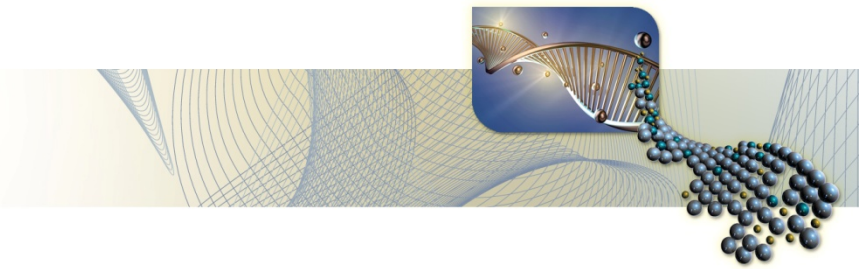


ARIZONA



Arizona bioscience companies have added jobs at a rapid rate, increasing employment by nearly 36 percent in the industry since 2001 or roughly twice the national bioscience growth rate. Research, testing and medical laboratories represents the largest bioscience subsector in Arizona (about 7,800 jobs). Growth has been strong in this subsector and also in medical devices and equipment. Academic research expenditures in biosciences totaled \$388 million in 2008, led by biological and medical sciences. Funding from the National Institutes of Health grew at 19 percent from 2004 to 2009 including funds from the American Recovery and Reinvestment Act (ARRA). Arizona's biomedical infrastructure hosted 453 active clinical trials in 2009. Bioscience venture capital investments over the last six years totaled \$289 million, distributed widely across several categories. A total of 899 bioscience patents in the same period fell mainly in the categories of surgical and medical instruments and drugs and pharmaceuticals.

●●● Bioscience Performance Metrics

Summary of State Performance in Selected Bioscience-related Metrics

Metrics	Arizona	United States	Rank*
Bioscience Industry, 2008			
Total Bioscience Industry Employment, 2008	14,717	1,420,324	III
Bioscience Industry Location Quotient, 2008	0.54	n/a	IV
Biosciences Industry Establishments, 2008	723	47,593	III
Academic R&D Expenditures, FY 2008			
Bioscience R&D (\$ thousands)	\$387,544	\$31,818,810	26
Bioscience Share of Total R&D	46.6%	61.3%	44
Bioscience R&D Per Capita	\$59.63	\$104.54	43
Change in Bioscience R&D, FY 2004–08	25.0%	22.3%	14
NIH Funding, FY 2009			
Total, Including ARRA Funds (\$ thousands)	\$191,049	\$25,837,590	27
Per Capita Funding	\$28.97	\$84.16	40
Change in Baseline Funding, FY 2004–09**	-1.8%	-4.7%	27
Change in Total Funding, FY 2004–09	19.0%	14.6%	24
Clinical Trials, Initiated 2009	453	5,299	16
Higher Education Degrees in Bioscience Fields, AY 2008	2,189	161,811	24
Employment in Bioscience-related Occupations, 2008	10,260	717,510	22
Bioscience Venture Capital Investments, 2004–09 (\$ millions)	\$288.6	\$60,099	22
Bioscience and Related Patents, 2004–09	899	75,593	26

*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.

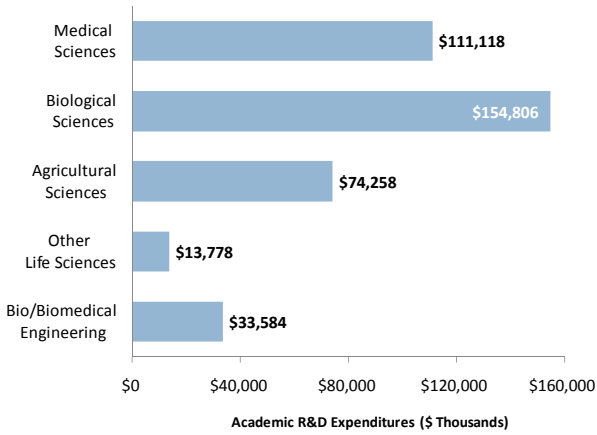
●●● Bioscience Industry Base, 2008

INDUSTRY SUBSECTOR	Arizona		United States	
	2008	2001-08 Change	2008	2001-08 Change
AGRICULTURAL FEEDSTOCK & CHEMICALS				
Establishments	22	-12.5%	2,440	16.0%
Employment	619	-13.0%	114,793	1.9%
Location Quotient	0.28		n/a	
Direct-Effect Employment Multiplier	4.53		11.33	
Total Employment Impact	2,805		1,284,650	
Average Annual Wage	\$41,110		\$72,279	
DRUGS & PHARMACEUTICALS				
Establishments	38	35.7%	2,771	6.4%
Employment	1,041	-7.5%	311,882	2.3%
Location Quotient	0.17		n/a	
Direct-Effect Employment Multiplier	4.04		9.92	
Total Employment Impact	4,206		2,873,278	
Average Annual Wage	\$50,899		\$93,378	
MEDICAL DEVICES & EQUIPMENT				
Establishments	265	7.7%	15,227	0.4%
Employment	5,275	31.6%	435,509	2.0%
Location Quotient	0.63		n/a	
Direct-Effect Employment Multiplier	2.64		4.87	
Total Employment Impact	13,903		2,029,581	
Average Annual Wage	\$57,746		\$63,606	
RESEARCH, TESTING, & MEDICAL LABORATORIES				
Establishments	398	55.9%	27,154	57.7%
Employment	7,782	55.4%	558,140	46.1%
Location Quotient	0.73		n/a	
Direct-Effect Employment Multiplier	2.22		3.30	
Total Employment Impact	17,267		1,853,127	
Average Annual Wage	\$63,924		\$80,785	
TOTAL BIOSCIENCES INDUSTRY				
Establishments	723	30.4%	47,593	28.3%
Employment	14,717	35.6%	1,420,324	15.8%
Location Quotient	0.54		n/a	
Direct-Effect Employment Multiplier	2.59		5.82	
Total Employment Impact	38,180		8,040,636	
Average Annual Wage	\$59,828		\$77,595	
TOTAL PRIVATE SECTOR				
Establishments	160,360	37.1%	8,860,956	13.8%
Employment	2,174,709	15.0%	113,917,377	3.5%
Average Annual Wage	\$41,920		\$45,229	

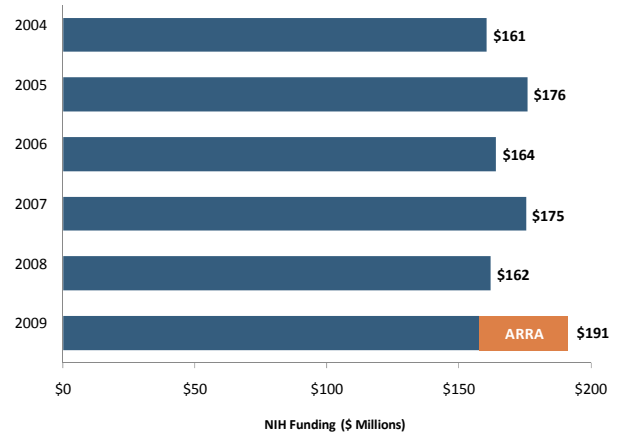
Note: U.S. employment metrics include Puerto Rico. Estimates of total employment impacts do not include Puerto Rico.

●●● Bioscience Performance Metrics

Bioscience Academic R&D Expenditures in Arizona, FY 2008

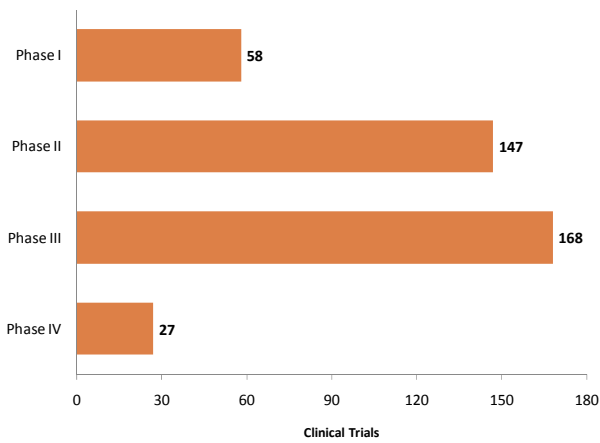


NIH Awards in Arizona, 2004–2009

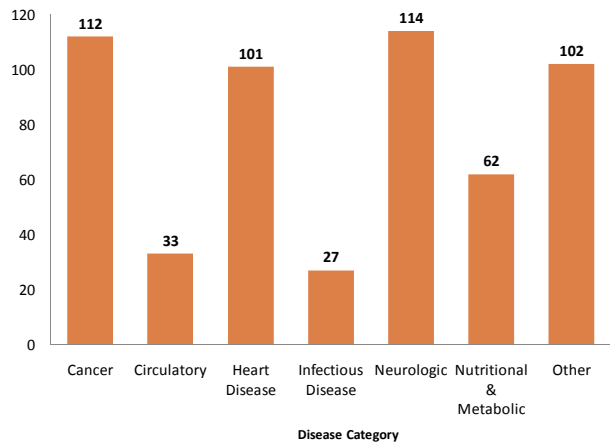


●●● Recent Clinical Trial Activities

Clinical Trials by Phase in Arizona, 2009

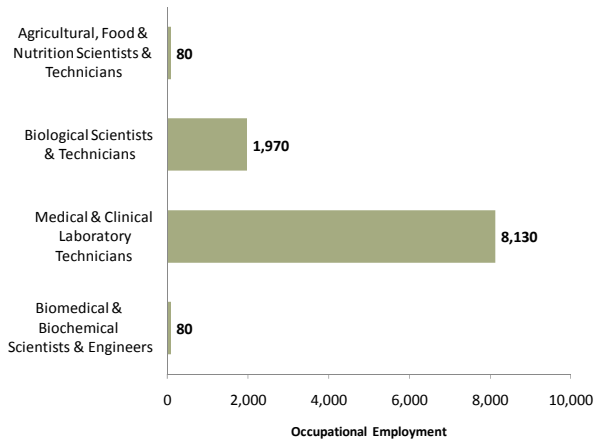


Clinical Trials by Major Disease Category in Arizona, 2009

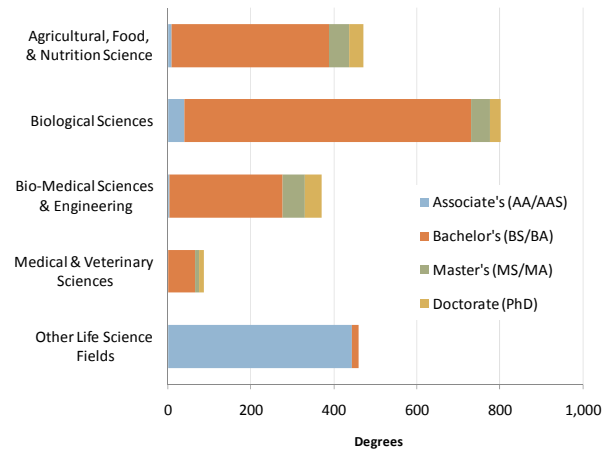


Bioscience Talent Base

Bioscience-related Occupational Employment in Arizona, 2008

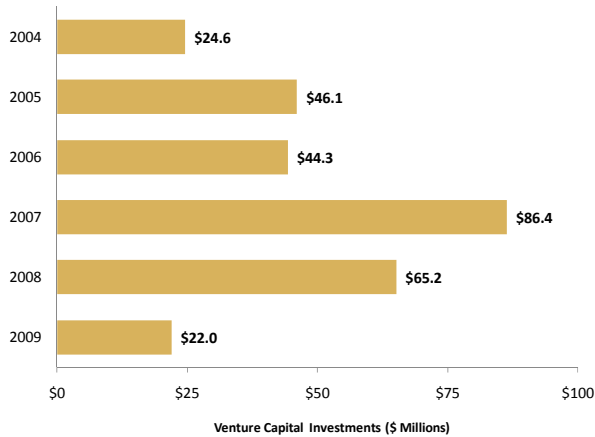


Bioscience-related Degrees in Arizona, AY 2008

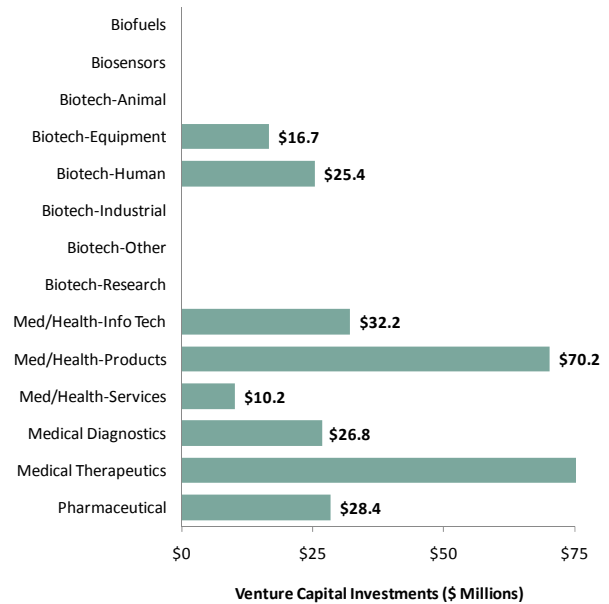


Bioscience Venture Capital

Bioscience-related Venture Capital Investments in Arizona, 2004–2009

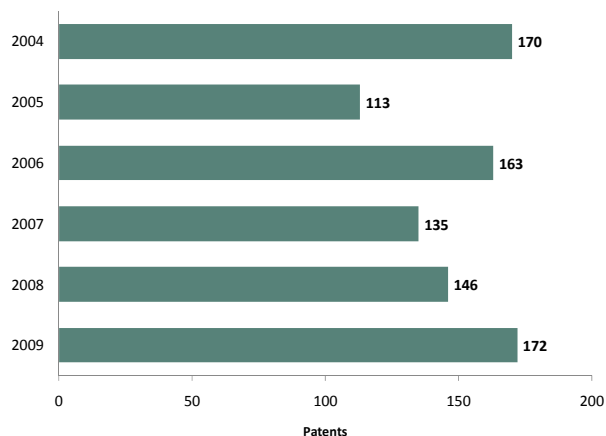


Bioscience-related Venture Capital Investments in Arizona by Segment, 2004–2009

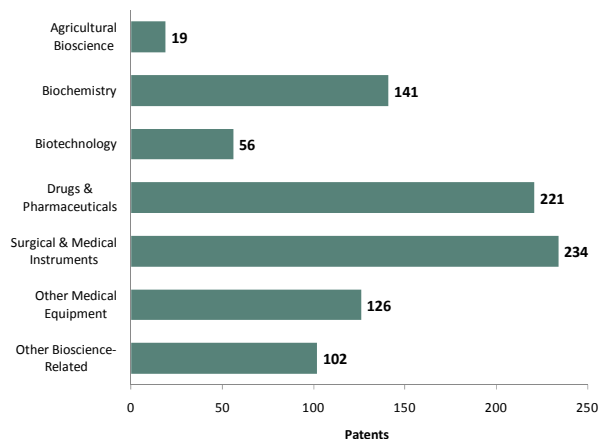


●●● Bioscience Patents

Bioscience-related Patents in Arizona, 2004–2009



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



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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, 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