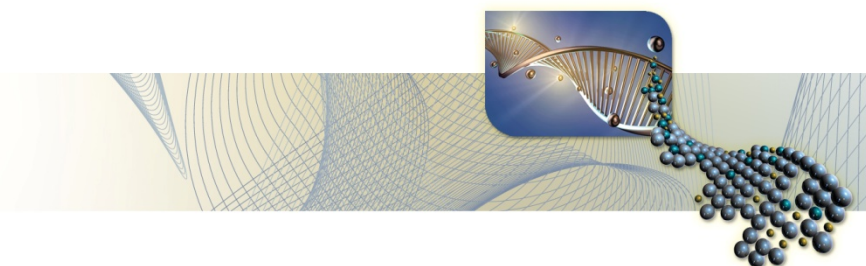


NORTH CAROLINA



North Carolina has a leading, specialized, and growing bioscience industry. Among the four major subsectors, the State has a specialized employment concentration in three—drugs and pharmaceuticals (location quotient of 2.04), research, testing and medical laboratories (1.30), and agricultural feedstock and chemicals (1.22). Academic bioscience research and development expenditures totaled \$1.52 billion in 2008, and have grown faster than the national rate. The largest academic R&D categories were medical sciences (\$834 million) and biological sciences (\$510 million). Both academic bioscience R&D and research funded by the National Institutes of Health are highly concentrated in North Carolina with per capita research funding ranking near the top among all states. The State’s biomedical institutions hosted 732 active clinical trials in 2009. Bioscience venture capital invested in North Carolina bioscience companies during the last six years totaled \$1.76 billion, focused heavily in human biotechnology, followed by medical therapeutics and pharmaceuticals. Drugs and pharmaceuticals led the 2,307 bioscience patents issued during the same period.

●●● Bioscience Performance Metrics

Summary of State Performance in Selected Bioscience-related Metrics

| Metrics | North Carolina | United States | Rank* |
|--|----------------|---------------|-------|
| Bioscience Industry, 2008 | | | |
| Total Bioscience Industry Employment, 2008 | 53,615 | 1,420,324 | I |
| Bioscience Industry Location Quotient, 2008 | 1.28 | n/a | II |
| Biosciences Industry Establishments, 2008 | 1,339 | 47,593 | I |
| Academic R&D Expenditures, FY 2008 | | | |
| Bioscience R&D (\$ thousands) | \$1,517,418 | \$31,818,810 | 5 |
| Bioscience Share of Total R&D | 76.6% | 61.3% | 5 |
| Bioscience R&D Per Capita | \$164.10 | \$104.54 | 5 |
| Change in Bioscience R&D, FY 2004–08 | 40.9% | 22.3% | 6 |
| NIH Funding, FY 2009 | | | |
| Total, Including ARRA Funds (\$ thousands) | \$1,141,200 | \$25,837,590 | 7 |
| Per Capita Funding | \$121.65 | \$84.16 | 8 |
| Change in Baseline Funding, FY 2004–09** | -5.0% | -4.7% | 32 |
| Change in Total Funding, FY 2004–09 | 14.3% | 14.6% | 32 |
| Clinical Trials, Initiated 2009 | 732 | 5,299 | 7 |
| Higher Education Degrees in Bioscience Fields, AY 2008 | 4,473 | 161,811 | 10 |
| Employment in Bioscience-related Occupations, 2008 | 23,630 | 717,510 | 7 |
| Bioscience Venture Capital Investments, 2004–09 (\$ millions) | \$1,756.6 | \$60,099 | 8 |
| Bioscience and Related Patents, 2004–09 | 2,307 | 75,593 | 14 |

*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.

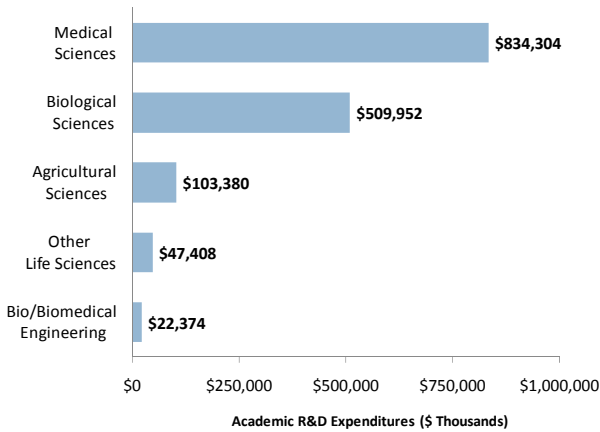
For source notes, see end of State Profile.

| INDUSTRY SUBSECTOR | North Carolina | | United States | |
|--|----------------|----------------|---------------|----------------|
| | 2008 | 2001-08 Change | 2008 | 2001-08 Change |
| AGRICULTURAL FEEDSTOCK & CHEMICALS | | | | |
| Establishments | 61 | 3.0% | 2,440 | 16.0% |
| Employment | 4,138 | -8.1% | 114,793 | 1.9% |
| Location Quotient | 1.22 | | n/a | |
| Direct-Effect Employment Multiplier | 6.57 | | 11.33 | |
| Total Employment Impact | 27,204 | | 1,284,650 | |
| Average Annual Wage | \$75,197 | | \$72,279 | |
| DRUGS & PHARMACEUTICALS | | | | |
| Establishments | 80 | 0.0% | 2,771 | 6.4% |
| Employment | 18,787 | 0.0% | 311,882 | 2.3% |
| Location Quotient | 2.04 | | n/a | |
| Direct-Effect Employment Multiplier | 7.19 | | 9.92 | |
| Total Employment Impact | 135,124 | | 2,873,278 | |
| Average Annual Wage | \$87,057 | | \$93,378 | |
| MEDICAL DEVICES & EQUIPMENT | | | | |
| Establishments | 401 | 7.4% | 15,227 | 0.4% |
| Employment | 9,331 | 16.0% | 435,509 | 2.0% |
| Location Quotient | 0.73 | | n/a | |
| Direct-Effect Employment Multiplier | 3.27 | | 4.87 | |
| Total Employment Impact | 30,480 | | 2,029,581 | |
| Average Annual Wage | \$49,221 | | \$63,606 | |
| RESEARCH, TESTING, & MEDICAL LABORATORIES | | | | |
| Establishments | 797 | 69.3% | 27,154 | 57.7% |
| Employment | 21,359 | 109.3% | 558,140 | 46.1% |
| Location Quotient | 1.30 | | n/a | |
| Direct-Effect Employment Multiplier | 2.56 | | 3.30 | |
| Total Employment Impact | 54,650 | | 1,853,127 | |
| Average Annual Wage | \$75,191 | | \$80,785 | |
| TOTAL BIOSCIENCES INDUSTRY | | | | |
| Establishments | 1,339 | 36.1% | 47,593 | 28.3% |
| Employment | 53,615 | 29.1% | 1,420,324 | 15.8% |
| Location Quotient | 1.28 | | n/a | |
| Direct-Effect Employment Multiplier | 4.62 | | 5.82 | |
| Total Employment Impact | 247,457 | | 8,040,636 | |
| Average Annual Wage | \$74,829 | | \$77,595 | |
| TOTAL PRIVATE SECTOR | | | | |
| Establishments | 249,811 | 15.8% | 8,860,956 | 13.8% |
| Employment | 3,359,661 | 5.3% | 113,917,377 | 3.5% |
| Average Annual Wage | \$39,373 | | \$45,229 | |

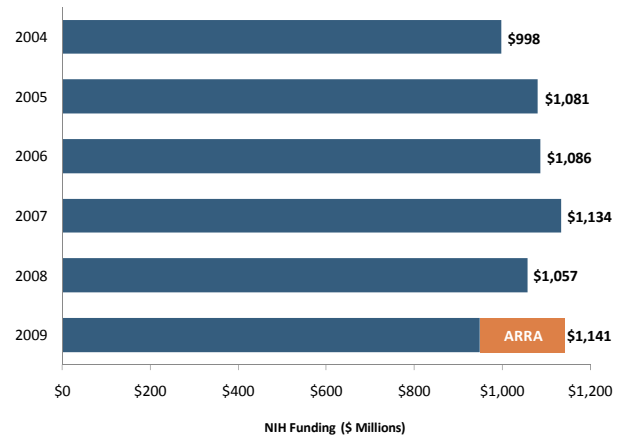
Note: U.S. employment metrics include Puerto Rico. Estimates of total employment impacts do not include Puerto Rico.

Bioscience Performance Metrics

Bioscience Academic R&D Expenditures in North Carolina, FY 2008

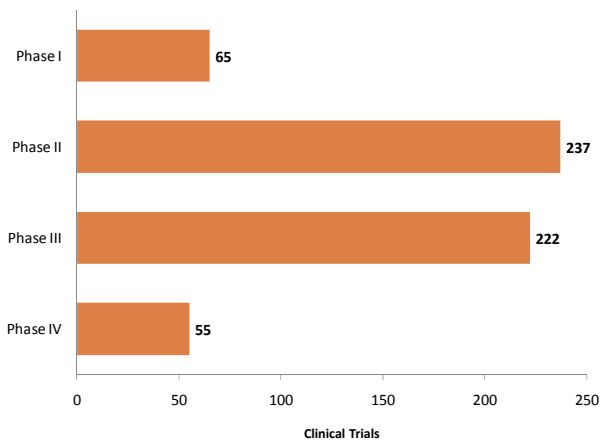


NIH Awards in North Carolina, 2004–2009

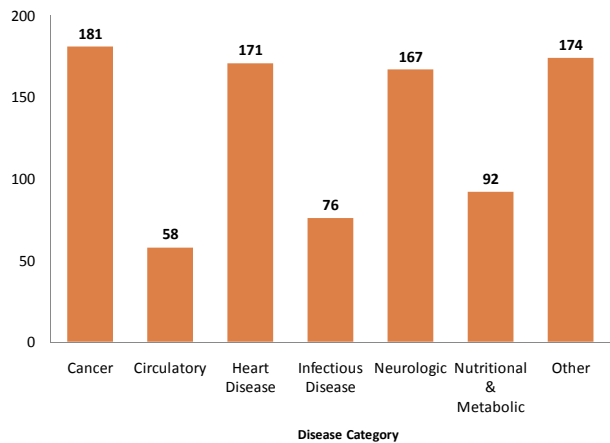


Recent Clinical Trial Activities

Clinical Trials by Phase in North Carolina, 2009

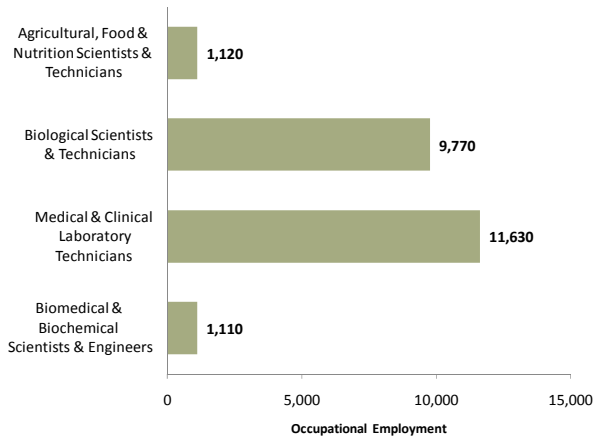


Clinical Trials by Major Disease Category in North Carolina, 2009

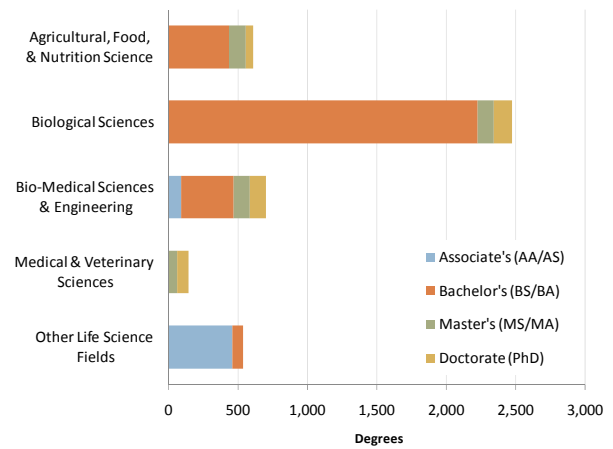


●●● Bioscience Talent Base

Bioscience-related Occupational Employment in North Carolina, 2008

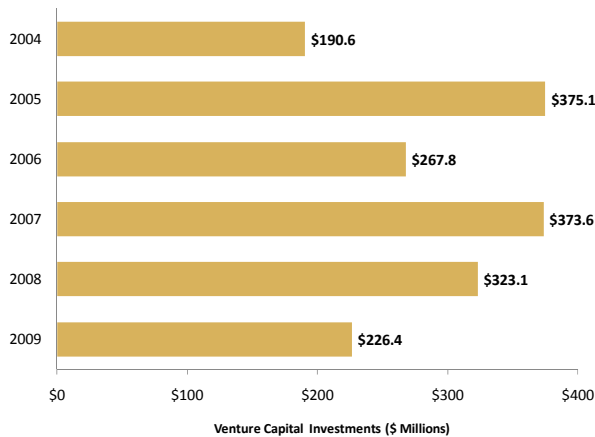


Bioscience-related Degrees in North Carolina, AY 2008

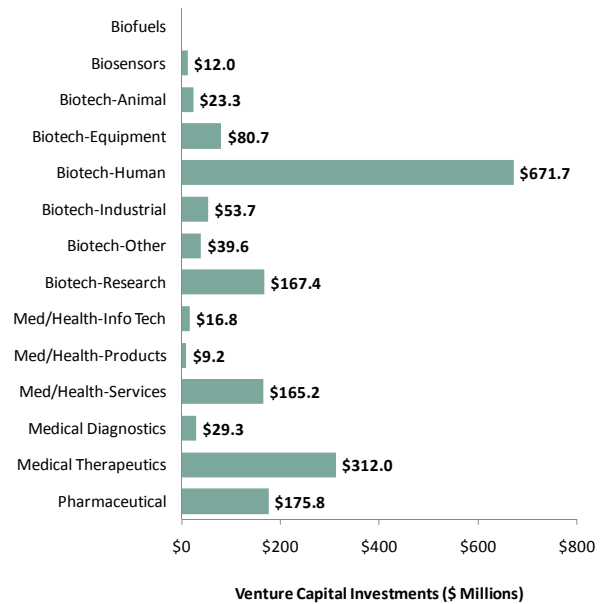


●●● Bioscience Venture Capital

Bioscience-related Venture Capital Investments in North Carolina, 2004–2009

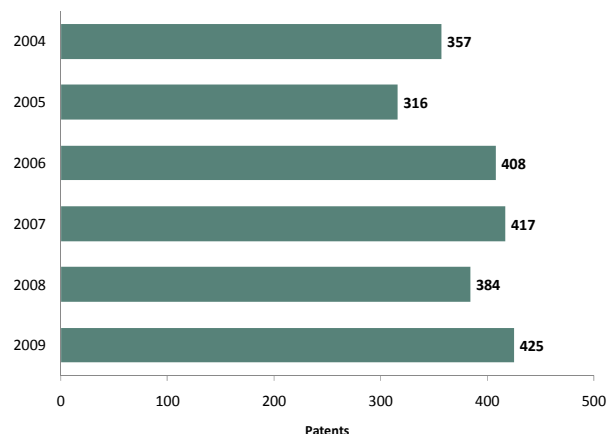


Bioscience-related Venture Capital Investments in North Carolina by Segment, 2004–2009

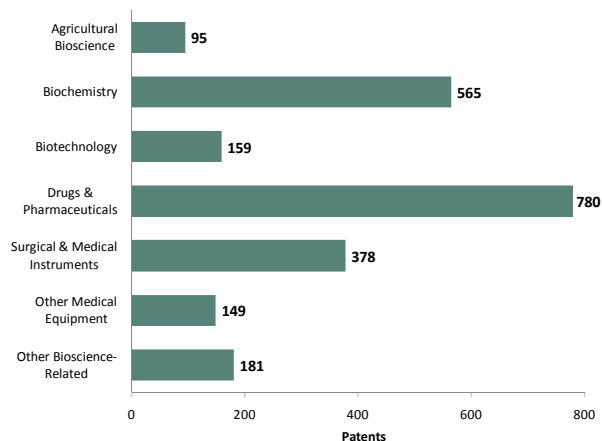


●●● Bioscience Patents

Bioscience-related Patents in North Carolina, 2004–2009



Bioscience-related Patents by Classification Group in North Carolina, 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