

Broader Economic Impacts of the Life Science Industry: Increasing, Deepening, and Reaching Every Region of North Carolina

North Carolina's life science industry is on a high-growth trajectory in recent years, led by rapid growth in some of its largest and highest-paying industry subsectors, and acting as a core driver of the state economy. These gains, as one would expect, are translating into broader, steadily rising economic impacts. The total economic impact of the state's life science industry exceeded \$86 billion in 2016, rising an impressive 34 percent during the current economic expansion.

These broad impacts are extending across and throughout the state, reflecting the diverse nature of North Carolina's industry and revealing one of the core value propositions for life sciences economic development—local areas, both urban and rural, can develop a comparative advantage in an industry niche. In the life sciences, that niche can range from the innovative biotechnology research conducted in the lab to the production of new therapeutics and vaccines to the distribution of precision medical devices.

A regional assessment of the North Carolina life sciences, conducted here in a new analysis, reveals an industry having significant impacts throughout the state, in both urban and rural areas, and across each region of the state.

The life science industry's impacts are not only broad, but also deepening as the state industry continues to develop and to mature. As industries grow and mature, their local supply chains and workforce development relationships strengthen. As a result, more of an industry's operational spending is captured locally, increasing economic integration and expanding local impacts. As North Carolina's has emerged as a leading national and international center for life sciences business activity, this increasing integration is evident in increases in local jobs supported by the sector—the employment multiplier has increased from 3.99 state jobs supported by each life sciences job to 4.13 jobs in 2016.

This section examines the impacts of the industry statewide and by sub-state regions. In addition, the impact of life sciences R&D at North Carolina's colleges and universities, is also reported.

Impacts of the Life Science Industry in North Carolina

North Carolina's life science industry continued to grow throughout the current economic expansion and the state continues to be a national leader in industry growth and performance. Not surprisingly, given the growth and success of the industry, the contributions of this sector to the state's economy have similarly increased. Key findings from the industry economic impact assessment include:

- Since the 2010 economic impact report prepared for NCBiotech, the direct employment of the North Carolina life science industry has increased by 11 percent and the estimated revenues of the industry have grown even more rapidly, by more than 34 percent.
- The total economic impact on state output estimated for the life science industry has increased to over \$86 billion in 2016.

- The life science industry generated nearly \$2.2 billion in state and local government revenues in 2016, up more than 13 percent from \$1.9 billion in 2010.

In terms of employment, the total economic impact from the life science industry stands at nearly 260,000 jobs, accounting for nearly 5 percent of total employment in the state.

Comparison of the Economic Contribution of the Life Science Industry to the North Carolina Economy 2010, 2012, 2014 and 2016

ITEM	2010	2012	2014	2016	Change 2010-16	% Change 2010-16
Direct Impact (Output Mil. \$s)	\$41,156	\$36,477	\$49,478	\$55,324	\$14,168	34%
Total Impact (Output Mil. \$s)	\$64,642	\$59,009	\$73,463	\$86,364	\$21,722	34%
State Impact Multiplier	\$1.57	\$1.62	\$1.48	\$1.56		
Direct Impact (Employment)	56,842	58,589	60,717	62,937	6,095	11%
Total Impact (Employment)	226,823	237,665	228,259	259,963	33,140	15%
State Impact Multiplier	3.99	4.06	3.76	4.13		
State and Local Tax Revenues (Mil. \$)	\$1,918	\$1,731	\$1,781	\$2,175	\$257	13%

Source: TEconomy Partners analysis of NCBiotech data using IMPLAN.