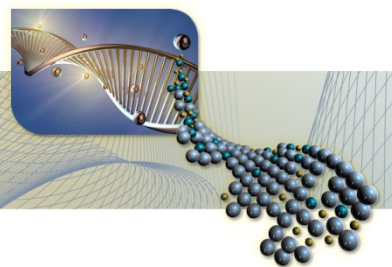


TENNESSEE



Tennessee has more than 5 percent of national employment and a specialized concentration in the agricultural feedstock and chemicals subsector (location quotient of 2.57), which has grown rapidly since 2001. Bioscience academic research and development expenditures have grown by 23.5 percent since 2004 reaching \$544 million in 2008, with nearly equal shares in medical and biological sciences. Funding from the National Institutes of Health has seen strong increases in Tennessee since 2004, increasing by 33 percent in total funding (including American Recovery and Reinvestment Act funds) to \$545 million in 2009. In the last six years, \$1.1 billion in venture capital was invested in State bioscience companies, placing the state above its population rank. Most VC funding went to the medical/health services and medical/health information technology sectors. The 1,092 bioscience patents issued in the same six-year period were well diversified across categories, led by surgical and medical instruments.

●●● Bioscience Performance Metrics

Summary of State Performance in Selected Bioscience-related Metrics

Metrics	Tennessee	United States	Rank*
Bioscience Industry, 2008			
Total Bioscience Industry Employment, 2008	25,717	1,420,324	11
Bioscience Industry Location Quotient, 2008	0.89	n/a	11
Biosciences Industry Establishments, 2008	738	47,593	11
Academic R&D Expenditures, FY 2008			
Bioscience R&D (\$ thousands)	\$544,168	\$31,818,810	18
Bioscience Share of Total R&D	69.1%	61.3%	9
Bioscience R&D Per Capita	\$87.20	\$104.54	31
Change in Bioscience R&D, FY 2004–08	23.5%	22.3%	17
NIH Funding, FY 2009			
Total, Including ARRA Funds (\$ thousands)	\$544,989	\$25,837,590	14
Per Capita Funding	\$86.56	\$84.16	15
Change in Baseline Funding, FY 2004–09**	8.7%	-4.7%	12
Change in Total Funding, FY 2004–09	32.7%	14.6%	12
Clinical Trials, Initiated 2009	546	5,299	11
Higher Education Degrees in Bioscience Fields, AY 2008	2,467	161,811	22
Employment in Bioscience-related Occupations, 2008	13,220	717,510	18
Bioscience Venture Capital Investments, 2004–09 (\$ millions)	\$1,117.7	\$60,099	12
Bioscience and Related Patents, 2004–09	1,092	75,593	22

*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.

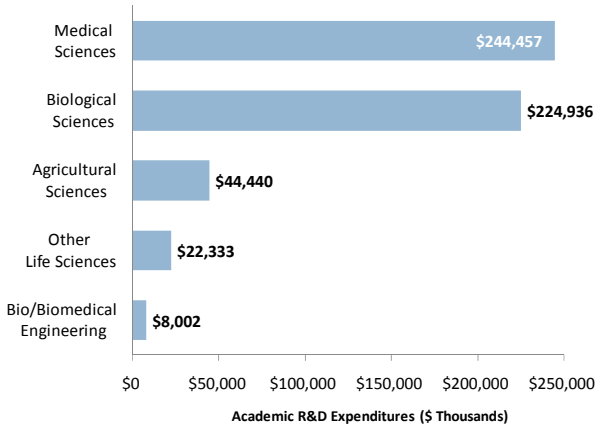
●●● Bioscience Industry Base, 2008

INDUSTRY SUBSECTOR	Tennessee		United States	
	2008	2001-08 Change	2008	2001-08 Change
AGRICULTURAL FEEDSTOCK & CHEMICALS				
Establishments	46	22.7%	2,440	16.0%
Employment	5,980	116.1%	114,793	1.9%
Location Quotient	2.57		n/a	
Direct-Effect Employment Multiplier	5.45		11.33	
Total Employment Impact	32,588		1,284,650	
Average Annual Wage	\$88,153		\$72,279	
DRUGS & PHARMACEUTICALS				
Establishments	27	28.6%	2,771	6.4%
Employment	3,320	6.4%	311,882	2.3%
Location Quotient	0.53		n/a	
Direct-Effect Employment Multiplier	5.58		9.92	
Total Employment Impact	18,530		2,873,278	
Average Annual Wage	\$65,846		\$93,378	
MEDICAL DEVICES & EQUIPMENT				
Establishments	268	1.5%	15,227	0.4%
Employment	7,981	7.5%	435,509	2.0%
Location Quotient	0.91		n/a	
Direct-Effect Employment Multiplier	3.61		4.87	
Total Employment Impact	28,778		2,029,581	
Average Annual Wage	\$59,046		\$63,606	
RESEARCH, TESTING, & MEDICAL LABORATORIES				
Establishments	397	44.4%	27,154	57.7%
Employment	8,437	18.1%	558,140	46.1%
Location Quotient	0.75		n/a	
Direct-Effect Employment Multiplier	2.47		3.30	
Total Employment Impact	20,822		1,853,127	
Average Annual Wage	\$67,708		\$80,785	
TOTAL BIOSCIENCES INDUSTRY				
Establishments	738	23.5%	47,593	28.3%
Employment	25,717	25.7%	1,420,324	15.8%
Location Quotient	0.89		n/a	
Direct-Effect Employment Multiplier	3.92		5.82	
Total Employment Impact	100,718		8,040,636	
Average Annual Wage	\$69,534		\$77,595	
TOTAL PRIVATE SECTOR				
Establishments	139,689	14.3%	8,860,956	13.8%
Employment	2,306,517	2.8%	113,917,377	3.5%
Average Annual Wage	\$40,021		\$45,229	

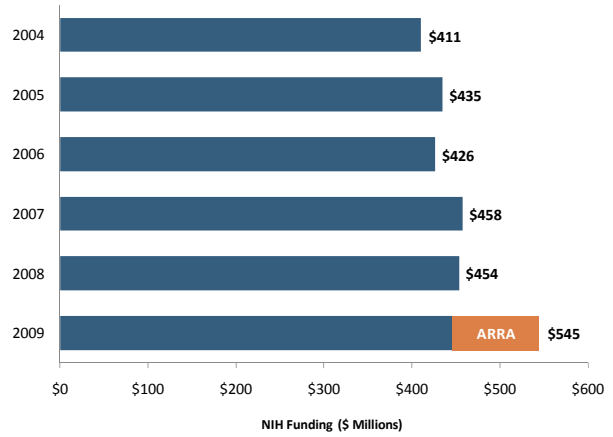
Note: U.S. employment metrics include Puerto Rico. Estimates of total employment impacts do not include Puerto Rico.

Bioscience Performance Metrics

Bioscience Academic R&D Expenditures in Tennessee, FY 2008

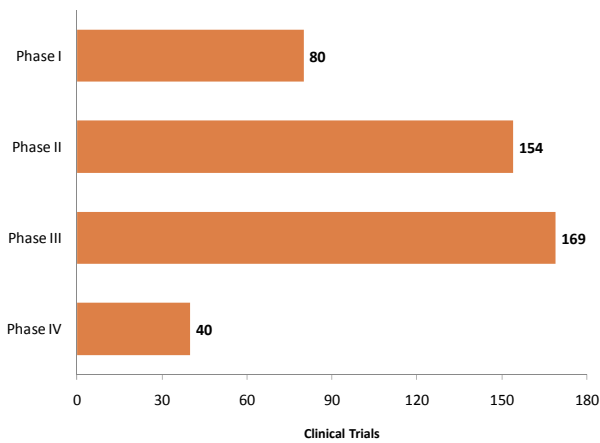


NIH Awards in Tennessee, 2004–2009

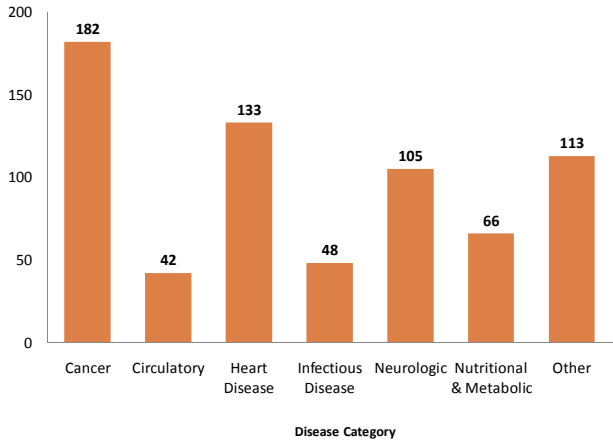


Recent Clinical Trial Activities

Clinical Trials by Phase in Tennessee, 2009

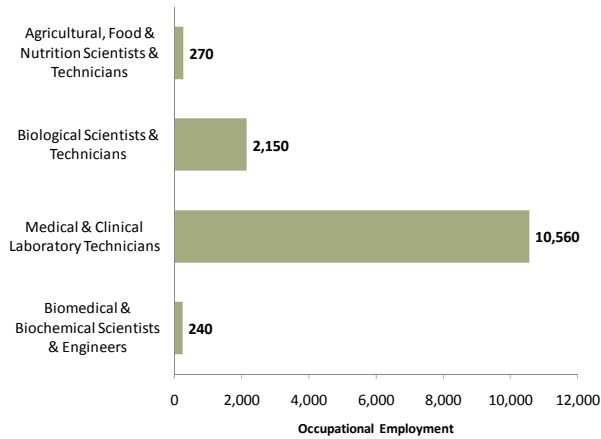


Clinical Trials by Major Disease Category in Tennessee, 2009

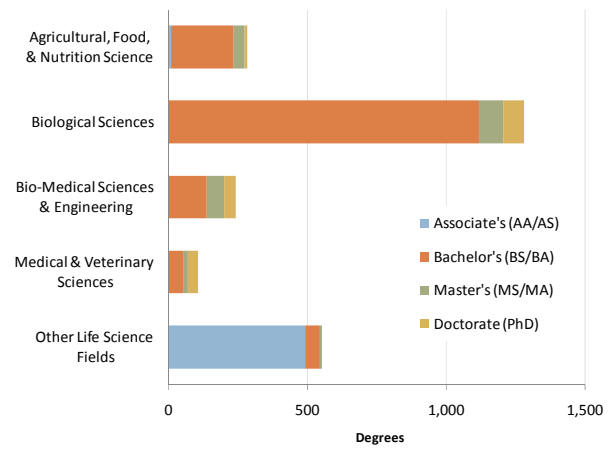


Bioscience Talent Base

Bioscience-related Occupational Employment in Tennessee, 2008

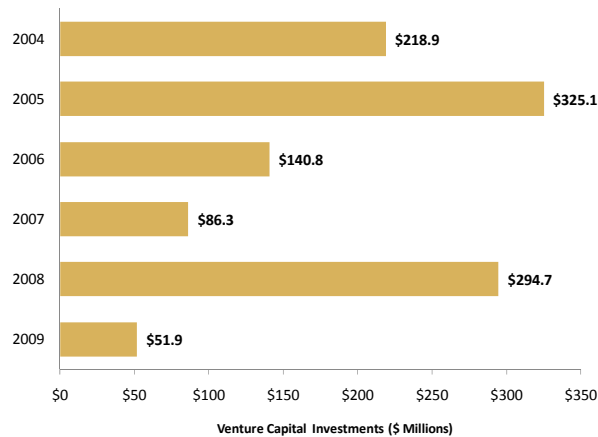


Bioscience-related Degrees in Tennessee, AY 2008

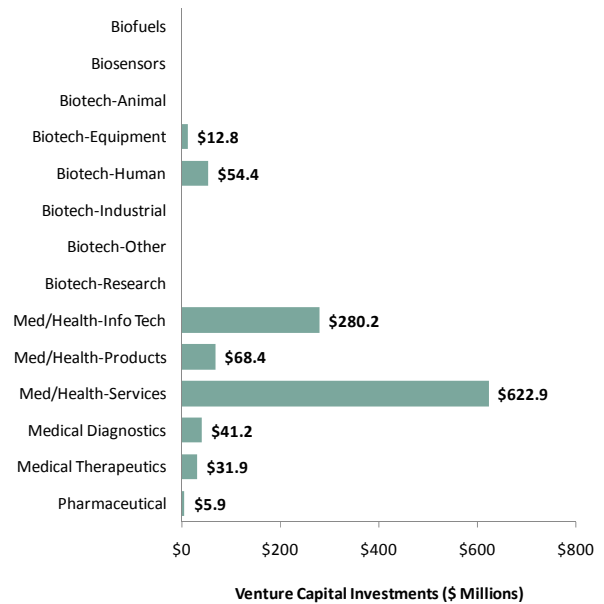


Bioscience Venture Capital

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

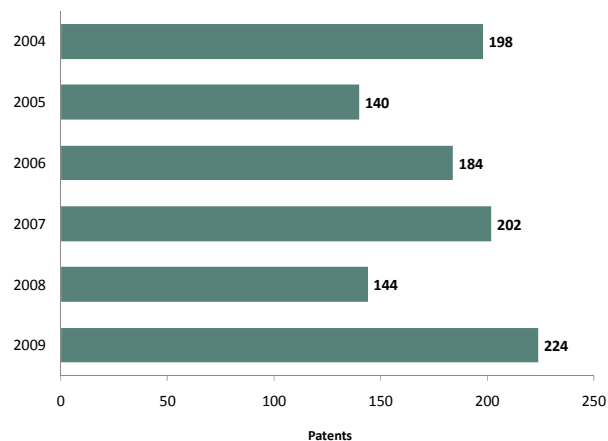


Bioscience-related Venture Capital Investments in Tennessee by Segment, 2004–2009

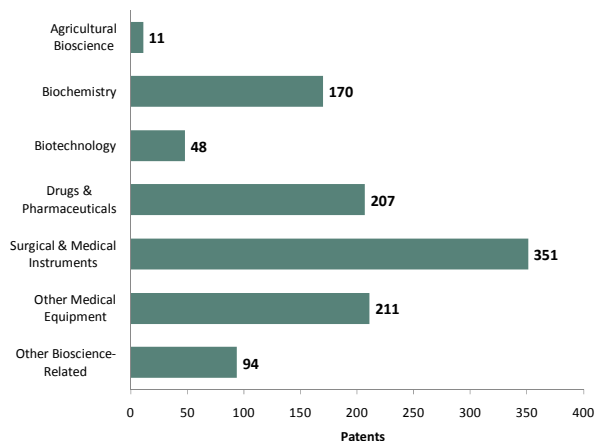


●●● Bioscience Patents

Bioscience-related Patents in Tennessee, 2004–2009



Bioscience-related Patents by Classification Group in Tennessee, 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