New Jersey’s
Life Sciences Industry Cluster

Prepared by:
New Jersey Department of Labor & Workforce Development
Office of Research & Information
Bureau of Labor Market Information
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THE GOAL OF THIS REPORT IS TO GET AN “IDEA” OF WHAT LIFE SCIENCES MEANS TO NEW JERSEY

**Identify** the types of industries and establishments that make up the life sciences industry cluster based on a standard industry classification system.

**Describe** any similarities and differences among its components with regard to such variables as employment, wage, occupation type, education, and demographic characteristics.

**Examine** any present distinctions within the cluster and its components that give New Jersey a competitive advantage compared to neighboring states, regions or the nation, or show areas where New Jersey could improve to add to the state’s economy.

**Analyze** the current state of the life sciences industry cluster and provide an outlook for employment into the future.
LIFE SCIENCES INDUSTRY CLUSTER: OVERVIEW
New Jersey’s Life Sciences employment in 2016 was identified within three primary components: pharmaceuticals (40.8%), biotechnology-R&D (38.5%) and medical device manufacturing (20.7%). The breakdown of the major segments are:

**Pharmaceuticals**
- Pharmaceutical and medicine manufacturing
- Soap, cleaning compound, and toiletry manufacturing
- Druggists’ goods merchant wholesalers

Consists of services related establishments primarily engaged in scientific research, development, analytic and/or diagnostics.

**Biotechnology (R&D)**
- Scientific research and development services
- Medical and diagnostic laboratories

Establishments that are primarily engaged in manufacturing or distribution of drug related products.

**Medical Devices**
- Electronic instrument manufacturing
- Medical equipment and supplies manufacturing

Establishments primarily engaged in manufacturing medical equipment and supplies.

Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2016 Annual Averages
NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER
MAJOR NEW JERSEY EMPLOYERS

Some of New Jersey’s well-known employers in this cluster include:

<table>
<thead>
<tr>
<th>Pharmaceuticals</th>
<th>Biotechnology (R&amp;D)</th>
<th>Medical Devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Bayer HealthCare</td>
<td>• Celerion, Inc.</td>
<td>• Abbott Laboratories</td>
</tr>
<tr>
<td>Pharmaceutical</td>
<td>• Chugai Pharma USA</td>
<td>• Becton Dickinson &amp; Co.</td>
</tr>
<tr>
<td>• Bristol-Myers Squibb Co.</td>
<td>• Community Medical Center</td>
<td>• C. R. Bard, Inc.</td>
</tr>
<tr>
<td>• Daiichi Sankyo</td>
<td>• Collagen Matrix, Inc.</td>
<td>• Honeywell International, Inc.</td>
</tr>
<tr>
<td>• Ethicon, Inc.</td>
<td>• Covance, Inc.</td>
<td>• Integra Life Sciences</td>
</tr>
<tr>
<td>• Glaxosmithkline</td>
<td>• Immunomedics, Inc.</td>
<td>• Micro Corporation</td>
</tr>
<tr>
<td>• Johnson &amp; Johnson</td>
<td>• Lab Corp</td>
<td>• Ortho McNeil Pharma</td>
</tr>
<tr>
<td>• Merck &amp; Co. Inc.</td>
<td>• PAREXEL International</td>
<td>• Oticon, Inc.</td>
</tr>
<tr>
<td>• Novartis Pharmaceuticals</td>
<td>• Progenitor Cell Therapy</td>
<td>• Roche Molecular Systems, Inc.</td>
</tr>
<tr>
<td>• Pfizer, Inc.</td>
<td>• PTC Therapeutics, Inc.</td>
<td>• Safilo USA, Inc.</td>
</tr>
<tr>
<td>• Sanofi, U.S.</td>
<td>• Quest Diagnostics</td>
<td>• Sivantos, Inc.</td>
</tr>
<tr>
<td>• Teva Pharmaceuticals</td>
<td>• Raritan Bay Medical</td>
<td>• Stryker Orthopedics</td>
</tr>
<tr>
<td>• West-Ward Pharmaceuticals</td>
<td>• Sandoz, Inc.</td>
<td></td>
</tr>
</tbody>
</table>

Source: 2016 InfoUSA
The Life Sciences Cluster has an enormous impact on providing high quality jobs and adding significant value to the State’s economic activities. Recent New Jersey highlights included:

- **Employment Total**: averaged 117,260 or 3.5 percent of all private sector workers in the state for 2016. Nationally, the proportion was just 1.9 percent.

- **Well-paying Jobs**: Paid over $16.5 billion in 2016 annual payrolls; 7.8 percent of the state’s total wages.

- **Establishments total**: over 3,200 in 2016. Over a five year period (2011-2016) – even with numerous industry related reorganizations – New Jersey’s drug & pharmaceutical component still grew (by +10.5%).

After increasing slightly from 2006 to 2007 (+0.54%), the NJ life sciences industry experienced a steady decline from 2007 to 2013 (-13.7%), flattened out from 2013 to 2014 (+0.1%), increased from 2014 to 2016 (+1.58%), and is currently below the 2006 employment level (-11.2%).

Total statewide private sector employment has led life sciences employment from 2010 to 2016 and is currently above the 2006 employment level by 1.3 percent.
The above bubble graph has four elements:
1. Total 2016 employment - represented by the size of the bubble.
2. 2011-2016 employment growth - shown on the Y-axis, or vertical position.
3. 2016 annual average wages - shown on the X-axis, or horizontal position.
4. Location quotient - indicated by the color of the bubble. The location quotient compares the concentration of the industry subsectors in the state to those of the nation. Industries with a location quotient above 1 are known as “basic industries” which (in theory) export a good or service from the state and in return, bring in wealth.
LIFE SCIENCES INDUSTRY CLUSTER: EMPLOYMENT ANALYSIS
With an average of 117,260 workers employed in this NJ cluster in 2016, the employment over the 5-year period experienced a decline of 3.6 percent.

The pharmaceutical component experienced the largest total percent loss over the 5-year period (-8.3%).

Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2011 - 2016 Annual Averages
In 2016, the 117,260 jobs within this New Jersey cluster were concentrated in:

- **Pharmaceuticals**
  - Pharmaceutical and medicine manufacturing: 47.8%
  - Druggists' goods merchant wholesalers: 33.6%
  - Soap, cleaning compound, and toiletry mfg.: 18.6%
  - 47,820 jobs
  - The pharmaceuticals component accounted for 40.8 percent of the life sciences industry cluster employment.

- **Biotechnology (R&D)**
  - Scientific research and development services: 67.5%
  - Medical and diagnostic laboratories: 32.5%
  - 45,120 jobs
  - Scientific research and development services accounted for more than 30,440 employment.

- **Medical Devices**
  - Electronic instrument manufacturing: 51.3%
  - Medical equipment and supplies manufacturing: 48.7%
  - 24,320 jobs
  - Medical devices is the smallest of the three components and makes up 20.7 percent of the life sciences industry.

Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2016 Annual Averages
NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER
PHARMACEUTICALS INDUSTRY TOP EMPLOYMENT, 2016

- Made up 40.8 percent of the life sciences industry cluster’s employment in 2016.
- Pharmaceutical & medicine manufacturing (-31.1%) and soap, cleaning compound, and toiletry manufacturing (-2.2%) both experienced a decline from 2011 to 2016 while druggists’ goods merchant wholesalers experienced significant growth (+23.2%).

Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2011 - 2016 Annual Averages

Due to disclosure issues, medicinal and botanical mfg., surface active agent mfg., other biological product mfg., in-vitro diagnostic substance mfg., and polish and sanitation good manufacturing are not included in the chart above.
NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER
BIOTECHNOLOGY INDUSTRY TOP EMPLOYMENT, 2016

- Accounted for 38.5 percent of life sciences industry cluster’s employment in 2016.
- Scientific R&D industry service sectors declined (-0.8%) over the 5-year period from 2011 to 2016.
- Medical and diagnostic laboratories experienced significant growth over the same period (+15.3%).

Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2011 - 2016 Annual Averages
NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER MEDICAL DEVICES INDUSTRY TOP EMPLOYMENT, 2016

Medical Devices

- Accounted for 20.7 percent of the life sciences industry cluster’s employment in 2016.

- Electronic instrument manufacturing slightly grew (+0.8%) over the 5-year period from 2011 to 2016 while medical equipment & supplies manufacturing declined (-3.6%) during the same period.

Due to disclosure issues, search, detection & navigation instruments, other measuring & controlling devices, dental equipment & supplies mfg., and ophthalmic goods mfg. are not included in the chart above.

Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2011 - 2016 Annual Averages
LIFE SCIENCES INDUSTRY CLUSTER: ESTABLISHMENT ANALYSIS
Establishments in this cluster totaled 3,280 in 2016 after experiencing a notable growth (+4.8%) from 2011 – 2016.

Pharmaceuticals has seen an upward trend from 2011 to 2016, adding an additional 100 establishments.

Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2011 - 2016 Annual Averages
NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER SUB-SECTOR ESTABLISHMENTS

In 2016, New Jersey had 3,280 establishments in this cluster engaged in:

<table>
<thead>
<tr>
<th>Sub-sector</th>
<th>Establishments</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pharmaceuticals</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Druggists' Goods Merchant Wholesalers</td>
<td>1,070</td>
<td>58.8%</td>
</tr>
<tr>
<td>Pharmaceutical &amp; Medicine Mfg.</td>
<td>24.9%</td>
<td></td>
</tr>
<tr>
<td>Soap, Cleaning Compound, &amp; Toilettry Mfg.</td>
<td>16.3%</td>
<td></td>
</tr>
<tr>
<td><strong>Biotechnology (R&amp;D)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scientific research and development services</td>
<td>1,510</td>
<td>52.7%</td>
</tr>
<tr>
<td>Medical and diagnostic laboratories</td>
<td>47.3%</td>
<td></td>
</tr>
<tr>
<td><strong>Medical Devices</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical equipment and supplies manufacturing</td>
<td>700</td>
<td>55.3%</td>
</tr>
<tr>
<td>Electronic instrument manufacturing</td>
<td>44.7%</td>
<td></td>
</tr>
</tbody>
</table>

- 1,070 establishments
- The pharmaceutical component accounts for 1/3 of all life sciences industry establishments.
- 1,510 establishments
- R&D related sub-sectors accounted for 46.0% of all life sciences establishments.
- 700 establishments
- The medical devices component has the least establishments of all three life sciences industry components.

Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2016 Annual Averages
NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER PHARMACEUTICALS INDUSTRY TOP ESTABLISHMENTS, 2016

- Accounted for 32.6 percent of the life sciences industry cluster’s establishments in 2016.
- Establishments in the soap, cleaning compound, and toiletry manufacturing industries (-19.0%) declined from 2011 to 2016, while pharmaceutical & medicine manufacturing (+10.7%) and druggists’ goods merchant wholesalers (+21.6%) realized growth.

Due to disclosure issues, medicinal and botanical mfg., surface active agent mfg., other biological product mfg., in-vitro diagnostic substance mfg., and polish and sanitation good manufacturing are not included in the chart above.

Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2011 - 2016 Annual Averages
NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER
BIOTECHNOLOGY INDUSTRY TOP ESTABLISHMENTS, 2016

- Made up 46.0 percent of all establishments in the life sciences industry cluster in 2016 with 1,510 establishments.

- Scientific R&D industry service sectors (+10.5%) and medical diagnostic laboratories (+5.6%) both experienced growth from 2011 to 2016.

Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2011 - 2016 Annual Averages
NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER MEDICAL DEVICES INDUSTRY TOP ESTABLISHMENTS, 2016

- Represented 21.4 percent of the life sciences industry cluster’s establishments in 2016 (700).
- Electronic instrument manufacturing (-8.0%) and medical equipment and supplies manufacturing (-12.2%) both declined from 2011 to 2016.

Due to disclosure issues, search, detection & navigation instruments, other measuring & controlling devices, dental equipment & supplies mfg., and ophthalmic goods mfg. are not included in the chart above.

Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2011 - 2016 Annual Averages
LIFE SCIENCES INDUSTRY CLUSTER: ANNUAL AVERAGE WAGE ANALYSIS
Wages in the life sciences cluster have averaged 211.8% of the statewide annual average wage since 2006.

Annual average wages for the cluster have risen +42.1% over the ten year period from 2006 to 2016.

Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2006 - 2016 Annual Averages
This cluster’s average annual wage was $140,770 in 2016, which was 125.5 percent higher than the state’s total private sector’s average annual wage of $62,420.

All three of this cluster’s components had 2016 wages that were significantly higher than the state’s total average annual wage.

Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2011 - 2016 Annual Averages
Annual average wages increased $12,721 (or +9.4%), from $134,720 in 2011 to $147,440 in 2016.

Increases in the industry sectors ranged from soap, cleaning, compound, toiletry and pharmaceutical manufacturing (+8.1%) to druggists’ goods merchants wholesalers (+14.7%) in annual average wages from 2011 to 2016.

Due to disclosure issues, medicinal and botanical mfg., surface active agent mfg., other biological product mfg., in-vitro diagnostic substance mfg., and polish and sanitation good manufacturing are not included in the chart above.
• Annual average wages were $151,165 in 2016, up +30.3 percent from $116,031 in 2011.

• The industry sectors experienced increases ranged from medical & diagnostic laboratories (+0.8%) to scientific R&D services (+40.4) over the same 5-year period.

Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2011 - 2016 Annual Averages
Medical Devices

- Annual average wages were $112,722 in 2016, up +16.2% from $97,026 in 2011.
- Growth for the industry sectors ranged from +10.9% (electronic instrument manufacturing) to +18.6% (medical equipment and supplies manufacturing) over the 5-year period.

Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2011 - 2016 Annual Averages

Due to disclosure issues, search, detection & navigation instruments, other measuring & controlling devices, dental equipment & supplies mfg., and ophthalmic goods mfg. are not included in the chart above.
In 2016, more than one-third of Bergen County’s employment was found in medical and diagnostic laboratories (5,720).

18.3 percent of the employment found in Morris County was in the druggists’ goods merchant wholesalers industry (2,740).

Due to disclosure issues, Essex and Middlesex Counties are not included in the chart above.

Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2016 Annual Averages
Northern Region - (Bergen, Essex, Hudson, Hunterdon, Morris, Passaic, Somerset, Sussex, Union, and Warren Counties) – Annual average wage increased 16.5 percent from 2011 - 2016.

Central Region – (Mercer, Middlesex, Monmouth, and Ocean Counties) – Annual average wage experienced a 21.0 percent growth over the five-year period.

Southern Region – (Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, and Salem Counties) – Smallest annual average wage increase over the period amongst the regions (+9.3%).

Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2011-2016 Annual Averages
The highlighted region to the left consists of Essex, Passaic, Morris, Somerset, Union, Hudson, and Bergen Counties.

- **Establishments** – A majority of the Life Science industry related establishments can be found along major highways in NJ within a close proximity to New York, NY.

- **Employment** – Represent more than half of the life sciences employment in New Jersey in 2016.

- **Average Wage** – The average wage for these counties in life sciences related industries is comparatively above the statewide total average in this cluster ($151,290 vs. $140,770).

Due to disclosure issues, Essex County life sciences employment is not included in the map to the left.
The highlighted region to the left consists of Mercer, Middlesex, Monmouth, and Ocean Counties.

- **Establishments** - These counties account for more than a quarter of all establishments in the life sciences industry cluster in New Jersey.

- **Employment** – Employment for these five counties makes up nearly one third of employment in the life sciences industry cluster.

- **Average Wage** – The average wage for these counties in life sciences related industries is relatively below the statewide total average in this cluster ($129,820 vs. $140,770).

Due to disclosure issues, Middlesex County life sciences employment is not included in the map to the left.

Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2016 Annual Averages
The highlighted region to the left consists of Burlington, Camden, and Gloucester Counties.

- **Establishments** – Having a close proximity to Philadelphia, PA these three counties account for eight percent of all life sciences industry establishments in New Jersey.

- **Employment** – The three counties have slightly more than 9,040 employment.

- **Average Wage** – The average wage for these counties in life sciences related industries is below the statewide total average in this cluster ($96,490 vs. $140,770). These counties also account for 5.0 percent of total life sciences annual average wages paid in 2016.
LIFE SCIENCES INDUSTRY CLUSTER: OCCUPATIONAL ANALYSIS
### Life Sciences Industry Cluster

#### Occupational Title

<table>
<thead>
<tr>
<th>Occupational Title</th>
<th>2016 Employment</th>
<th>2016 Average Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Life Sciences Occupations</td>
<td>116,580</td>
<td>$81,210</td>
</tr>
<tr>
<td>Production</td>
<td>20,640</td>
<td>$41,570</td>
</tr>
<tr>
<td>Life, Physical, and Social Science</td>
<td>15,340</td>
<td>$100,430</td>
</tr>
<tr>
<td>Office and Administrative Support</td>
<td>14,930</td>
<td>$45,000</td>
</tr>
<tr>
<td>Management</td>
<td>13,450</td>
<td>$171,960</td>
</tr>
<tr>
<td>Business and Financial Operations</td>
<td>8,820</td>
<td>$86,440</td>
</tr>
<tr>
<td>Healthcare Practitioners and Technical</td>
<td>7,830</td>
<td>$68,210</td>
</tr>
<tr>
<td>Architecture and Engineering</td>
<td>7,730</td>
<td>$101,910</td>
</tr>
<tr>
<td>Computer and Mathematical</td>
<td>7,700</td>
<td>$105,420</td>
</tr>
<tr>
<td>Sales and Related</td>
<td>6,390</td>
<td>$92,110</td>
</tr>
<tr>
<td>Transportation and Material Moving</td>
<td>4,990</td>
<td>$33,210</td>
</tr>
<tr>
<td>Healthcare Support</td>
<td>4,770</td>
<td>$38,500</td>
</tr>
<tr>
<td>Installation, Maintenance, and Repair</td>
<td>2,360</td>
<td>$57,720</td>
</tr>
</tbody>
</table>

#### Life Sciences Industry Cluster

- **Production**: 17.8%
- **Office and Administrative Support**: 11.6%
- **Management**: 11.6%
- **Life, Physical, and Social Science**: 13.2%
- **Architecture and Engineering**: 6.7%
- **Computer and Mathematical**: 5.8%
- **Business and Financial Operations**: 7.6%
- **Healthcare Practitioners and Technical**: 6.7%
- **Sales and Related**: 5.5%
- **Other**: 12.4%
- **Installation, Maintenance, and Repair**: 2.3%

Note: Due to disclosure issues, of the total 116,580 jobs identified, only 99.7% could be used for this occupational analysis.

# New Jersey Life Sciences Cluster’s Top 20 Occupations

<table>
<thead>
<tr>
<th>NAICS and Occupational Title</th>
<th>2016 Employment</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>19-2031 Chemists</td>
<td>4,400</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>51-9111 Packaging and Filling Machine Operators and Tenders</td>
<td>3,540</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>31-9097 Phlebotomists</td>
<td>2,700</td>
<td>Postsecondary non-degree award</td>
</tr>
<tr>
<td>41-4012 Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products</td>
<td>2,360</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>11-9121 Natural Sciences Managers</td>
<td>2,330</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>19-1021 Biochemists and Biophysicists</td>
<td>2,290</td>
<td>Doctoral or professional degree</td>
</tr>
<tr>
<td>19-4031 Chemical Technicians</td>
<td>2,190</td>
<td>Associate's degree</td>
</tr>
<tr>
<td>51-9061 Inspectors, Testers, Sorters, Samplers, and Weighers</td>
<td>2,080</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>53-7064 Packers and Packagers, Hand</td>
<td>1,800</td>
<td>No formal educational credential</td>
</tr>
<tr>
<td>11-1021 General and Operations Managers</td>
<td>1,770</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>29-2011 Medical and Clinical Laboratory Technologists</td>
<td>1,770</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>43-4051 Customer Service Representatives</td>
<td>1,760</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>51-1011 First-Line Supervisors of Production and Operating Workers</td>
<td>1,660</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>51-9011 Chemical Equipment Operators and Tenders</td>
<td>1,660</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>51-9023 Mixing and Blending Machine Setters, Operators, and Tenders</td>
<td>1,580</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>53-7062 Laborers and Freight, Stock, and Material Movers, Hand</td>
<td>1,470</td>
<td>No formal educational credential</td>
</tr>
<tr>
<td>51-2022 Electrical and Electronic Equipment Assemblers</td>
<td>1,320</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>43-4171 Receptionists and Information Clerks</td>
<td>1,290</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>43-6014 Secretaries and Administrative Assistants, Except Legal, Medical</td>
<td>1,220</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>43-9061 Office Clerks, General</td>
<td>1,220</td>
<td>High school diploma or equivalent</td>
</tr>
</tbody>
</table>

An occupational analysis of 47,150 jobs revealed that five major occupational groups in this component accounted for nearly three-fourths (71%) of the employment.

Sales and related and transportation and material occupational groups are in the top seven components for the pharmaceuticals sub sector and not for the total industry cluster.

Note: Due to disclosure issues, of the total 47,430 jobs identified, only 47,150 could be used for this occupational analysis.

• In all three industry groups, office & administrative support workers account for a significant portion of the employment.

• A majority of occupations in pharmaceutical and medicine manufacturing and soap, cleaning compound, and toilet preparation manufacturing are production related while occupations in drugs & druggists sundries merchant wholesalers are sales and related occupations.

NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER
TOP PHARMACEUTICAL OCCUPATIONS, 2016

An occupational analysis of 45,310 jobs revealed that five major occupational groups in this component accounted for more than two-thirds (69.1%) of the employment.

Life, physical, and social science occupations employed the most in this component with more than 9,490 jobs, and accounted for more than one-fifth of the component.

Note: Due to disclosure issues, of the total 45,390 jobs identified, only 45,310 could be used for this occupational analysis.

• Biotech’s occupational groups show that these industry groups utilize a significant portion of professional, scientific, and technical workers with in-depth skills and knowledge related to science and healthcare.
• Nearly 90% of occupations found in the medical and diagnostic laboratories can be found in three major occupational groups: office and administrative support, healthcare support, and healthcare practitioners and technical.
NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER
TOP BIOTECHNOLOGY (R&D) OCCUPATIONS, 2016

An occupational analysis of 23,720 jobs revealed that five major occupational groups in this component accounted for nearly ninety percent of the employment (82.3%).

Production occupations employed the most in this component with 8,080 jobs, and accounted for more than one third of the component (34.1%).

Note: Due to disclosure issues, of the total 23,760 jobs identified, only 23,720 could be used for this occupational analysis.

While the percentages differ, the top four occupational groups reveal that these two industry groups both have a need for many of the same type of workers.

Occupations found in the medical devices component are production and architecture and engineering based, but other occupational family groups that make up a significant percentage are office and administrative support, and business and financial operations.

**NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER TOP MEDICAL DEVICE OCCUPATIONS, 2016**

LIFE SCIENCES INDUSTRY CLUSTER:
2015 DEMOGRAPHIC OVERVIEW
It is often mentioned that life sciences related employers require a well-educated and highly skilled workforce to meet the high level and technical demands of many of the occupations they need to fill.

Nearly two-thirds of New Jersey’s workforce employed in this cluster hold at least a Bachelor’s degree, many holding even more advanced degrees.

Source: U.S. Census Bureau, 2015 American Community Survey
Prepared by: New Jersey Department of Labor and Workforce Development, December 2016
The life sciences workforce has a greater proportion of NJ residents who are Asian (19.6%).

Females outnumber males by 4.8%.

The life sciences workforce has fewer Hispanics than average.

Source: U.S. Census Bureau, 2015 American Community Survey
Prepared by: New Jersey Department of Labor and Workforce Development, December 2016
The workforce of the Life Sciences industry is older than average with slightly less than 50 percent aged 45 and up compared to only 47 percent overall.

The largest disparity among age cohorts occurs in the 35-44 year old age group, where nearly 30 percent of the life sciences industry cluster is found.

4.4 percent of the current NJ resident life sciences workforce is aged 65 and older.

Source: U.S. Census Bureau, 2015 American Community Survey
Prepared by: New Jersey Department of Labor and Workforce Development, December 2016
Nearly two-thirds of the worker (62.9%) in this cluster earned over $50,000, whereas 58.1% of all workers (in all industries combined) earned less than $50,000.

The percentage of workers making $150,000 or greater is almost a 3:1 ratio in favor of this cluster.
LIFE SCIENCES INDUSTRY CLUSTER: TOP OCCUPATIONS OUTLOOK
### NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER
### TOP LIFE SCIENCES OCCUPATIONS OUTLOOK ACROSS ALL INDUSTRIES

<table>
<thead>
<tr>
<th>Occupational Title</th>
<th>Employment</th>
<th></th>
<th>Average Annual</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Actual 2014</td>
<td>Projected 2024</td>
<td>Change 2014 - 2024</td>
</tr>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
<td>Number</td>
</tr>
<tr>
<td>Phlebotomists</td>
<td>4,880</td>
<td>5,890</td>
<td>1,010</td>
</tr>
<tr>
<td>Laborers &amp; Freight, Stock, &amp; Material Movers, Hand</td>
<td>83,850</td>
<td>95,360</td>
<td>11,510</td>
</tr>
<tr>
<td>Medical &amp; Clinical Laboratory Technologists</td>
<td>4,850</td>
<td>5,470</td>
<td>620</td>
</tr>
<tr>
<td>Biochemists &amp; Biophysicists</td>
<td>3,700</td>
<td>4,130</td>
<td>430</td>
</tr>
<tr>
<td>Packers &amp; Packagers, Hand</td>
<td>30,170</td>
<td>33,280</td>
<td>3,110</td>
</tr>
<tr>
<td>Customer Service Representatives</td>
<td>66,030</td>
<td>71,660</td>
<td>5,630</td>
</tr>
<tr>
<td>General &amp; Operations Managers</td>
<td>47,200</td>
<td>51,150</td>
<td>3,960</td>
</tr>
<tr>
<td>Pharmacy Technicians</td>
<td>9,200</td>
<td>9,890</td>
<td>700</td>
</tr>
<tr>
<td>Natural Sciences Managers</td>
<td>4,090</td>
<td>4,390</td>
<td>310</td>
</tr>
<tr>
<td>Chemical Technicians</td>
<td>4,430</td>
<td>4,630</td>
<td>200</td>
</tr>
<tr>
<td>Packaging &amp; Filling Machine Operators &amp; Tenders</td>
<td>14,610</td>
<td>15,020</td>
<td>420</td>
</tr>
<tr>
<td>Sales Representatives, Wholesale &amp; Manufacturing, Except Technical &amp; Scientific</td>
<td>43,610</td>
<td>44,820</td>
<td>1,210</td>
</tr>
<tr>
<td>Products</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secretaries &amp; Administrative Assistants, Except Legal, Medical, and Executive</td>
<td>65,690</td>
<td>66,020</td>
<td>330</td>
</tr>
<tr>
<td>Chemists</td>
<td>5,520</td>
<td>5,540</td>
<td>20</td>
</tr>
<tr>
<td>Industrial Engineers</td>
<td>3,760</td>
<td>3,730</td>
<td>-30</td>
</tr>
<tr>
<td>Inspectors, Testers, Sorters, Samplers, &amp; Weighers</td>
<td>10,490</td>
<td>10,340</td>
<td>-150</td>
</tr>
<tr>
<td>First-Line Supervisors of Production &amp; Operating Workers</td>
<td>13,850</td>
<td>13,440</td>
<td>-400</td>
</tr>
<tr>
<td>Mixing &amp; Blending Machine Setters, Operators, &amp; Tenders</td>
<td>4,900</td>
<td>4,650</td>
<td>-250</td>
</tr>
<tr>
<td>Chemical Equipment Operators &amp; Tenders</td>
<td>3,040</td>
<td>2,700</td>
<td>-340</td>
</tr>
<tr>
<td>Extruding, Forming, Pressing, &amp; Compacting Machine Setters, Operators, &amp; Tenders</td>
<td>3,830</td>
<td>3,370</td>
<td>-460</td>
</tr>
</tbody>
</table>

Source: New Jersey Department of Labor and Workforce Development, 2014–2024 Industry and Occupational Employment Projections. Note: Total job openings may not add up exact due to rounding.
NEW JERSEY LIFE SCIENCES INDUSTRY CLUSTER
PROJECTED ANNUAL AVERAGE OPENINGS FOR TOP OCCUPATIONS

2014-2024 Projected Annual Average Job Openings

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Growth</th>
<th>Replacement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laborers &amp; Freight, Stock, &amp; Material Movers, Hand</td>
<td>1,150</td>
<td>2,500</td>
</tr>
<tr>
<td>Customer Service Representatives</td>
<td>560</td>
<td>1,630</td>
</tr>
<tr>
<td>General &amp; Operations Managers</td>
<td>400</td>
<td>1,200</td>
</tr>
<tr>
<td>Packers &amp; Packagers, Hand</td>
<td>310</td>
<td>800</td>
</tr>
<tr>
<td>Sales Representatives, Wholesale &amp; Manufacturing, Except Technical &amp; Scientific Products</td>
<td>120</td>
<td>900</td>
</tr>
<tr>
<td>Secretaries &amp; Administrative Assistants, Except Legal, Medical, &amp; Executive</td>
<td>30</td>
<td>690</td>
</tr>
<tr>
<td>Packaging &amp; Filling Machine Operators &amp; Tenders</td>
<td>0</td>
<td>520</td>
</tr>
<tr>
<td>Inspectors, Testers, Sorters, Samplers, &amp; Weighers</td>
<td>0</td>
<td>260</td>
</tr>
</tbody>
</table>

Source: New Jersey Department of Labor and Workforce Development, 2014–2024 Industry and Occupational Employment Projections. Note: Total job openings may not add up exact due to rounding.
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Office of Research and Information

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