

Texas has 10 percent of national employment and an employment specialization in the agricultural feedstock and chemicals subsector of the biosciences (location quotient of 1.32). In research, testing and medical laboratories, employment is nearly 5 percent of the national total, and growth has been rapid. Total academic bioscience research and development expenditures have grown by 23 percent since 2004 and reached \$2.45 billion in 2008, led by medical sciences and biological sciences. State biomedical institutions participated in a large number of active clinical trials in 2009, with 1,213. Texas is a major generator and employer of bioscience talent—State higher education institutions graduated 10,504 students with degrees in bioscience-related fields in 2008 and there are more than 49,000 employed in Texas in key bioscience occupations. Total venture capital invested in bioscience companies during the last six years was \$2.27 billion, well distributed across sectors and led by medical/health services. The 3,047 bioscience patents issued in the same period were also well diversified, led by drugs and pharmaceuticals, biochemistry, and surgical and medical instruments.

●●● Bioscience Performance Metrics

Summary of State Performance in Selected Bioscience-related Metrics

Metrics	Texas	United States	Rank*
Bioscience Industry, 2008			
Total Bioscience Industry Employment, 2008	64,964	1,420,324	I
Bioscience Industry Location Quotient, 2008	0.60	n/a	IV
Biosciences Industry Establishments, 2008	2,938	47,593	I
Academic R&D Expenditures, FY 2008			
Bioscience R&D (\$ thousands)	\$2,449,890	\$31,818,810	3
Bioscience Share of Total R&D	65.4%	61.3%	18
Bioscience R&D Per Capita	\$100.80	\$104.54	22
Change in Bioscience R&D, FY 2004–08	23.1%	22.3%	20
NIH Funding, FY 2009			
Total, Including ARRA Funds (\$ thousands)	\$1,283,792	\$25,837,590	5
Per Capita Funding	\$51.80	\$84.16	29
Change in Baseline Funding, FY 2004–09**	-6.9%	-4.7%	36
Change in Total Funding, FY 2004–09	11.8%	14.6%	37
Clinical Trials, Initiated 2009	1,213	5,299	2
Higher Education Degrees in Bioscience Fields, AY 2008	10,504	161,811	2
Employment in Bioscience-related Occupations, 2008	49,160	717,510	2
Bioscience Venture Capital Investments, 2004–09 (\$ millions)	\$2,267.3	\$60,099	5
Bioscience and Related Patents, 2004–09	3,047	75,593	9

*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.

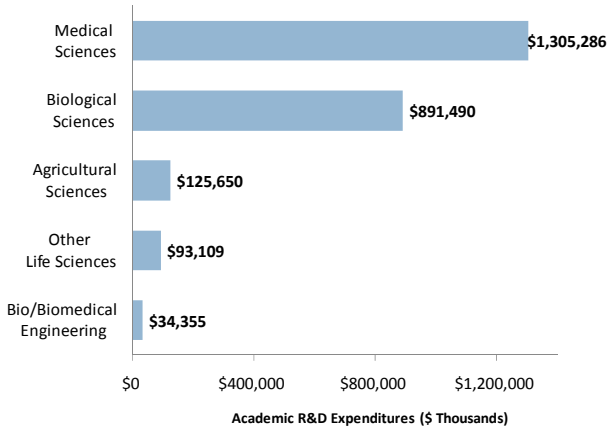
●●● Bioscience Industry Base, 2008

INDUSTRY SUBSECTOR	Texas		United States	
	2008	2001-08 Change	2008	2001-08 Change
AGRICULTURAL FEEDSTOCK & CHEMICALS				
Establishments	228	10.4%	2,440	16.0%
Employment	11,546	-19.4%	114,793	1.9%
Location Quotient	1.32		n/a	
Direct-Effect Employment Multiplier	8.58		11.33	
Total Employment Impact	99,114		1,284,650	
Average Annual Wage	\$92,479		\$72,279	
DRUGS & PHARMACEUTICALS				
Establishments	153	14.2%	2,771	6.4%
Employment	10,077	12.4%	311,882	2.3%
Location Quotient	0.42		n/a	
Direct-Effect Employment Multiplier	6.40		9.92	
Total Employment Impact	64,457		2,873,278	
Average Annual Wage	\$91,949		\$93,378	
MEDICAL DEVICES & EQUIPMENT				
Establishments	809	-6.9%	15,227	0.4%
Employment	15,855	-11.3%	435,509	2.0%
Location Quotient	0.48		n/a	
Direct-Effect Employment Multiplier	3.39		4.87	
Total Employment Impact	53,808		2,029,581	
Average Annual Wage	\$51,473		\$63,606	
RESEARCH, TESTING, & MEDICAL LABORATORIES				
Establishments	1,748	82.3%	27,154	57.7%
Employment	27,485	58.8%	558,140	46.1%
Location Quotient	0.64		n/a	
Direct-Effect Employment Multiplier	2.53		3.30	
Total Employment Impact	69,610		1,853,127	
Average Annual Wage	\$63,377		\$80,785	
TOTAL BIOSCIENCES INDUSTRY				
Establishments	2,938	35.5%	47,593	28.3%
Employment	64,964	11.1%	1,420,324	15.8%
Location Quotient	0.60		n/a	
Direct-Effect Employment Multiplier	4.42		5.82	
Total Employment Impact	286,988		8,040,636	
Average Annual Wage	\$70,076		\$77,595	
TOTAL PRIVATE SECTOR				
Establishments	547,706	14.2%	8,860,956	13.8%
Employment	8,710,163	11.8%	113,917,377	3.5%
Average Annual Wage	\$46,735		\$45,229	

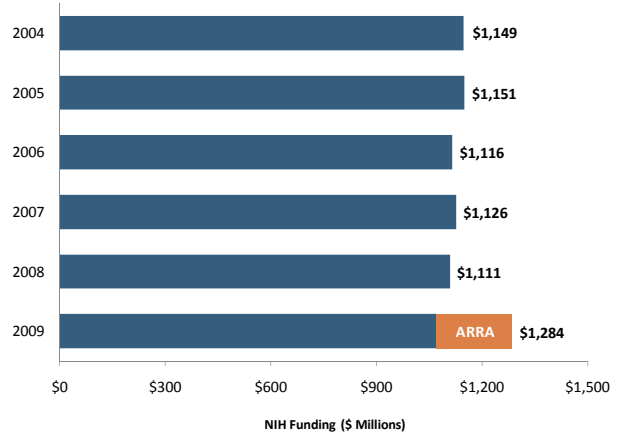
Note: U.S. employment metrics include Puerto Rico. Estimates of total employment impacts do not include Puerto Rico.

●●● Bioscience Performance Metrics

Bioscience Academic R&D Expenditures in Texas, FY 2008

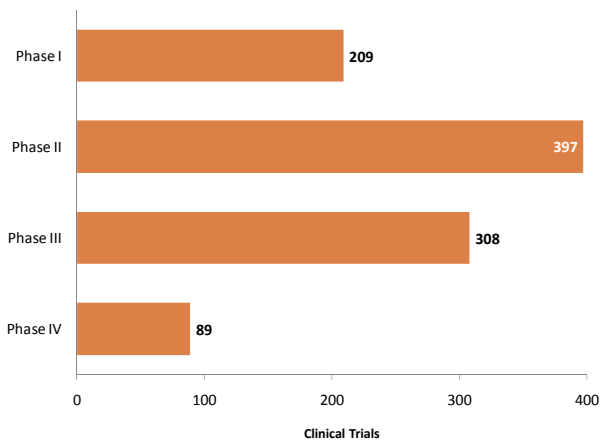


NIH Awards in Texas, 2004–2009

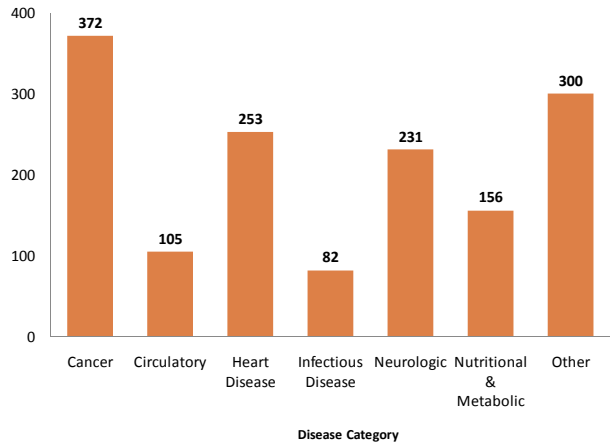


●●● Recent Clinical Trial Activities

Clinical Trials by Phase in Texas, 2009

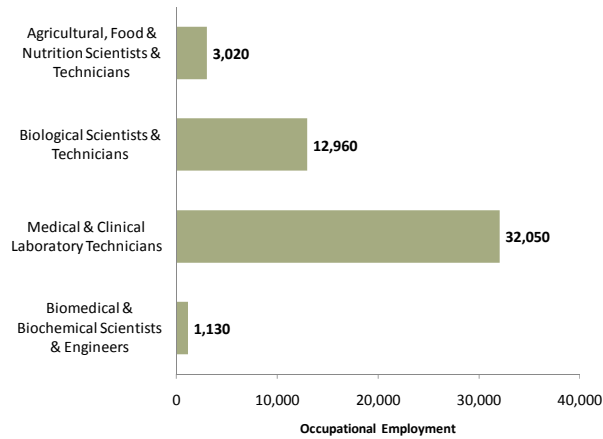


Clinical Trials by Major Disease Category in Texas, 2009

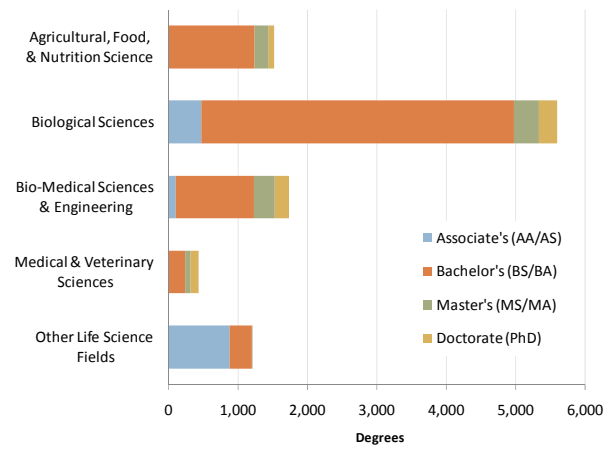


Bioscience Talent Base

Bioscience-related Occupational Employment in Texas, 2008

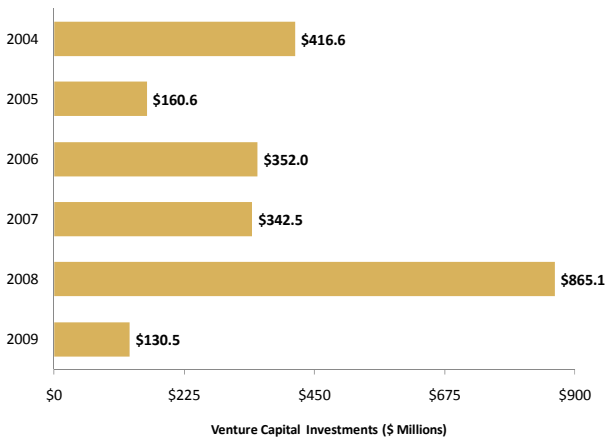


Bioscience-related Degrees in Texas, AY 2008

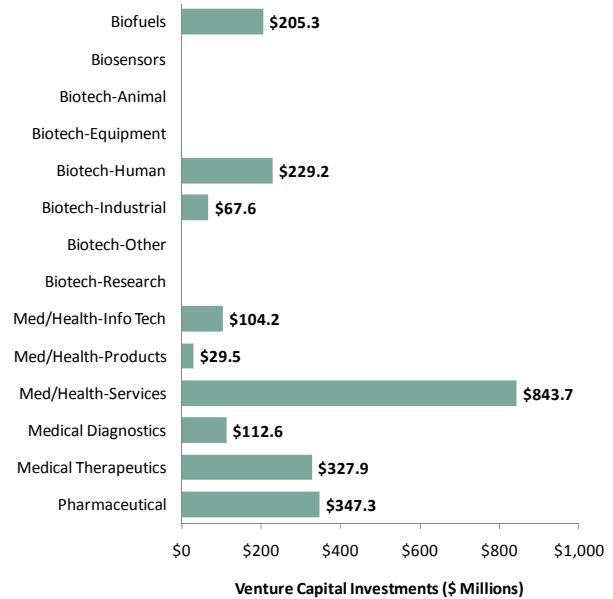


Bioscience Venture Capital

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

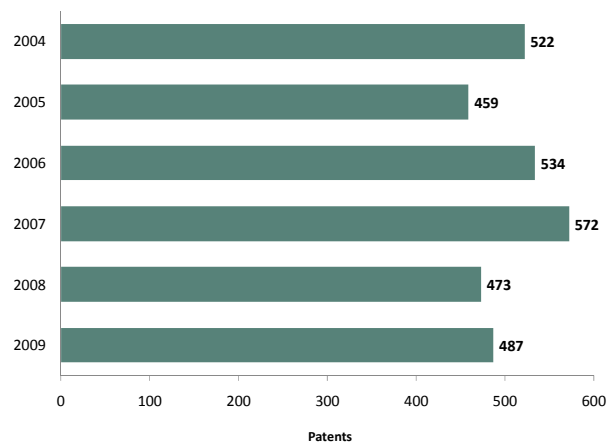


Bioscience-related Venture Capital Investments in Texas by Segment, 2004–2009

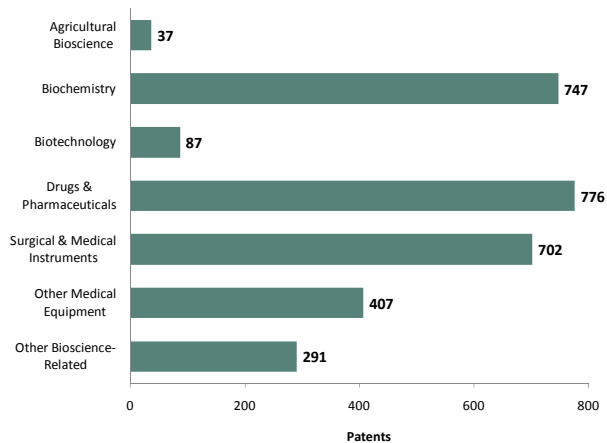


●●● Bioscience Patents

Bioscience-related Patents in Texas, 2004–2009



Bioscience-related Patents by Classification Group in Texas, 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