

West Virginia



West Virginia's bioscience industry employed nearly 6,400 in 2012 across 343 business establishments. The state industry has increased its employment base by 6.9 percent since 2007, a period which includes the deep national recession and early years of the recovery. Drugs and pharmaceuticals, the state's largest and most specialized industry subsector, helped drive these overall gains with 73 percent job growth since 2007. Employment in drugs and pharmaceuticals in West Virginia is considered to be specialized and is 98 percent more concentrated in the state economy relative to the national average (location quotient is 1.98). Annual wages for state bioscience workers are nearly \$70,000, on average, and are 78 percent more than the overall private sector average. State patenting in the biosciences totaled 143 patents issued from 2009 through 2013 with a focus in surgical and medical instruments and in drugs and pharmaceuticals.

Bioscience Performance Metrics

Summary of State Performance in Selected Bioscience-related Metrics

Metric	West Virginia	United States	Quintile
Bioscience Industry, 2012			
Bioscience Industry Employment	6,390	1,619,746	IV
Bioscience Industry Location Quotient	0.77	n/a	III
Bioscience Industry Establishments	343	73,088	V
Academic Bioscience R&D Expenditures, FY 2012			
Bioscience R&D (\$ thousands)	\$117,580	\$38,139,876	IV
Bioscience Share of Total R&D	63%	61%	III
Bioscience R&D Per Capita	\$63	\$119	V
NIH Funding, FY 2013			
Funding (\$ thousands)	\$17,326	\$22,293,255	V
Funding Per Capita	\$9	\$70	V
Bioscience Venture Capital Investments, 2009–13 (\$ millions)	\$0.8	\$49,401.7	V
Bioscience and Related Patents, 2009–13	143	100,238	V

State ranking figures for bioscience performance metrics are calculated as quintiles, where I = top quintile, III = middle quintile, and V = bottom quintile.

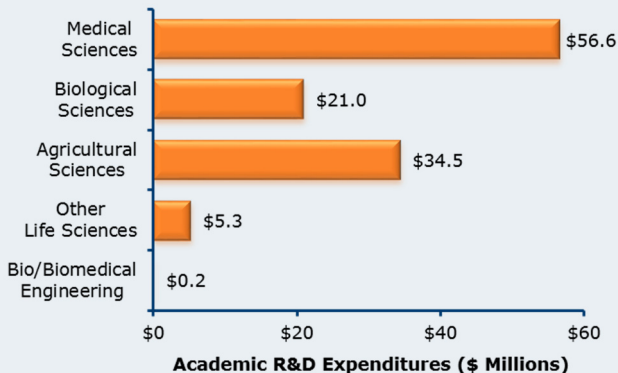
For source notes, see end of State Profile.

Industry Subsector	West Virginia		United States	
	2012	2007–2012 Change	2012	2007–2012 Change
Agricultural Feedstock & Chemicals				
Establishments	3	-57.1%	1,772	5.2%
Employment	46	-94.5%	76,404	-1.0%
Location Quotient	0.12		n/a	
Direct-Effect Employment Multiplier	10.4		18.1	
Total Employment Impact	475		1,382,637	
Average Annual Wage	\$77,155	43.3%	\$75,828	14.2%
Bioscience-Related Distribution				
Establishments	167	-9.3%	36,793	1.4%
Employment	1,363	-22.3%	442,016	-3.9%
Location Quotient	0.66		n/a	
Direct-Effect Employment Multiplier	2.2		2.7	
Total Employment Impact	2,982		1,199,015	
Average Annual Wage	\$69,544	1.6%	\$85,188	11.5%
Drugs and Pharmaceuticals				
Establishments	3	-25.0%	3,057	12.0%
Employment	2,878	72.9%	284,331	-10.9%
Location Quotient	1.98		n/a	
Direct-Effect Employment Multiplier	6.5		9.9	
Total Employment Impact	18,697		2,673,265	
Average Annual Wage	\$80,143	8.1%	\$106,576	13.9%
Medical Devices and Equipment				
Establishments	10	-16.7%	7,235	12.0%
Employment	819	34.3%	349,432	1.4%
Location Quotient	0.46		n/a	
Direct-Effect Employment Multiplier	2.5		3.9	
Total Employment Impact	2,075		1,318,459	
Average Annual Wage	\$59,403	33.8%	\$75,695	10.7%
Research, Testing, and Medical Laboratories				
Establishments	159	155.1%	24,231	31.0%
Employment	1,284	14.9%	467,563	9.7%
Location Quotient	0.54		n/a	
Direct-Effect Employment Multiplier	2.1		2.7	
Total Employment Impact	2,748		1,284,196	
Average Annual Wage	\$52,640	14.8%	\$91,248	15.9%
Total Bioscience Industry				
Establishments	343	27.0%	73,088	11.4%
Employment	6,390	6.9%	1,619,746	-0.4%
Location Quotient	0.77		n/a	
Direct-Effect Employment Multiplier	4.3		4.9	
Total Employment Impact	27,205		7,857,572	
Average Annual Wage	\$69,676	13.6%	\$88,202	12.8%
Total Private Sector				
Establishments	45,291	1.0%	8,699,564	-0.5%
Employment	566,986	-0.5%	111,137,206	-3.1%
Average Annual Wage	\$39,247	17.8%	\$49,130	11.1%

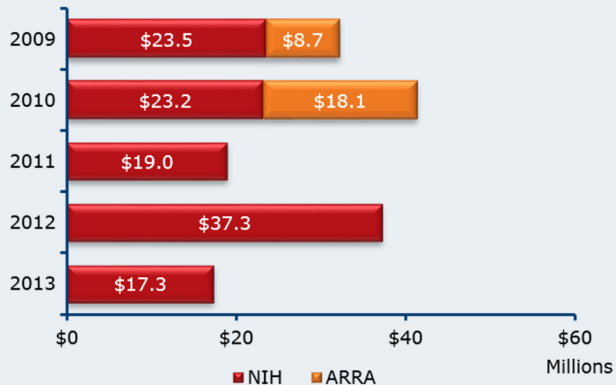
Note: U.S. employment metrics include Puerto Rico. Estimates of total impacts do not include Puerto Rico.

Bioscience Research in West Virginia

Bioscience Academic R&D Expenditures, FY 2012

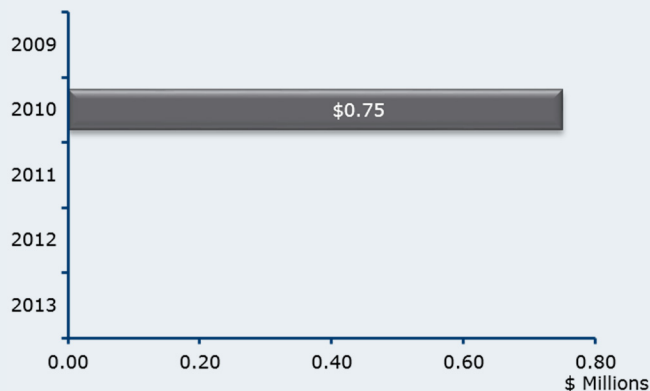


NIH Awards, 2009–2013

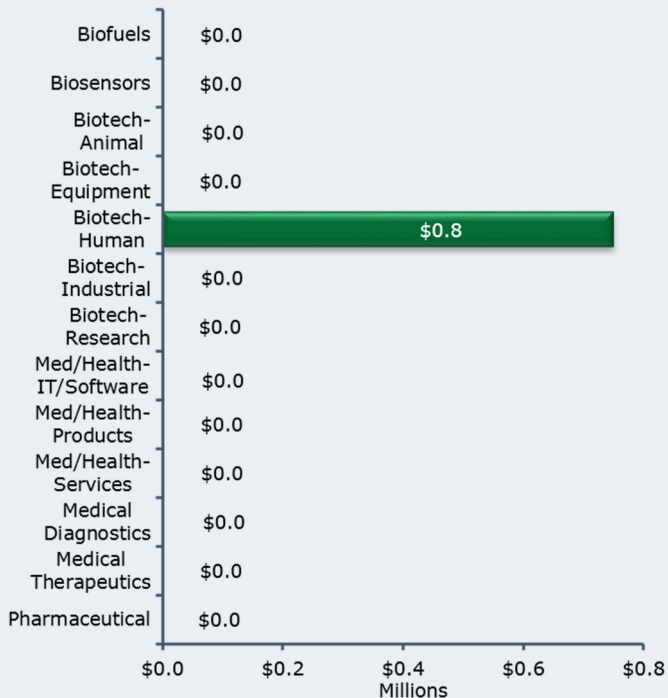


Bioscience Venture Capital in West Virginia

Bioscience-Related Venture Capital Investments, 2009–2013

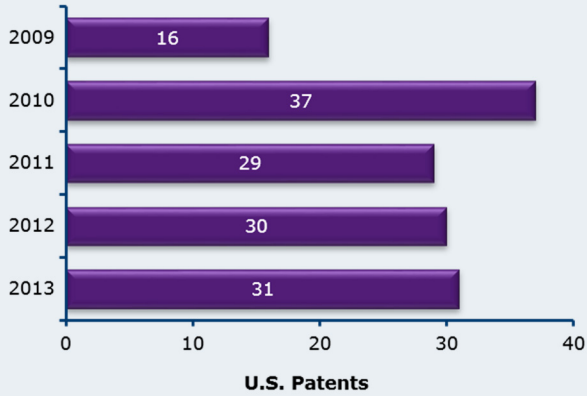


Bioscience-Related Venture Capital Investments by Segment, 2009–2013

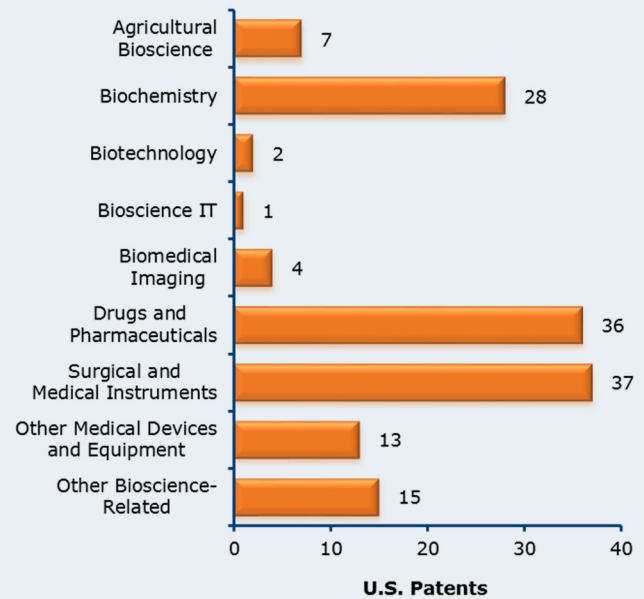


Bioscience Patents in West Virginia

Bioscience-Related Patents, 2009–2013



Bioscience-Related Patents by Segment, 2009–2013



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), and NIH-managed funding for FY 2009 and FY 2010 from the American Recovery and Reinvestment Act (ARRA) website.

Venture Capital: Thomson Reuters Thomson ONE venture capital database.

Patents: U.S. Patent & Trademark Office data from Thomson Reuters Delphion Patent Analysis Database.

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