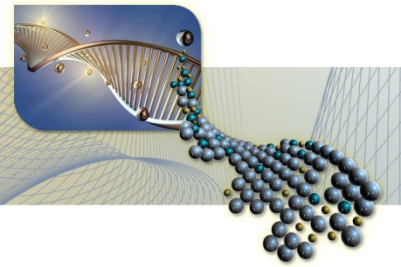


# WASHINGTON



Washington has seen each of its bioscience industry subsectors grow at a faster rate than the nation since 2001. The State has a specialized employment concentration in research, testing and medical laboratories (location quotient of 1.27). Academic bioscience research and development expenditures totaled \$711 million in 2008, primarily in medical sciences. Academic R&D in the biosciences and funding from the National Institutes of Health are well concentrated in Washington with above average per capita figures. The state also outperformed its size in bioscience venture capital invested during the last six years with a total of \$1.88 billion. Most VC investments went to the human biotechnology and medical therapeutics sectors. The 2,506 bioscience patents over the same six-year period were led by biochemistry, surgical and medical instruments, and drugs and pharmaceuticals.

## ●●● Bioscience Performance Metrics

### Summary of State Performance in Selected Bioscience-related Metrics

Metrics	Washington	United States	Rank*
<b>Bioscience Industry, 2008</b>			
Total Bioscience Industry Employment, 2008	26,123	1,420,324	II
Bioscience Industry Location Quotient, 2008	0.86	n/a	III
Biosciences Industry Establishments, 2008	1,097	47,593	II
<b>Academic R&amp;D Expenditures, FY 2008</b>			
Bioscience R&D (\$ thousands)	\$711,040	\$31,818,810	15
Bioscience Share of Total R&D	67.2%	61.3%	11
Bioscience R&D Per Capita	\$108.29	\$104.54	18
Change in Bioscience R&D, FY 2004–08	17.2%	22.3%	31
<b>NIH Funding, FY 2009</b>			
Total, Including ARRA Funds (\$ thousands)	\$953,722	\$25,837,590	8
Per Capita Funding	\$143.11	\$84.16	6
Change in Baseline Funding, FY 2004–09**	-2.9%	-4.7%	28
Change in Total Funding, FY 2004–09	17.9%	14.6%	27
<b>Clinical Trials, Initiated 2009</b>	457	5,299	15
<b>Higher Education Degrees in Bioscience Fields, AY 2008</b>	2,793	161,811	21
<b>Employment in Bioscience-related Occupations, 2008</b>	19,040	717,510	12
<b>Bioscience Venture Capital Investments, 2004–09 (\$ millions)</b>	\$1,877.3	\$60,099	6
<b>Bioscience and Related Patents, 2004–09</b>	2,506	75,593	12

\*State ranking figures for bioscience industry employment metrics are calculated as quintiles (I=Top Quintile; V=Bottom Quintile). All other metrics are ranked 1-52.

\*\*Baseline Funding does not include American Recovery and Reinvestment Act (ARRA) funds for 2009.

For source notes, see end of State Profile.

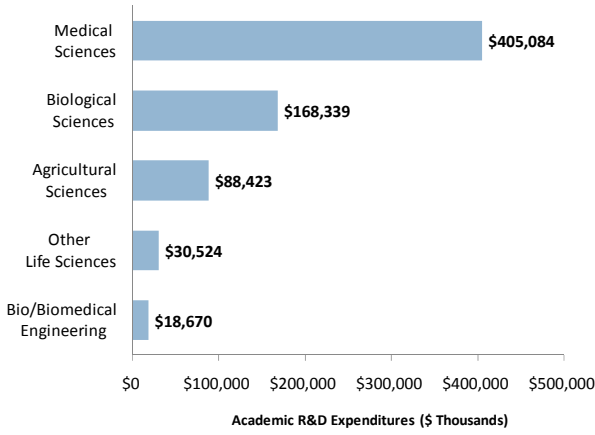
## ●●● Bioscience Industry Base, 2008

INDUSTRY SUBSECTOR	Washington		United States	
	2008	2001-08 Change	2008	2001-08 Change
<b>AGRICULTURAL FEEDSTOCK &amp; CHEMICALS</b>				
Establishments	40	3.8%	2,440	16.0%
Employment	785	23.1%	114,793	1.9%
Location Quotient	0.32		n/a	
Direct-Effect Employment Multiplier	5.27		11.33	
Total Employment Impact	4,138		1,284,650	
Average Annual Wage	\$54,083		\$72,279	
<b>DRUGS &amp; PHARMACEUTICALS</b>				
Establishments	56	-1.8%	2,771	6.4%
Employment	2,490	7.5%	311,882	2.3%
Location Quotient	0.37		n/a	
Direct-Effect Employment Multiplier	5.53		9.92	
Total Employment Impact	13,759		2,873,278	
Average Annual Wage	\$72,681		\$93,378	
<b>MEDICAL DEVICES &amp; EQUIPMENT</b>				
Establishments	406	-0.5%	15,227	0.4%
Employment	7,760	4.6%	435,509	2.0%
Location Quotient	0.84		n/a	
Direct-Effect Employment Multiplier	3.00		4.87	
Total Employment Impact	23,279		2,029,581	
Average Annual Wage	\$68,807		\$63,606	
<b>RESEARCH, TESTING, &amp; MEDICAL LABORATORIES</b>				
Establishments	595	36.0%	27,154	57.7%
Employment	15,088	56.8%	558,140	46.1%
Location Quotient	1.27		n/a	
Direct-Effect Employment Multiplier	2.55		3.30	
Total Employment Impact	38,495		1,853,127	
Average Annual Wage	\$73,629		\$80,785	
<b>TOTAL BIOSCIENCES INDUSTRY</b>				
Establishments	1,097	16.6%	47,593	28.3%
Employment	26,123	30.7%	1,420,324	15.8%
Location Quotient	0.86		n/a	
Direct-Effect Employment Multiplier	3.05		5.82	
Total Employment Impact	79,670		8,040,636	
Average Annual Wage	\$71,519		\$77,595	
<b>TOTAL PRIVATE SECTOR</b>				
Establishments	215,979	-0.1%	8,860,956	13.8%
Employment	2,429,884	9.9%	113,917,377	3.5%
Average Annual Wage	\$46,103		\$45,229	

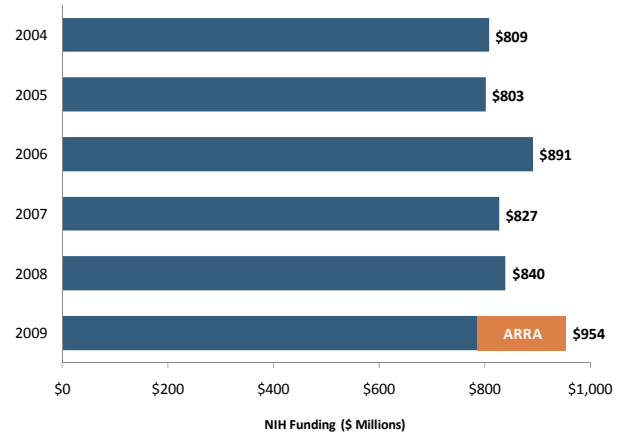
Note: U.S. employment metrics include Puerto Rico. Estimates of total employment impacts do not include Puerto Rico.

## ●●● Bioscience Performance Metrics

**Bioscience Academic R&D Expenditures in Washington, FY 2008**

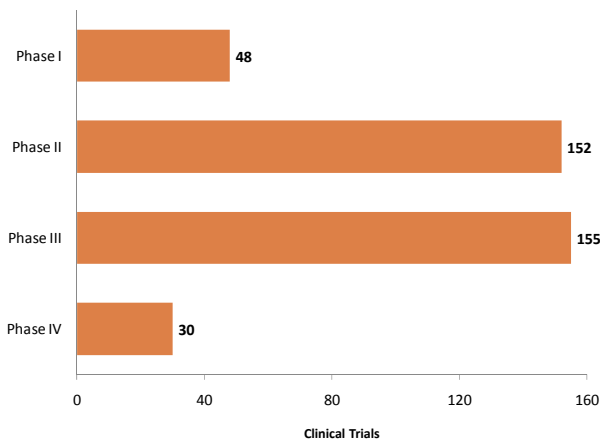


**NIH Awards in Washington, 2004–2009**

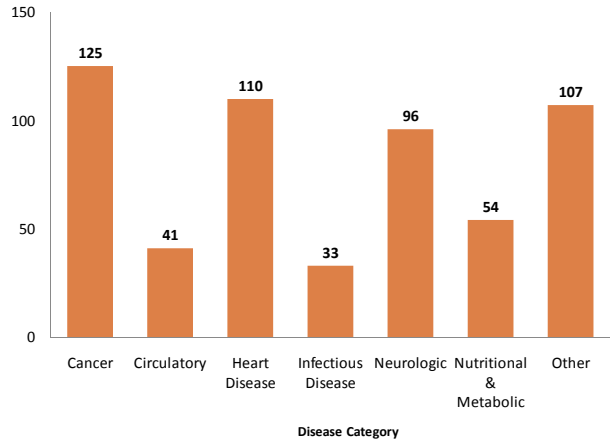


## ●●● Recent Clinical Trial Activities

**Clinical Trials by Phase in Washington, 2009**

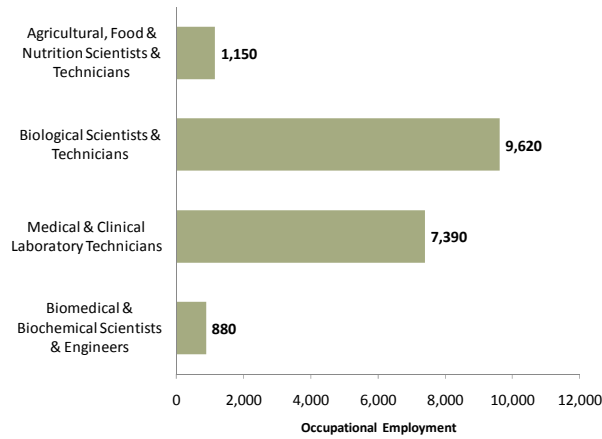


**Clinical Trials by Major Disease Category in Washington, 2009**

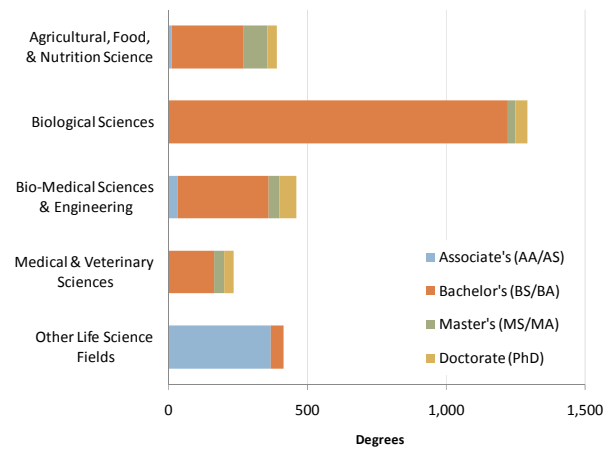


## Bioscience Talent Base

**Bioscience-related Occupational Employment in Washington, 2008**

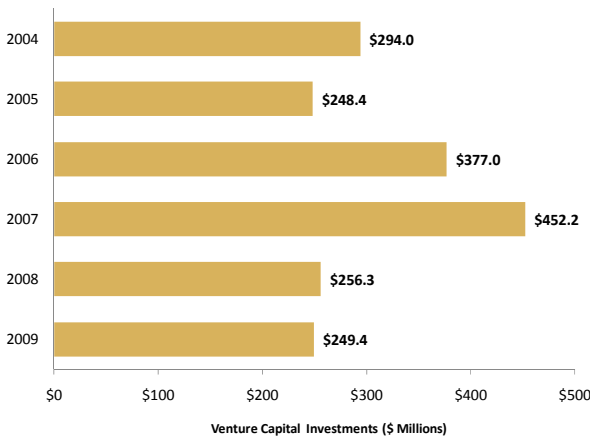


**Bioscience-related Degrees in Washington, AY 2008**

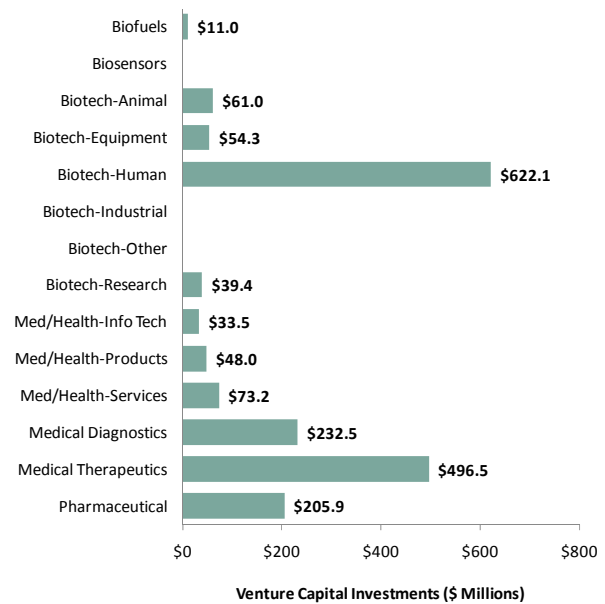


## Bioscience Venture Capital

**Bioscience-related Venture Capital Investments in Washington, 2004–2009**

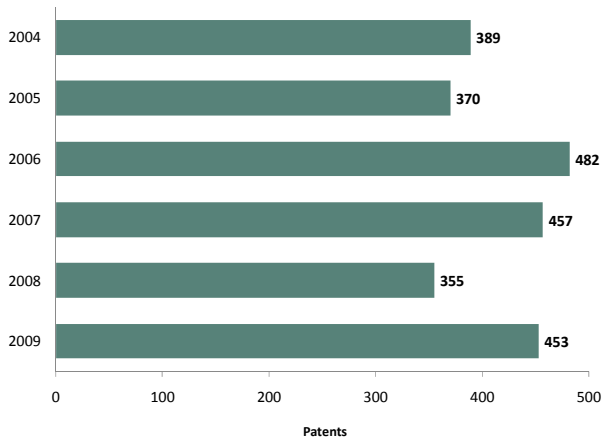


**Bioscience-related Venture Capital Investments in Washington by Segment, 2004–2009**

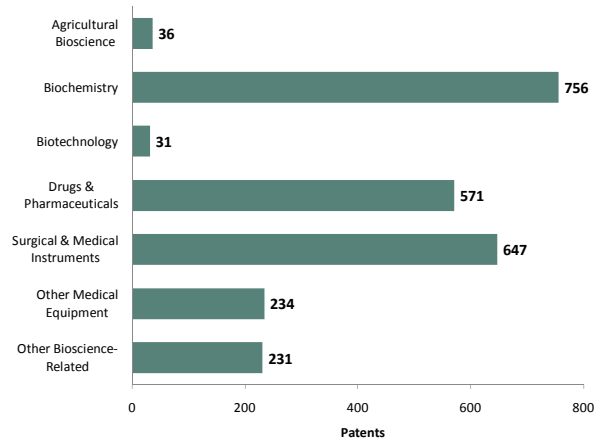


## ●●● Bioscience Patents

**Bioscience-related Patents in Washington, 2004–2009**



**Bioscience-related Patents by Classification Group in Washington, 2004–2009**



### State Bioscience Contact

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### Source Notes:

**Employment, Establishment, and Wage Data:** U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW) industry data provided by the Minnesota IMPLAN Group, 2001 and 2008.

**Employment Multipliers:** U.S. Bureau of Economic Analysis RIMS II Employment Multipliers, 2006 (most currently available).

**Academic R&D Expenditures:** National Science Foundation (NSF) Survey of Research and Development Expenditures at Universities and Colleges, 2004 and 2008.

**NIH Funding:** National Institutes of Health, Office of Extramural Research, Award Trends, Dollars Awarded by State, 2004 and 2009.

**Clinical Trials:** National Institutes of Health, [Clinicaltrials.gov](http://Clinicaltrials.gov), trials that were initiated in 2009.

**Higher Education Degrees:** National Center for Educational Statistics, Integrated Postsecondary Education Data System (IPEDS), 2008.

**Occupational Employment:** U.S. Bureau of Labor Statistics, Occupational Employment Statistics (OES) survey data, 2008.

**Venture Capital:** Thomson Reuters' VentureXpert Database, 2004–2009, as of January 15, 2010.

**Patents:** U.S. Patent & Trademark Office data as available from the Thomson Reuters' Delphion Patent Analysis Database, 2004–2009, as of January 15, 2010.

For a more detailed discussion of the data and methodology used, please see the Appendix to the full national report. ©2010