

Bio-Health in Ohio: The Manufacturing Cluster

Characterizing the Cluster

- Eleven industries from three industry groups produce goods for use by the health care industries. Together they added about \$3 billion in value, or about 2.5 percent of all manufacturing output from Ohio, according to the latest economic census. Two of the groups – pharmaceuticals and medicines (NAICS 3254) and medical equipment and supplies (3391) – combined for approximately 83 percent of the cluster’s output.
- The single largest contributor was the pharmaceutical industry (325412) with \$984 million. It was followed by surgical and medical instruments (339112) at \$565 million and surgical appliances and supplies (339113) at \$539 million. The three combined are roughly 70 percent of the cluster’s output.
- The remaining eight industries ranged from \$44 million (dental equipment and supplies – 339116) to \$375 million (electromedical apparatus – 334510). Figures for irradiation apparatus (334517) are unavailable, but may have been around \$95-\$135 million.

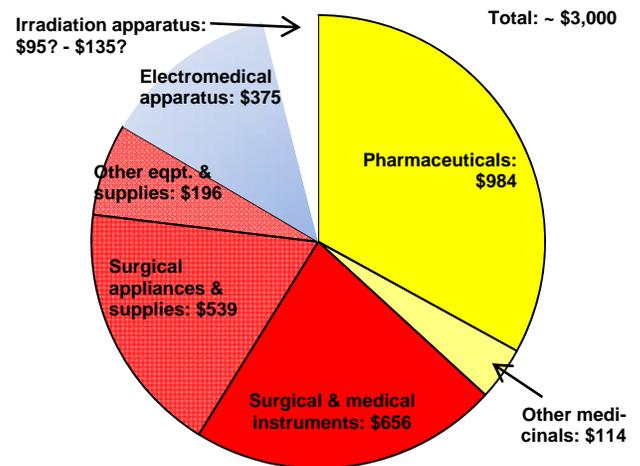
Group Trends

- Two industry groups – pharmaceuticals and medicines and medical equipment and supplies – powered the growth of the cluster right through the recession, combining to increase the bulk of output from a little less than \$2.5 billion in 2007 to over \$4.6 billion in 2010.
- The pharmaceuticals and medicines group grew 167.7 percent from less than \$1.1 billion to more than \$2.9 billion, while the medical equipment and supplies group rose 21.1 percent from less than \$1.4 billion to nearly \$1.7 billion.*
- The rapid growth propelled Ohio to a 10th rank in pharmaceuticals and medicines production with 2.2 percent of national output and a 12th rank in medical equipment and supplies output with 2.7 percent of the total.

Employment – Ohio’s Shares of the Cluster

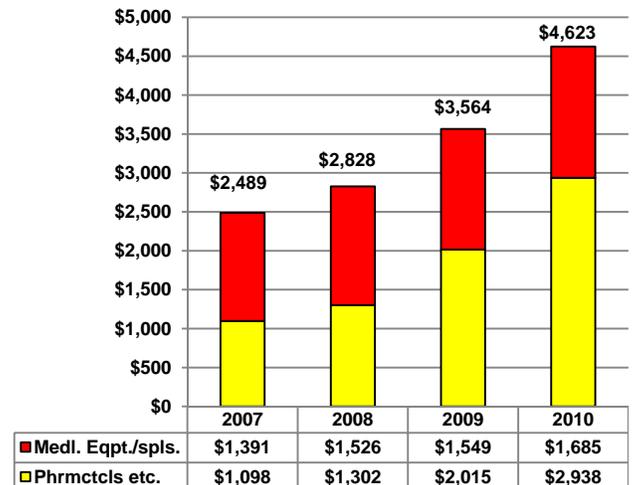
- Overall, 2.3 percent of the cluster’s jobs in America were located in Ohio. By comparison, Ohio had 3.9 percent of all non-farm employees in America. By that criterion, the overall cluster is not concentrated in Ohio.
- The only concentration of cluster employment in Ohio was in surgical appliances and supplies (339113) with 5.1 percent of the national total. (Surgical appliances and supplies include prosthetic and orthopedic devices, surgical sutures and dressings, operating room tables, hospital beds, crutches, etc. Instruments (339112) include syringes, needles, catheters, clamps, thermometers, anesthesia apparatus, transfusion equipment, etc.)

Value-Added in Ohio by Industry (in millions)



Source: U.S. Census Bureau, 2010

Value-Added Trends in Ohio by Group (in millions)



Source: U.S. Census Bureau, 2011

Ohio’s Share of Bio-Health Employment, 2010

Industries	Share of U.S.
Cluster total	2.3%
3254: Pharmaceuticals & medicines	1.9%
325412: Pharmaceuticals	2.2%
325413: In-vitro diagnostic substances	1.9%
325411, 4: Medicinals, botanicals & other biological products	0.4%
334510: Electromedical apparatus	1.2%
334517: Irradiation apparatus	2.7%
3391: Medical equipment & supplies	3.1%
339112: Surgical & medical instruments	1.7%
339113: Surgical appliances & supplies	5.1%
339114-6: Dental equipment, supplies & laboratories plus ophthalmic goods	2.8%

Source: U.S. Bureau of Labor Statistics, 2012

* – Value-added data by state for more-specific industries are available only from the quinquennial economic censuses.

Jobs: Distribution, Recent Trends, and Projections

Distribution

- More than 15,800 people worked in 488 bio-health manufacturing establishments during 2010 according to the latest comprehensive data from the U.S. Bureau of Labor Statistics. Almost 9,500 worked in medical equipment and supplies (NAICS 3391), followed by 5,300 in the pharmaceuticals and medicines group (3254). Over 1,000 produced electromedical and irradiation apparatus (334510, 334517).
- Three medical equipment and supplies industries employed at least 1,350 people each: surgical appliances and supplies, surgical and medical instruments, and dental laboratories (339116). The three combined for 52.4 percent of the cluster jobs. An additional 30 percent of the jobs were in pharmaceuticals. Seven other industries combined to employ well over 2,700 people.

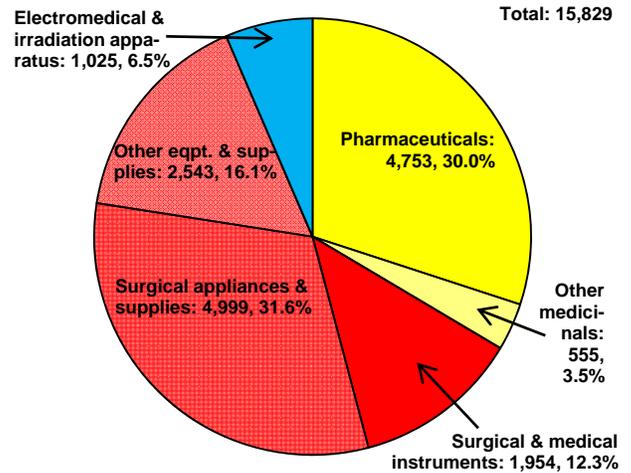
Recent Trends

- Total cluster employment has fluctuated between 15,500 and 16,900 during 2001-2010. No overall trend is apparent despite the net loss of a little more than 600 jobs, or 3.9 percent. Individual industries fared differently.
- The net gains of about 900 jobs in pharmaceuticals (325412, 23.2 percent) and 200 in in-vitro diagnostic substances (325413, 115.2 percent) were offset by the net losses of approximately 1,100 in electromedical apparatus (334510, 62.1 percent), 400 in surgical appliances and supplies (339113, 7.7 percent), and 200 in dental laboratories (339116, 13.6 percent).
- Little change was evident in surgical and medical instruments (339112) and other industries. Data for 2011 or later have not been released.

Projections

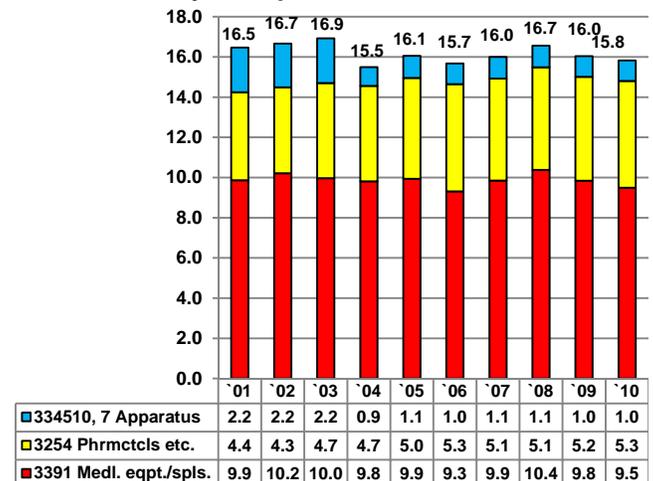
- The Ohio Dept. of Job and Family Services' Labor Market Information division (ODJFS/LMI) projects employment in the medical equipment and supplies group will increase 800 jobs, or 7.7 percent, from 10,400 in 2008 to 11,200 in 2018.
- ODJFS/LMI also projects employment in the pharmaceuticals and medicines group rising by 600 jobs, or 11.8 percent, from 5,100 to 5,700.
- The net change for the combined groups is a forecast increase of 1,400 jobs, or 9.0 percent, from 15,500 to 16,900.

Bio-health Cluster Jobs by Segment



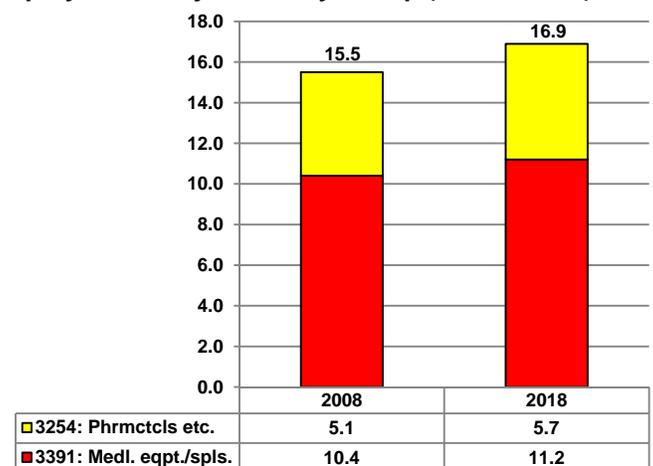
Source: U.S. Bureau of Labor Statistics, 2012

Recent Trends by Group/Cluster (in thousands)



Source: U.S. Bureau of Labor Statistics

Employment Projections by Group (in thousands)



Source: ODJFS/LMI, 2011

Companies and Projects

The Biggest Companies

- Abbott Labs is the largest industry employer in Ohio with nearly 3,700 people. It is followed by two companies with around 1,400 employees: Johnson & Johnson's Ethicon Endo-Surgery, and STERIS. Ben Venue and Roxane Labs are divisions of Boehringer Ingelheim AG.
- Three more companies employ 500 to 999: Invacare, Midmark and Philips Medical Systems. Besides Abbott Labs, Johnson & Johnson and Philips, an additional 10 companies on *Fortune's* U.S.-1,000 or Global-500 lists employ 50 to 499 people in Ohio; Cardinal Health (principally a wholesaler) is the only one of these with world headquarters in Ohio.

Capital Expenditures

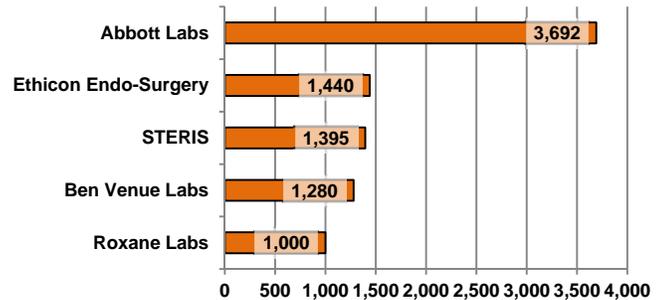
- Capital expenditures by bio-health manufacturers in Ohio ranged from at least \$115 to \$210 million, with most of the investments going into the pharmaceuticals and medicines group (NAICS 3254).¹
- Ohio's portion of national capital expenditures in pharmaceuticals and medicines has trended higher, averaging 1.8 percent for 2007-2010. This usually exceeded the growing portion of value-added here, perhaps indicating future industry growth in Ohio.
- Ohio's portion of national capital expenditures in medical equipment and supplies (3391) also trended higher, averaging 2.1 percent. However, the portion of capital expenditures was less than the corresponding (but growing) portion of value-added here.

Major Projects

- 36 companies announced 38 major projects² with intentions to invest \$419.6 million during the last four years. 2,165 new jobs were anticipated at the times of announcements. 2008 was the peak year for projects – \$198.4 million, while the largest number of expected jobs – nearly 900 – was counted in 2010.
- Modular Genetics led all investors with \$175.5 million. Its 2008 project was the largest single announcement. Others investing at least \$25 million include Athersys and Roxane Labs.
- Five companies anticipated adding at least 100 jobs. Luxottica planned to hire 300 beginning in 2008. Others anticipating at least 100 new jobs include Modular Genetics, STERIS, U.S. Cotton, and U.S. Endoscopy.

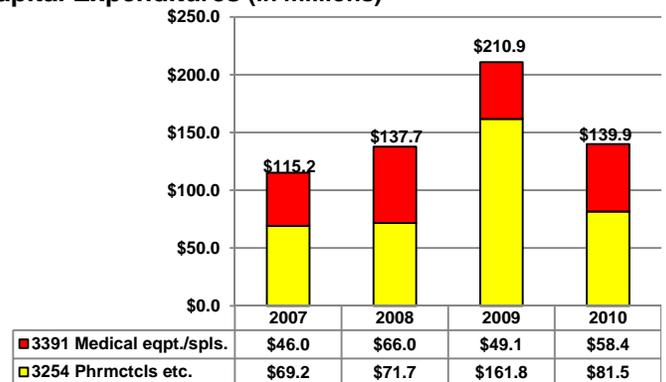
1 – Capital expenditures data by state for more-specific industries are available only from the quinquennial economic censuses.

Companies Employing At Least 1,000 in Ohio



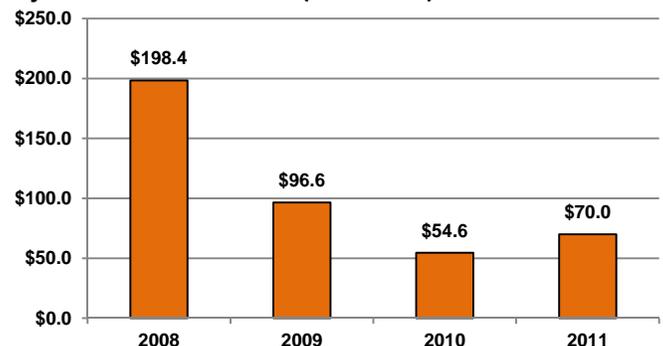
Sources: Company websites, Hoovers, ODO

Capital Expenditures (in millions)



Source: U.S. Census Bureau

Project Announcements (in millions)



Source: Ohio Dept. of Development

Top Six Announcements in 2011 (by jobs)

Company	Dollars (millions)	Jobs Intended
Morris Technologies	\$5.8	75
Global Cooling	\$1.2	70
Pharma Force	n.a.	57
OrthoHelix Surgical Designs	\$2.0	44
Athersys	\$34.0	38
Medline Industries	\$2.0	35

Source: Ohio Dept. of Development, 2012

2 – A major project involves at least \$1 million, 50 new jobs, or an addition of 20,000 square feet. Such projects often are phased in over several years. They are not comparable with capital expenditures.