



Washington’s bioscience industry is sizable and growing, with more than 33,000 industry jobs spanning 1,744 business establishments across the state in 2016. Growth in both establishments and employment outpaced the national average from 2014 through 2016, with statewide employment increasing by 5.5 percent. Industry job growth was fueled by gains in all five of the major subsectors. Washington’s largest subsector, research, testing and medical laboratories, also has a specialized employment concentration with a location quotient of 1.26. In addition to a sizable industry presence, Washington is also a strong performer in several components of the innovation ecosystem. The state is among the top tier of states in NIH funding and in venture capital investments to bioscience companies, with nearly \$2 billion in VC investments made from 2014 through 2017.

Bioscience Performance Metrics

Summary of State Performance in Selected Bioscience-related Metrics

Metric	Washington	United States	Quintile
Bioscience Industry, 2016			
Bioscience Industry Employment	33,564	1,743,639	II
Bioscience Industry Location Quotient	0.87	n/a	III
Bioscience Industry Establishments	1,744	85,702	II
Academic Bioscience R&D Expenditures, FY 2016			
Bioscience R&D (\$ thousands)	\$1,049,460	\$41,972,205	II
Bioscience Share of Total R&D	69%	62%	II
Bioscience R&D Per Capita	\$144	\$130	II
NIH Funding, FY 2017			
Funding (\$ thousands)	\$998,184	\$26,150,485	I
Funding Per Capita	\$135	\$80	I
Bioscience Venture Capital Investments, 2014-17 (\$ millions)	\$1,993.42	\$66,168.62	I
Bioscience and Related Patents, 2014-17	3,060	102,862	II

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	Washington		United States	
	2016	2014-2016 Change	2016	2014-2016 Change
Agricultural Feedstock and Industrial Biosciences				
Establishments	43	4.9%	1,709	-3.2%
Employment	850	2.9%	68,027	-1.2%
Location Quotient	0.57		n/a	
Direct-Effect Employment Multiplier	7.09			
Total Employment Impact	6,022			
Average Annual Wage	\$58,501	5.6%	\$80,961	2.7%
Bioscience-Related Distribution				
Establishments	823	20.8%	39,149	3.8%
Employment	8,725	12.0%	469,640	3.7%
Location Quotient	0.84		n/a	
Direct-Effect Employment Multiplier	2.07			
Total Employment Impact	18,074			
Average Annual Wage	\$84,713	4.5%	\$93,677	2.7%
Drugs and Pharmaceuticals				
Establishments	94	64.9%	3,754	13.7%
Employment	2,738	15.8%	299,113	2.0%
Location Quotient	0.41		n/a	
Direct-Effect Employment Multiplier	3.73			
Total Employment Impact	10,225			
Average Annual Wage	\$60,870	12.5%	\$113,815	-3.2%
Medical Devices and Equipment				
Establishments	156	16.4%	8,083	5.9%
Employment	6,011	5.4%	359,293	2.9%
Location Quotient	0.76		n/a	
Direct-Effect Employment Multiplier	2.66			
Total Employment Impact	16,009			
Average Annual Wage	\$98,667	22.8%	\$84,746	6.5%
Research, Testing and Medical Laboratories				
Establishments	628	13.0%	33,007	13.1%
Employment	15,240	0.7%	547,566	8.2%
Location Quotient	1.26		n/a	
Direct-Effect Employment Multiplier	2.28			
Total Employment Impact	34,798			
Average Annual Wage	\$95,823	1.7%	\$106,942	5.5%
Total Bioscience Industry				
Establishments	1,744	18.7%	85,702	7.7%
Employment	33,564	5.5%	1,743,639	4.4%
Location Quotient	0.87		n/a	
Direct-Effect Employment Multiplier	2.54			
Total Employment Impact	85,128			
Average Annual Wage	\$89,648	6.0%	\$98,961	3.1%
Total Private Sector				
Establishments	236,571	-0.3%	9,243,034	3.4%
Employment	2,669,295	6.0%	120,884,570	4.2%
Average Annual Wage	\$59,060	7.5%	\$53,354	4.3%

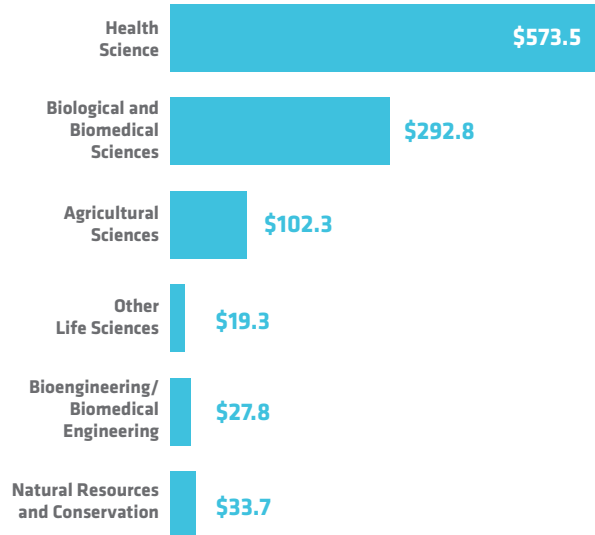
Note: U.S. employment metrics include Puerto Rico.

Bioscience Research in Washington

Bioscience Academic R&D Expenditures

\$ Millions

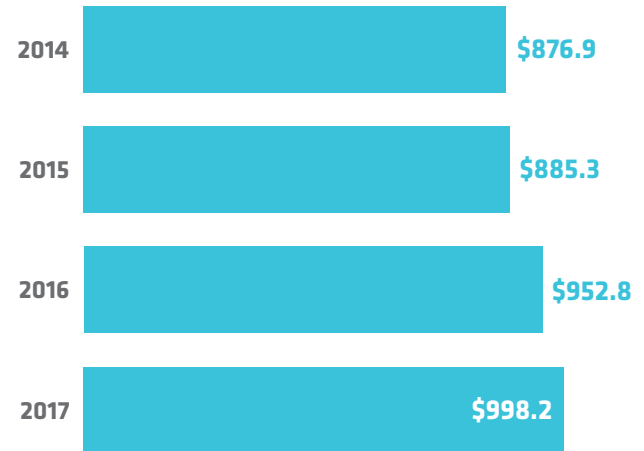
FY 2016



NIH Awards

\$ Millions

FY 2014-2017

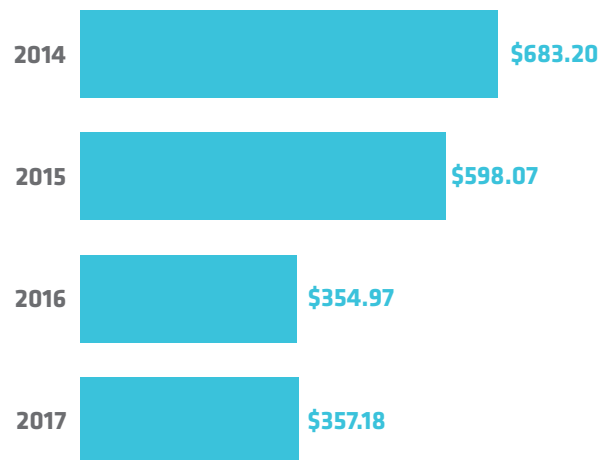


Bioscience Venture Capital in Washington

Bioscience-Related Venture Capital Investments

\$ Millions

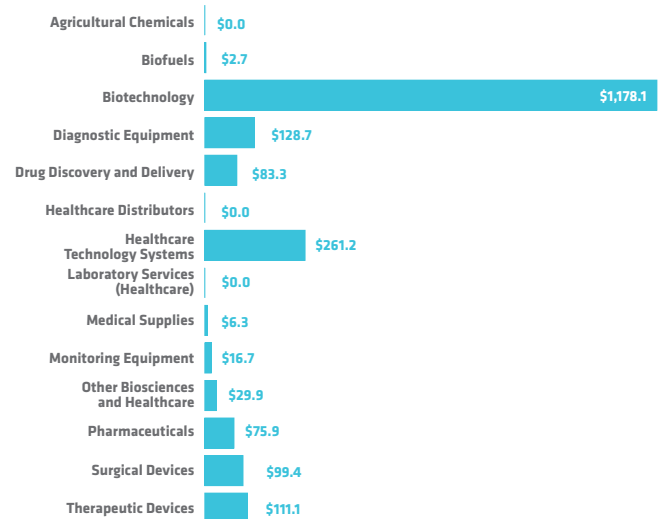
2014-2017



Bioscience-Related Venture Capital Investments by Segment

\$ Millions

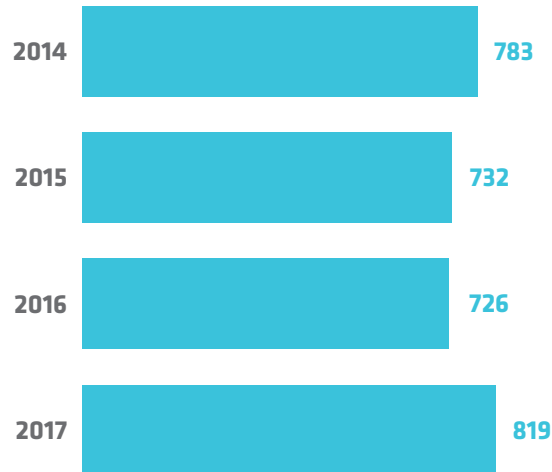
2014-2017



Bioscience Patents in Washington

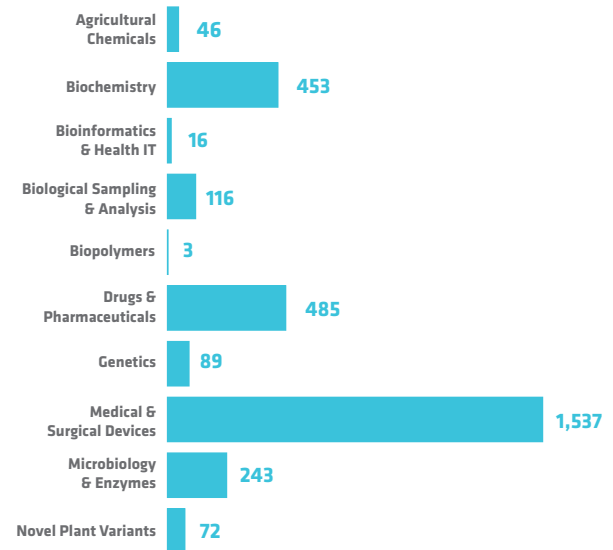
Bioscience-Related U.S. Patents

2014-2017



Bioscience-Related U.S. Patents by Segment

2014-2017



Source Notes

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

Employment Multipliers: IMPLAN 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: PitchBook Data, Inc.

Patents: U.S. Patent & Trademark Office data from Clarivate Analytics' Derwent Innovation patent analysis database. For a more detailed discussion of the data and methodology used, please see the Appendix to the full national report.