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# Northeast Ohio: Industry Driver and Occupational Highlights

Ohio Board of Regents

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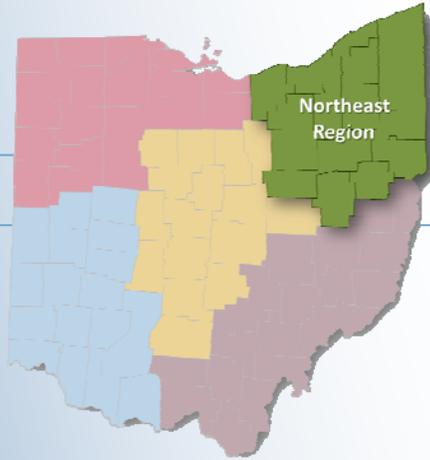
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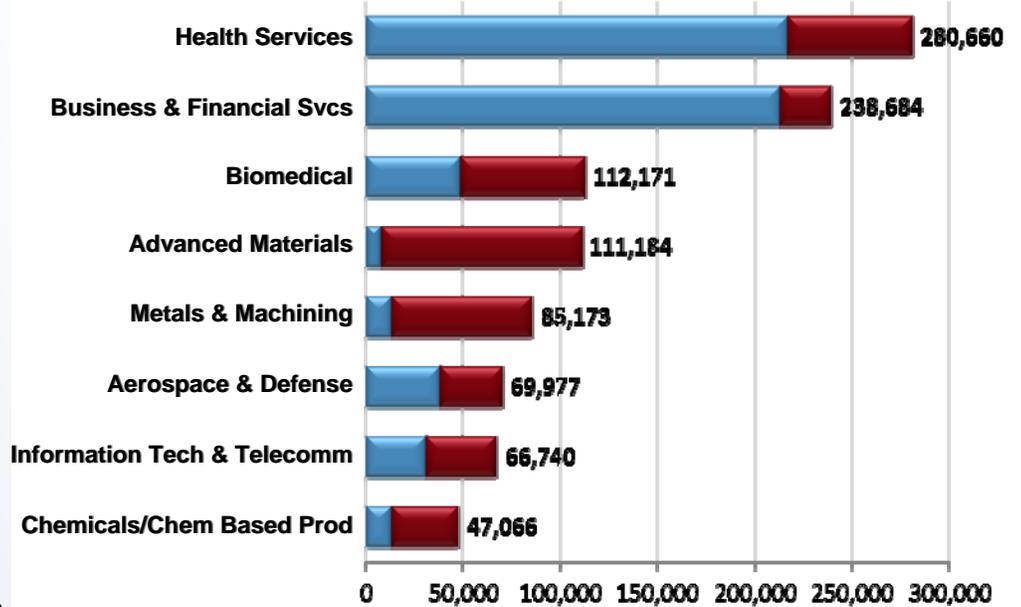
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## Northeast Ohio:

### Industry Driver & Occupational Highlights

#### Industry Drivers



Source: EMSI Complete Employment - 1st Quarter 2011, accessed June 2011

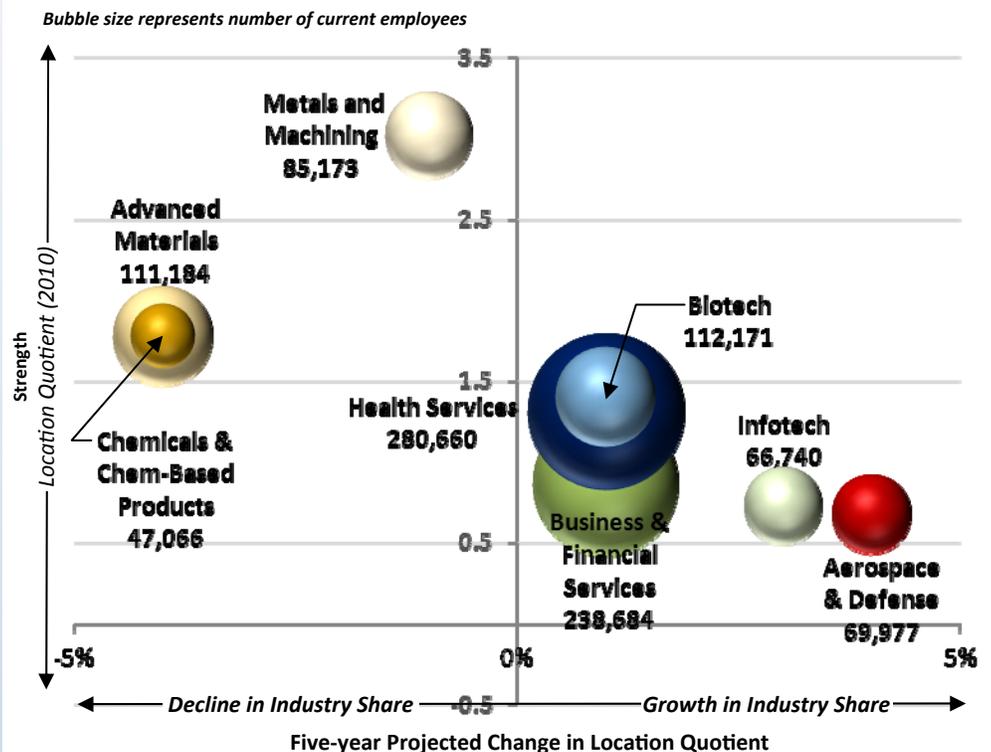
Northeast Ohio's most concentrated industries include the Metals and Machining Industries (focusing on machine shops, ball and roller bearing manufacturing, and iron and steel mills), Advanced Materials (including surgical appliance and supplies), and Chemicals and Chemical-based Products (primarily plastics product manufacturing).

Supporting and complementing these industries are two industry groups that employ two times as many people as the most concentrated industries. These two industry groups are the Business and Financial Services Industries and the Health Industries, with an even more competitive Biomedical/Biotechnology sector. To a large degree, the Biomedical sector overlaps with the broad "Health Cluster," however, an additional 52,698 people are employed in unique up and downstream sectors of the Biomedical sector.

The bar chart to the right presents total employment in each industry group, with the shaded area of the bar indicating employment that is double counted across more than one industry group.

The bubble chart presents the location quotient (LQ) for the industry groupings. Economists commonly cite LQs over 1.25 as indicating competitive advantage. A regional LQ of 1.25 means regional employment is 25% higher than the national average in the selected industries. The chart shows that Northeast Ohio's highly concentrated industries are manufacturing-related, but most of these are expected to become less concentrated in the future. Industries becoming more concentrated are indicated on the right portion of the chart, with combined expected job growth of 56,000 by 2016.

#### Current Job Base Analysis & Estimated 5-Year Change

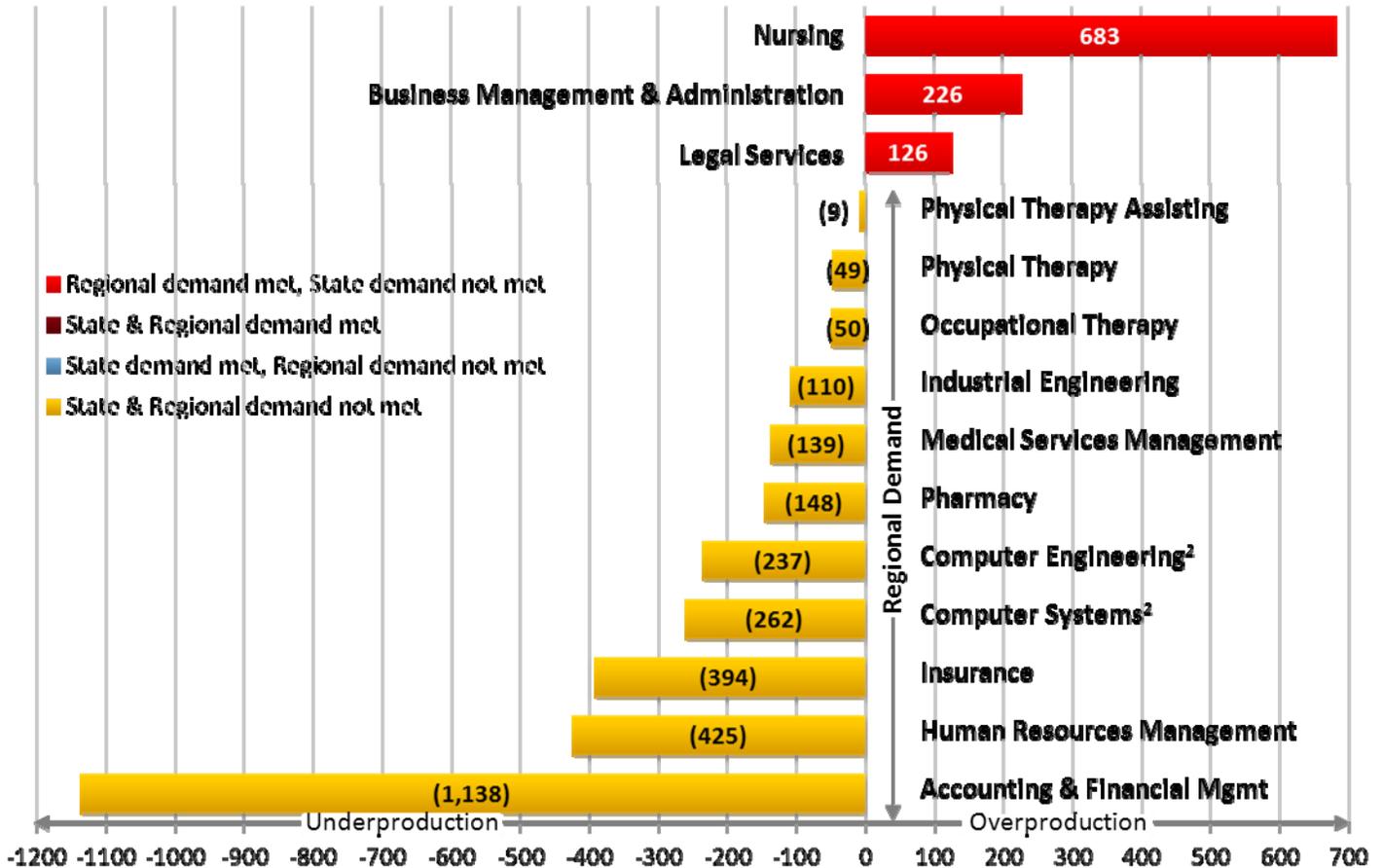


Source: EMSI Complete Employment - 1st Quarter 2011, accessed June 2011



## Regional and State Supply Challenges

The US Department of Labor's *Occupational Supply and Demand System* relates occupations with postsecondary courses. In this way, the demand for occupations can be related to the supply of graduates. Gaps are created by both oversupply and undersupply. The chart below indicates substantial undersupply of Accounting and Financial Management and Computer Systems<sup>1</sup> graduates, and to a lesser extent graduates in Human Resource Management, Insurance, and Computer Engineering. Substantial oversupply is occurring among Nursing graduates and to a lesser extent Business Management and Legal Services graduates. If there were an undersupply at the state level for these three programs, then Northeast Ohio could help fill the state's gap. However, additional analysis shows a similar (Legal) or greater oversupply (Business and Nursing) at the state level compared to the regional level.



1. The Computer Systems group of occupations includes Computer & Information Scientists, Research Computer Programmers; Network Systems & Data Communications Analysts; Database Administrators; Computer Support Specialists; Computer Systems Analysts; and Network & computer Systems Administrators.

2. Estimate based on 2010 Completers. 2010 CIPs more accurately reflect Computer Engineering & Computer Science program completers.

Note: A retention factor was applied to the completers total. According to the Performance Report for Ohio's Colleges & Universities, 2006, the in-state retention rate for those with a bachelor's degree or higher was roughly 73% for Ohio & 87% for individuals with an associate's degree. In Engineering, the retention factor is 68% for those with a bachelor's degree, 44% for those with a master's degree, and 28% for those with a doctoral degree.

Source: EMSI Complete Employment - 1st Quarter 2011, accessed June 2011



## Occupational Concentration

The table below presents a comparison of occupational groups in terms of their relative concentration in Northeast Ohio, the projected job growth, and annual openings. It shows the same information for the Cleveland and the Akron MSAs. Occupations that require an associate's degree or more are presented. Northeast Ohio's strongest concentrations of employment are in health occupations and the Industrial Engineering occupation. For example, Physical Therapy Assisting (LQ=1.7), Nursing (LQ=1.3), and Industrial Engineering (LQ=1.4) each have location quotients (LQs) over 1.25. While there appears to be currently an oversupply of nurses, forecasts show that demand should become strong in 2013 and continue to climb from there. Physical Therapist Assistants and Industrial Engineers each show modest growth and job openings.

The table shows that over 33,000 people in Northeast Ohio are employed in the Computer Systems Group with annual openings of over 1,000. As the earlier chart showed, Northeast Ohio is experiencing an undersupply of graduates in Computer Systems to serve business demand.

The table also presents data at the Metropolitan Statistical Area (MSA) level. With over 2 million people in the Cleveland MSA, the proportion of jobs in that MSA versus the Akron MSA, with 700,000 people, is understandable. Nearly the same proportion of jobs is evident for each group of worker in the table, demonstrating no particular specialization between one MSA and the other for these selected occupational groups.

	Nursing	Medical Services Management	Physical Therapy	Pharmacy	Physical Therapy Assisting	Occupational Therapy	Legal Services	Business Management & Administration	Human Resources Management	Insurance	Industrial Engineering	Computer Systems	Computer Engineering	
<b>2011 LQ</b>	1.3	1.2	1.1	1.1	1.7	1.1	1.0	0.8	1.2	1.1	1.4	0.9	0.6	
<b>2011 Jobs</b>	46,331	5,059	3,111	3,885	2,627	1,681	12,240	43,333	14,182	20,329	3,782	33,093	8,179	<b>Northeast Ohio</b>
<b>2011-16 Growth</b>	3,912	357	420	157	387	201	427	1,955	1,013	601	104	1,737	978	
<b>Annual Openings</b>	1,580	166	120	148	114	70	318	1,565	577	598	131	1,073	269	
<b>2011 Jobs</b>	28,619	2,865	1,912	2,241	1,403	1,048	8,222	25,044	8,442	12,248	2,177	21,295	5,586	<b>Cleveland MSA</b>
<b>2011-16 Growth</b>	2,354	190	200	50	147	107	286	1,214	720	498	52	1,260	726	
<b>Annual Openings</b>	960	92	62	83	49	40	211	916	359	377	75	713	195	
<b>2011 Jobs</b>	7,397	816	404	589	279	194	1,899	8,025	2,392	3,241	601	6,344	1,727	<b>Akron MSA</b>
<b>2011-16 Growth</b>	1,077	89	118	42	97	45	130	335	234	-18	5	239	145	
<b>Annual Openings</b>	309	30	25	20	20	11	58	283	100	81	18	190	45	

Source: EMSI Complete Employment - 1st Quarter 2011, accessed June 2011

There are nearly 179,000 production jobs in Northeast Ohio. One sector within the larger Advanced Materials Industries is medical equipment and supplies manufacturing. Northeast Ohio hosts almost one-half of all the State's employers in this sector. More than 5,400 people are currently working in that sector with an expected growth rate to 2016 of 2.7%. The LQ is 1.34 and is expected to strengthen over time.

The most common occupations serving this sector are presented in the table and represent more than one-third of all the jobs in this Northeast Ohio sector. As noted in the table, Industrial Engineers are critical to this industry, whereas previous tables in this report have shown an annual undersupply of graduates to meet demand.

### Medical Equipment and Supplies Sector Top Occupations

Occupational Title	2011 Jobs	2016 Jobs	Change	% Change
Dental laboratory technicians	564	577	13	2%
Team assemblers	482	499	17	4%
Machinists	197	200	3	2%
Assemblers and fabricators, all other	197	206	9	5%
First-line supervisors/managers of production and operating workers	192	196	4	2%
Inspectors, testers, sorters, samplers, and weighers	180	183	3	2%
Ophthalmic laboratory technician	133	137	4	3%
Industrial engineers	119	131	12	10%

Source: EMSI Complete Employment - 1st Quarter 2011, accessed June 2011