry Subsector	North Carolina		United States	
	2014	2012–2014 Change	2014	2012–2014 Change
Agricultural Feedstock and Chemicals				
Establishments	53	3.9%	1,811	2.2%
Employment	3,116	-4.7%	77,545	1.5%
Location Quotient	1.38		n/a	
Direct-Effect Employment Multiplier	17.7		18.4	
Total Employment Impact	55,030		1,432,125	
Average Annual Wage	\$88,908	1.9%	\$80,640	6.3%
Bioscience-Related Distribution				
Establishments	1,395	5.7%	37,833	2.8%
Employment	13,864	3.4%	452,325	2.3%
Location Quotient	1.05		n/a	
Direct-Effect Employment Multiplier	3.0		3.0	
Total Employment Impact	41,903		1,358,820	
Average Annual Wage	\$85,089	7.2%	\$90,458	6.2%
Drugs and Pharmaceuticals				
Establishments	118	7.3%	3,301	8.0%
Employment	21,658	3.4%	293,353	3.2%
Location Quotient	2.54		n/a	
Direct-Effect Employment Multiplier	11.4		11.0	
Total Employment Impact	247,703		3,242,627	
Average Annual Wage	\$99,867	10.8%	\$117,524	10.3%
Medical Devices and Equipment				
Establishments	195	-1.5%	7,636	5.5%
Employment	8,545	-3.5%	349,045	-0.1%
Location Quotient	0.84		n/a	
Direct-Effect Employment Multiplier	4.5		4.6	
Total Employment Impact	38,234		1,596,802	
Average Annual Wage	\$60,063	8.9%	\$79,537	5.1%
Research, Testing, and Medical Laboratories				
Establishments	1,418	17.9%	26,702	10.2%
Employment	23,282	18.5%	483,412	3.4%
Location Quotient	1.66		n/a	
Direct-Effect Employment Multiplier	3.2		3.1	
Total Employment Impact	73,667		1,554,719	
Average Annual Wage	\$86,279	0.7%	\$97,485	6.8%
Total Bioscience Industry				
Establishments	3,179	10.3%	77,283	5.7%
Employment	70,466	6.6%	1,655,680	2.2%
Location Quotient	1.46		n/a	
Direct-Effect Employment Multiplier	6.1		5.5	
Total Employment Impact	427,506		9,185,094	
Average Annual Wage	\$87,158	6.6%	\$94,543	7.2%
Total Private Sector				
Establishments	252,786	0.9%	8,937,672	2.7%
Employment	3,375,691	4.7%	116,018,300	4.4%
Average Annual Wage	\$45,021	4.6%	\$51,148	4.3%

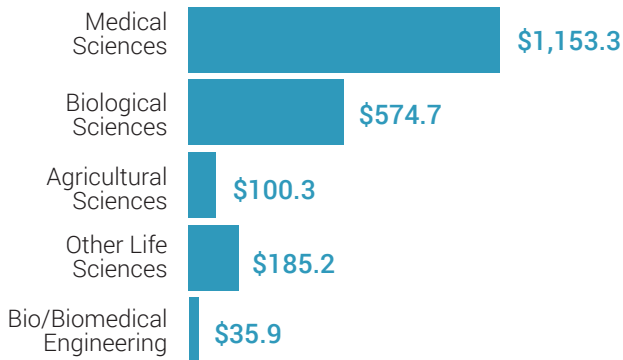
Note: U.S. employment metrics include Puerto Rico.



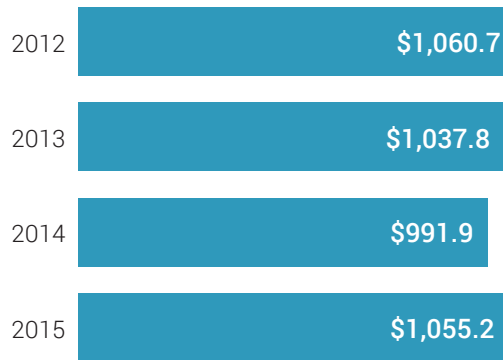
North Carolina

Bioscience Research in North Carolina

Bioscience Academic R&D Expenditures
\$ Millions
FY 2014

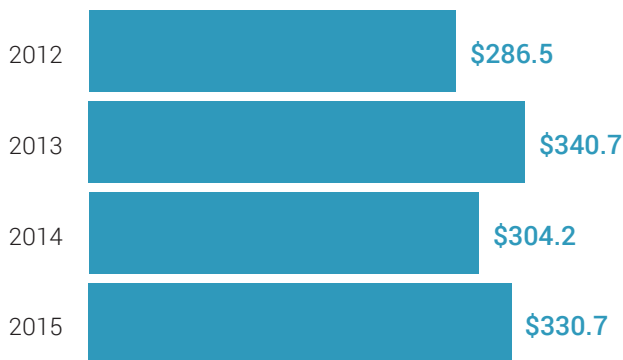


NIH Awards
\$ Millions
FY 2012-2015

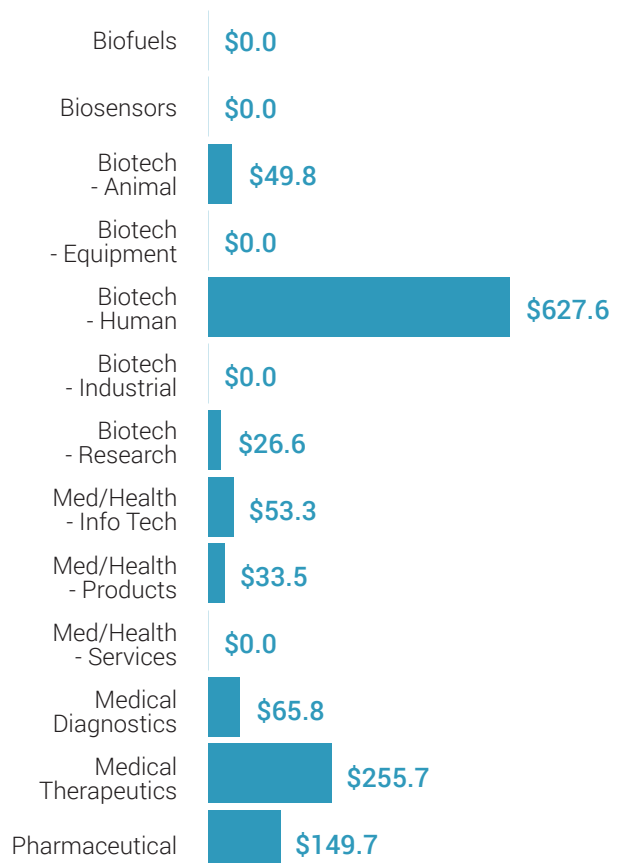


Bioscience Venture Capital in North Carolina

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



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

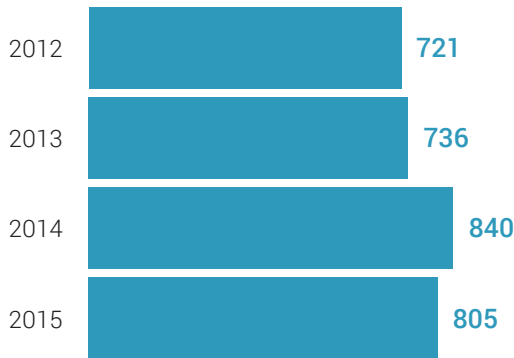




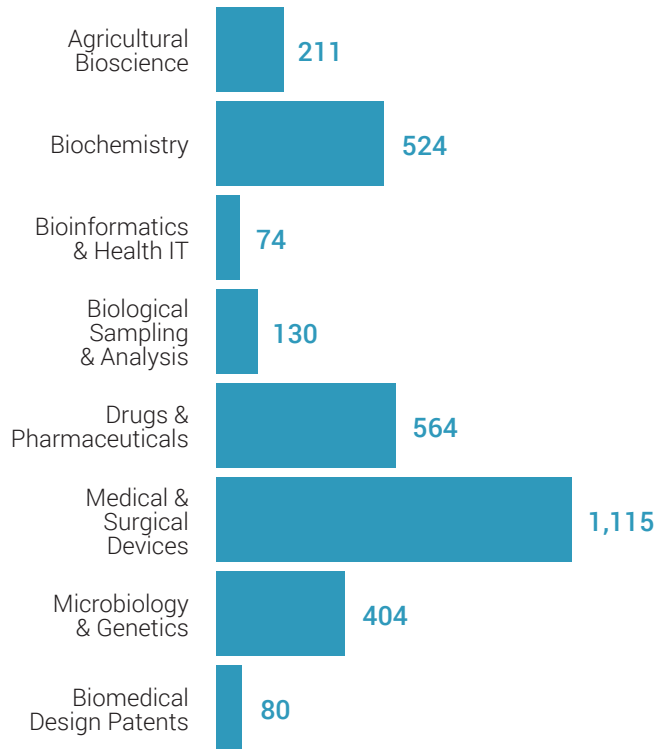
North Carolina

Bioscience Patents in North Carolina

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.

