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 sector 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 sector 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 sector and provide an outlook for employment into the future.
LIFE SCIENCES INDUSTRY SECTOR: OVERVIEW
NEW JERSEY LIFE SCIENCES INDUSTRY SECTOR
MAJOR INDUSTRY COMPONENTS

New Jersey’s Life Sciences employment in 2018 was identified within three primary components: pharmaceuticals (42.6%), biotechnology - R&D (40.7%) and medical device manufacturing (16.7%). The breakdown of the major segments are:

- **Pharmaceuticals**
  - Pharmaceutical and medicine manufacturing
  - Soap, cleaning compound, and toiletry manufacturing
  
  Establishments that are primarily engaged in manufacturing or distribution of drug related products.

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

  Establishments primarily engaged in scientific research, development and/or analytic.

- **Medical Devices**
  - 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, 2018 Annual Averages
Prepared by: New Jersey Department of Labor and Workforce Development, January 2020
#### NEW JERSEY LIFE SCIENCES INDUSTRY SECTOR
#### MAJOR NEW JERSEY EMPLOYERS

**Pharmaceuticals**
- Alberto-Culver Co.
- Bayer HealthCare Pharmaceutical
- Bristol-Myers Squibb
- Ethicon USA
- Glaxo Smith Kline
- Johnson & Johnson
- Merck & Co. Inc.
- Novartis Pharmaceuticals
- Pfizer, Inc.
- Sanofi Genzyme
- Teva Pharmaceuticals USA
- West-Ward Pharmaceutical

**Biotechnology (R&D)**
- Bioclinica, Inc.
- Bioreference
- Community Medical Center
- Collagen Matrix, Inc.
- Covance, Inc.
- Genesis Biotech
- Immunomedics, Inc.
- Medical Laboratory Diagnostics
- Lab Corp
- Progenitor Cell Therapy
- Sandoz, Inc.
- SRI International

**Medical Devices**
- Abbott Laboratories
- Bard International, Inc.
- Becton Dickinson & Co.
- Integra Life Sciences
- Micro Corporation
- Lohmann Therapy Systems Corporation
- Ortho McNeil Pharmaceutical
- Roche Molecular Diagnostics
- Safilo USA, Inc.
- Stryker Orthopedics
- Sony Electronics, Inc.

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

Source: 2019 InfoUSA
Prepared by: New Jersey Department of Labor and Workforce Development, January 2020
The Life Sciences Sector 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 72,900 or 2.1 percent of all private sector workers in the state for 2018. Nationally, the proportion was just 1.1 percent.

- **Well-paying Jobs**: Paid over $11.4 billion in 2018 annual payrolls; 5 percent of the state’s total wages.

- **Establishments total**: nearly 1,600 in 2018. Over a five year period (2013-2018) – even with numerous industry related reorganizations – New Jersey’s pharmaceutical component still grew (by +14.7%).
NEW JERSEY LIFE SCIENCES INDUSTRY SECTOR ALL PRIVATE VS. INDUSTRY SECTOR EMPLOYMENT

- The NJ life sciences industry experienced a steady decline from 2008 to 2014 (-19.5%), flattened out from 2014 to 2015 (-0.1%), increased from 2015 to 2016 (+0.4%), and is currently below the 2008 employment level (-20.4%).

- Total statewide private sector employment has led life sciences employment from 2010 to 2018 and is currently above the 2008 employment level by 4.5 percent.

Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2008 - 2018 Annual Averages
Prepared by: New Jersey Department of Labor and Workforce Development, January 2020

Gray area denotes U.S. economic recession as defined by the National Bureau of Economic Research (NBER)
NEW JERSEY LIFE SCIENCES INDUSTRY SECTOR
EMPLOYMENT SIZE, GROWTH, SALARY & LOCATION QUOTIENT

The above bubble graph has four elements:
1. **Total 2018 employment** - represented by the **size** of the bubble.
3. **2017 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.

Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2013 - 2018 Annual Averages
Prepared by: New Jersey Department of Labor and Workforce Development, January 2020
LIFE SCIENCES INDUSTRY SECTOR: EMPLOYMENT ANALYSIS
NEW JERSEY LIFE SCIENCES INDUSTRY SECTOR 5-YEAR EMPLOYMENT TREND

- With an average of 72,900 workers employed in this NJ sector in 2018, the employment over the 5-year period experienced a decline of 2.6 percent.

- The pharmaceutical component experienced the largest total percent loss over the 5-year period (-13.8%).

Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2013 - 2018 Annual Averages
Prepared by: New Jersey Department of Labor and Workforce Development, January 2020
In 2018, the 72,900 jobs within this New Jersey sector were concentrated in:

- **Pharmaceuticals**
  - Pharmaceutical and medicine manufacturing: 31,070 jobs, 70.7% of total
  - Soap, cleaning compound, and toiletry mfg.: 29,650 jobs, 29.3%

- **Biotechnology (R&D)**
  - Scientific research and development services: 29,650 jobs, 100.0%

- **Medical Devices**
  - Medical equipment and supplies manufacturing: 12,180 jobs, 100.0%

- The pharmaceuticals component accounted for 42.6 percent of the life sciences industry sector employment.
- Biotechnology (R&D) accounted for 40.7 percent of the life sciences sector employment.
- Medical devices is the smallest of the three components and makes up 16.7 percent of the life sciences industry.

Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2018 Annual Averages
Prepared by: New Jersey Department of Labor and Workforce Development, January 2020
NEW JERSEY LIFE SCIENCES INDUSTRY SECTOR
PHARMACEUTICALS INDUSTRY EMPLOYMENT, 2018

Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2013-2018 Annual Averages
Prepared by: New Jersey Department of Labor and Workforce Development, January 2020

- Made up 42.6 percent of the life sciences industry sector’s employment in 2018.
- Pharmaceutical & medicine manufacturing (-27.1%) and soap, cleaning compound, and toiletry manufacturing (-3.5%) and toilet preparation manufacturing (-7.0%) encountered a decline in employment from year 2013 to 2018.

Due to disclosure issues, medicinal and botanical mfg., surface active agent mfg., other biological product mfg., and polish and sanitation good manufacturing are not included in the chart above.
NEW JERSEY LIFE SCIENCES INDUSTRY SECTOR
BIOTECHNOLOGY INDUSTRY EMPLOYMENT, 2018

- Accounted for 40.7 percent of the life sciences industry sector’s employment in 2018.

- Research & development in biotechnology (58.7%) and social science & humanities research (81.4%) both experienced a significant growth over the 5-year period from 2013 to 2018.

Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2013 - 2018 Annual Averages
Prepared by: New Jersey Department of Labor and Workforce Development, January 2020
NEW JERSEY LIFE SCIENCES INDUSTRY SECTOR
MEDICAL DEVICES INDUSTRY EMPLOYMENT, 2018

- Represented 16.7 percent of the life sciences industry sector’s employment in 2018.
- Surgical appliance and supplies manufacturing grew (+15.5%) over the 5-year period from 2013 to 2018, while dental laboratories declined (-9.2%) during the same period.

Due to disclosure issues, surgical and medical instrument manufacturing, and ophthalmic goods manufacturing are not included in the chart above.

Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2013 - 2018 Annual Averages
Prepared by: New Jersey Department of Labor and Workforce Development, January 2020
LIFE SCIENCES INDUSTRY SECTOR: ESTABLISHMENT ANALYSIS
Establishments in this sector totaled 1,590 in 2018 after experiencing a notable growth (+5.3%) from 2013 – 2018.

Pharmaceuticals sector has seen an upward trend from 2013 to 2018, adding an additional 60 establishments statewide.
NEW JERSEY LIFE SCIENCES INDUSTRY SECTOR
SUB-SECTOR ESTABLISHMENTS

In 2018, New Jersey had 1,590 establishments in this sector engaged in:

- **Pharmaceuticals**
  - Pharmaceutical and medicine manufacturing: 62.0%
  - Soap, cleaning compound, and toiletry mfg.: 38.0%

- **Biotechnology (R&D)**
  - Scientific research and development services: 100.0%

- **Medical Devices**
  - Medical equipment and supplies manufacturing: 100.0%

- 490 establishments.
- The pharmaceutical component accounts for one-third of all life sciences industry establishments.
- 730 establishments.
  - Biotechnology embraces almost half of all life sciences establishments in the state.
- 370 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, 2018 Annual Averages
Prepared by: New Jersey Department of Labor and Workforce Development, January 2020
NEW JERSEY LIFE SCIENCES INDUSTRY SECTOR
PHARMACEUTICALS INDUSTRY ESTABLISHMENTS, 2018

- Accounted for 30.9 percent of the life sciences industry sector’s establishments in 2018.
- Establishments in the soap and cleaning compound manufacturing industries (-33.9%) declined from 2013 to 2018, while toiletry manufacturing industries (+9.5%) and pharmaceutical preparation manufacturing (+36.0%) both realized growth during the same period.

Due to disclosure issues, medicinal and botanical mfg., surface active agent mfg., other biological product 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, 2013 - 2018 Annual Averages
Prepared by: New Jersey Department of Labor and Workforce Development, January 2020
NEW JERSEY LIFE SCIENCES INDUSTRY SECTOR
BIOTECHNOLOGY INDUSTRY ESTABLISHMENTS, 2018

- Made up 45.9 percent of all establishments in the life sciences industry sector in 2018 with 730 establishments.

- R & D in biotechnology (+22.3%) and social science & humanities research (+7.1%) both experienced growth from 2013 to 2018, while R & D development in physical, engineering and life sciences (-10.1%) experienced a decline in establishments during the same period.

Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2013 - 2018 Annual Averages
Prepared by: New Jersey Department of Labor and Workforce Development, January 2020
NEW JERSEY LIFE SCIENCES INDUSTRY SECTOR
MEDICAL DEVICES INDUSTRY ESTABLISHMENTS, 2018

- Represented 23.1 percent of the life sciences industry sector’s establishments in 2018.
- Surgical appliance and supplies manufacturing grew (16.9%), while dental laboratories (-24.6%) experienced a decline in establishments over the 5-year period from 2013 to 2018.

Due to disclosure issues, surgical and medical instrument 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, 2013 - 2018 Annual Averages
Prepared by: New Jersey Department of Labor and Workforce Development, January 2020
LIFE SCIENCES INDUSTRY SECTOR: ANNUAL AVERAGE WAGE ANALYSIS
• Wages in the life sciences sector have averaged 237% of the statewide annual average wage since 2008.

• Annual average wages for the sector have risen +35.7% over the ten year period from 2008 to 2018.

Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2008 - 2018 Annual Averages
Prepared by: New Jersey Department of Labor and Workforce Development, January 2020
This sector’s average annual wage was $157,080 in 2018, which was 140.3 percent higher than the state’s total private sector’s average annual wage of $65,360.

All three of this sector’s components had 2018 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, 2013 - 2018 Annual Averages
Prepared by: New Jersey Department of Labor and Workforce Development, January 2020
NEW JERSEY LIFE SCIENCES INDUSTRY SECTOR  
PHARMACEUTICALS INDUSTRY ANNUAL AVERAGE WAGE, 2018

- Annual average wages decreased $12,680 (or -9.0%), from $140,570 in 2013 to $127,890 in 2018.
- Changes in this industry ranged from soap, cleaning, compound, and toiletry manufacturing (+5.9%) to pharmaceutical & medicine manufacturing (-10.4%) in annual average wages from 2013 to 2018.

Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2013 - 2018 Annual Averages
Prepared by: New Jersey Department of Labor and Workforce Development, January 2020

Due to disclosure issues, medicinal and botanical mfg., surface active agent mfg., other biological product mfg., and polish and sanitation good manufacturing are not included in the chart above.
• Annual average wages were $194,970 in 2018, up +17.3 percent from $166,180 in 2013.

• Research and development in biotechnology experienced the highest wages increase from $178,860 in 2013 to $221,560 in 2018. A total growth of +23.9%.

Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2013 - 2018 Annual Averages
Prepared by: New Jersey Department of Labor and Workforce Development, January 2020
Medical Devices

- Annual average wages were $139,270 in 2018, up +39.4% from $99,910 in 2013.
- Dental laboratories experienced a significant wages increase from $47,940 in 2013 to $60,240 in 2018. A total growth of +25.7%.

Due to disclosure issues, surgical and medical instrument 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, 2013 - 2018 Annual Averages
Prepared by: New Jersey Department of Labor and Workforce Development, January 2020
LIFE SCIENCES INDUSTRY SECTOR: REGIONAL AND COUNTY ANALYSIS
In 2018, half of Bergen County’s employment was found in medical equipment and supplies manufacturing (3,780).

49.2 percent of the employment found in Somerset County was in pharmaceutical and medicine manufacturing (4,330).

Due to disclosure issues Cumberland, Salem and Somerset Counties are not included in the chart above.
NEW JERSEY LIFE SCIENCES INDUSTRY SECTOR
LIFE SCIENCES ANNUAL AVERAGE WAGE BY REGION 5-YEAR TREND

• Northern Region - (Bergen, Essex, Hudson, Hunterdon, Morris, Passaic, Somerset, Sussex, Union, and Warren Counties) – Presented the smallest annual average wage increase (+7.3%) from 2013 - 2018.

• Central Region – (Mercer, Middlesex, Monmouth, and Ocean Counties) – Annual average wage for this region increased 13.2 percent during the same period.

• Southern Region – (Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, and Salem Counties) – This region experienced the highest growth in annual average wage over the five-year period. A total of 18.1 percent.

Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2013 - 2018 Annual Averages
Prepared by: New Jersey Department of Labor and Workforce Development, January 2020
The highlighted region to the left consists of Bergen, Essex, Hudson, Morris, Passaic, Somerset, and Union Counties.

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

- **Employment** – Represent more than half of the life sciences employment in New Jersey in 2018.

- **Average Wage** – The average wage for these counties in life sciences related industries is comparatively above the statewide total average in this sector ($173,720 vs. $157,080).
NEW JERSEY LIFE SCIENCES INDUSTRY SECTOR COUNTIES IN THE CENTRAL REGION

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 sector in New Jersey.

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

• **Average Wage** – The average wage for these counties in life sciences related industries is relatively below the statewide total average in this sector ($140,710 vs. $157,080) in 2018.

Source: NJ Department of Labor & Workforce Development, Quarterly Census of Employment and Wages, 2018 Annual Averages
Prepared by: New Jersey Department of Labor and Workforce Development, January 2020
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 6 percent of all life sciences industry establishments in New Jersey.

- **Employment** – The three counties have slightly more than 3,560 employment.

- **Average Wage** – The average wage for these counties in life sciences related industries is below the statewide total average in this sector ($83,080 vs. $157,080). These counties also account for 2.6 percent of total life sciences annual average wages paid in 2018.
LIFE SCIENCES INDUSTRY SECTOR: OCCUPATIONAL ANALYSIS
NEW JERSEY LIFE SCIENCES INDUSTRY SECTOR
TOP OCCUPATIONAL GROUPS, 2018

<table>
<thead>
<tr>
<th>Occupational Title</th>
<th>2018 Employment</th>
<th>2018 Average Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Life Sciences Occupations</td>
<td>73,790</td>
<td>$92,310</td>
</tr>
<tr>
<td>Production</td>
<td>18,610</td>
<td>$42,040</td>
</tr>
<tr>
<td>Life, Physical, and Social Science</td>
<td>15,270</td>
<td>$115,100</td>
</tr>
<tr>
<td>Management</td>
<td>8,460</td>
<td>$190,420</td>
</tr>
<tr>
<td>Business and Financial Operations</td>
<td>7,000</td>
<td>$106,580</td>
</tr>
<tr>
<td>Office and Administrative Support</td>
<td>6,260</td>
<td>$50,860</td>
</tr>
<tr>
<td>Computer and Mathematical</td>
<td>4,110</td>
<td>$121,910</td>
</tr>
<tr>
<td>Architecture and Engineering</td>
<td>3,520</td>
<td>$110,820</td>
</tr>
<tr>
<td>Transportation and Material Moving</td>
<td>3,440</td>
<td>$35,100</td>
</tr>
<tr>
<td>Installation, Maintenance, and Repair</td>
<td>2,070</td>
<td>$63,050</td>
</tr>
<tr>
<td>Sales and Related</td>
<td>1,550</td>
<td>$106,150</td>
</tr>
<tr>
<td>Healthcare Practitioners and Technical</td>
<td>930</td>
<td>$79,400</td>
</tr>
<tr>
<td>Healthcare Support</td>
<td>580</td>
<td>$33,600</td>
</tr>
</tbody>
</table>

Life Sciences Industry Sector

Note: Due to disclosure issues, of the total 73,790 jobs identified, only 99.6% could be used for this occupational analysis.

Source: NJ Department of Labor & Workforce Development, Occupational Employment Statistics, May 2018
Prepared by: New Jersey Department of Labor and Workforce Development, January 2020
# New Jersey Life Sciences Industry Sector Top 20 Occupations by Employment, 2018

## New Jersey Life Sciences Sector's Top 20 Occupations

<table>
<thead>
<tr>
<th>NAICS and Occupational Title</th>
<th>2018 Employment</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>19-1021 Biochemists and Biophysicists</td>
<td>4,660</td>
<td>Doctoral or professional degree</td>
</tr>
<tr>
<td>19-2031 Chemists</td>
<td>4,510</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>51-9111 Packaging and Filling Machine Operators and Tenders</td>
<td>3,310</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>51-9061 Inspectors, Testers, Sorters, Samplers, and Weighers</td>
<td>2,000</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>11-9121 Natural Sciences Managers</td>
<td>1,880</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>51-9011 Chemical Equipment Operators and Tenders</td>
<td>1,830</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>19-4031 Chemical Technicians</td>
<td>1,750</td>
<td>Associate's degree</td>
</tr>
<tr>
<td>51-9023 Mixing and Blending Machine Setters, Operators, and Tenders</td>
<td>1,730</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>19-1042 Medical Scientists, Except Epidemiologists</td>
<td>1,630</td>
<td>Doctoral or professional degree</td>
</tr>
<tr>
<td>51-1011 First-Line Supervisors of Production and Operating Workers</td>
<td>1,460</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>13-1041 Compliance Officers, Except Agriculture, Construction, Health and Safety, and Transportation</td>
<td>1,330</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>17-2112 Industrial Engineers</td>
<td>1,190</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>15-1132 Software Developers, Applications</td>
<td>1,180</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>11-2021 Marketing Managers</td>
<td>1,120</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>13-1161 Market Research Analysts and Marketing Specialists</td>
<td>1,100</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>41-4012 Sales Rep., Wholesale and Manufacturing, Except Technical and Scientific Products</td>
<td>1,080</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>11-3051 Industrial Production Managers</td>
<td>1,060</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>53-7062 Laborers and Freight, Stock, and Material Movers, Hand</td>
<td>1,060</td>
<td>No formal educational credential</td>
</tr>
<tr>
<td>49-9041 Industrial Machinery Mechanics</td>
<td>930</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>13-2011 Accountants and Auditors</td>
<td>900</td>
<td>Bachelor's degree</td>
</tr>
</tbody>
</table>

Source: NJ Department of Labor & Workforce Development, Occupational Employment Statistics, May 2018
Prepared by: New Jersey Department of Labor and Workforce Development, January 2020
An occupational analysis of 33,500 jobs revealed that five major occupational groups in this component accounted for nearly three-fourths (78.4%) of the employment.

Production and Life, Physical, and Social Science occupations employed the most in this component with approximately 17,760 jobs.

Note: Due to disclosure issues, of the total 33,600 jobs identified, only 33,500 could be used for this occupational analysis.

Source: NJ Department of Labor & Workforce Development, Occupational Employment Statistics, May 2018
Prepared by: New Jersey Department of Labor and Workforce Development, January 2020
A majority of occupations in pharmaceutical & medicine manufacturing and pharmaceutical & chemical manufacturing are production related.

In both industry groups, computer & mathematical and installation, maintenance and repair occupations account for a significant portion of the employment within the “Other” categories.
NEW JERSEY LIFE SCIENCES INDUSTRY SECTOR
TOP PHARMACEUTICAL OCCUPATIONS, 2018

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Employment</th>
<th>Average Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packaging and Filling Machine Operators and Tenders</td>
<td>3,310</td>
<td>$20,000</td>
</tr>
<tr>
<td>Chemists</td>
<td>3,260</td>
<td>$20,000</td>
</tr>
<tr>
<td>Mixing and Blending Machine Setters, Operators, and Tenders</td>
<td>1,730</td>
<td>$20,000</td>
</tr>
<tr>
<td>Chemical Equipment Operators and Tenders</td>
<td>1,720</td>
<td>$20,000</td>
</tr>
<tr>
<td>Inspectors, Testers, Sorters, Samplers, and Weighers</td>
<td>1,470</td>
<td>$20,000</td>
</tr>
<tr>
<td>First-Line Supervisors of Production and Operating Workers</td>
<td>1,100</td>
<td>$20,000</td>
</tr>
<tr>
<td>Industrial Machinery Mechanics</td>
<td>930</td>
<td>$20,000</td>
</tr>
</tbody>
</table>

Source: NJ Department of Labor & Workforce Development, Occupational Employment Statistics, May 2018
Prepared by: New Jersey Department of Labor and Workforce Development, January 2020
An occupational analysis of 28,000 jobs revealed that five major occupational groups in this component accounted for nearly four-fifth (79.9%) of the employment.

Life, physical, and social science occupations employed the most in this component with approximately 9,260 jobs, and accounted for more than one-third of the component.

Note: Due to disclosure issues, of the total 28,140 jobs identified, only 28,000 could be used for this occupational analysis.
NEW JERSEY LIFE SCIENCES INDUSTRY SECTOR
BIOTECHNOLOGY (R&D) MAJOR OCCUPATIONAL GROUP, 2018

- The biotech’s occupational group shows that this industry class holds a significant portion of professional, scientific, and technical workers with in-depth skills and knowledge related to science.

- In this bundle, production, healthcare practitioners & technical, and healthcare support occupations account for a significant portion of the employment within the “Other” category.

Source: NJ Department of Labor & Workforce Development, Occupational Employment Statistics, May 2018
Prepared by: New Jersey Department of Labor and Workforce Development, January 2020
NEW JERSEY LIFE SCIENCES INDUSTRY SECTOR
TOP BIOTECHNOLOGY (R&D) OCCUPATIONS, 2018

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<tr>
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<th>Average Salary</th>
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<tr>
<td>Biochemists and Biophysicists</td>
<td>4,020</td>
<td></td>
</tr>
<tr>
<td>Natural Sciences Managers</td>
<td>1,340</td>
<td></td>
</tr>
<tr>
<td>Chemists</td>
<td>1,210</td>
<td></td>
</tr>
<tr>
<td>Chemical Technicians</td>
<td>1,010</td>
<td></td>
</tr>
<tr>
<td>Medical Scientists, Except Epidemiologists</td>
<td>970</td>
<td></td>
</tr>
<tr>
<td>Marketing Managers</td>
<td>950</td>
<td></td>
</tr>
<tr>
<td>Market Research Analysts and Marketing</td>
<td>830</td>
<td></td>
</tr>
</tbody>
</table>

Source: NJ Department of Labor & Workforce Development, Occupational Employment Statistics, May 2018
Prepared by: New Jersey Department of Labor and Workforce Development, January 2020
An occupational analysis of 11,970 jobs revealed that five major occupational groups in this component accounted for more than four-fifths of the employment (84.8%).

Production occupations employed the most in this component with 5,900 jobs, and accounted for nearly half of the component (49.3%).

Note: Due to disclosure issues, of the total 12,050 jobs identified, only 11,970 could be used for this occupational analysis.
The medical devices' occupational group shows that this industry class holds a significant portion of technical workers with skills and knowledge related to production.

In this bundle, the installation, maintenance & repair, computer & mathematical, and sales & related occupations account for a significant portion of the employment within the “Other” category.

Source: NJ Department of Labor & Workforce Development, Occupational Employment Statistics, May 2018
Prepared by: New Jersey Department of Labor and Workforce Development, January 2020
NEW JERSEY LIFE SCIENCES INDUSTRY SECTOR
TOP MEDICAL DEVICE OCCUPATIONS, 2018

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Employment</th>
<th>Average Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic</td>
<td>640</td>
<td>$40,000</td>
</tr>
<tr>
<td>Medical Appliance Technicians</td>
<td>590</td>
<td>$31,000</td>
</tr>
<tr>
<td>Inspectors, Testers, Sorters, Samplers, and Weighers</td>
<td>530</td>
<td>$26,000</td>
</tr>
<tr>
<td>Dental Laboratory Technicians</td>
<td>470</td>
<td>$25,000</td>
</tr>
<tr>
<td>Computer-Controlled Machine Tool Operators, Metal and Plastic</td>
<td>330</td>
<td>$30,000</td>
</tr>
<tr>
<td>Industrial Engineers</td>
<td>310</td>
<td>$30,000</td>
</tr>
<tr>
<td>First-Line Supervisors of Production and Operating Workers</td>
<td>300</td>
<td>$30,000</td>
</tr>
</tbody>
</table>

Source: NJ Department of Labor & Workforce Development, Occupational Employment Statistics, May 2018
Prepared by: New Jersey Department of Labor and Workforce Development, January 2020
NEW JERSEY LIFE SCIENCES INDUSTRY SECTOR EDUCATION CHARACTERISTICS

Educational Breakdown

- Bachelor's degree 35.7%
- Some college/Associates degree 13.4%
- Master's/Professional degree 26.4%
- High School or less 16.0%
- Doctoral degree 8.5%

• 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 sector hold at least a Bachelor’s degree, many holding even more advanced degrees.

Source: U.S. Census Bureau, 2017 American Community Survey
Prepared by: New Jersey Department of Labor and Workforce Development, January 2020
NEW JERSEY LIFE SCIENCES INDUSTRY SECTOR
GENDER, RACIAL, AND ETHNIC PROFILE

Males outnumber females by 7.1% in this sector

The life sciences workforce has a greater proportion of NJ residents who are Asian (22.2%)

The life sciences workforce has fewer Hispanics than average

Source: U.S. Census Bureau, 2017 American Community Survey
Prepared by: New Jersey Department of Labor and Workforce Development, January 2020
The workforce of the life sciences industry is older than average with 50.8 percent aged 45 and up compared to only 46.8 percent overall.

The largest disparity among age cohorts occurs in the 35-44 and 45-54 year old age groups, where 52.6 percent of the life sciences industry sector is found.

3.5 percent of the current NJ resident life sciences workforce is aged 65 and older.
Three-fourths of the workers (75.1%) in this sector earned over $50,000, whereas 55.3% 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 sector.

Source: U.S. Census Bureau, 2017 American Community Survey
Prepared by: New Jersey Department of Labor and Workforce Development, January 2020
LIFE SCIENCES INDUSTRY SECTOR: TOP OCCUPATIONS OUTLOOK
## NEW JERSEY LIFE SCIENCES INDUSTRY SECTOR
### TOP LIFE SCIENCES OCCUPATIONS OUTLOOK ACROSS ALL INDUSTRIES

<table>
<thead>
<tr>
<th>Occupation Title</th>
<th>Employment</th>
<th>Annual Average</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Actual 2016</td>
<td>Projected 2026</td>
</tr>
<tr>
<td></td>
<td>Number</td>
<td>Number</td>
</tr>
<tr>
<td>Phlebotomists</td>
<td>4,700</td>
<td>5,600</td>
</tr>
<tr>
<td>Laborers and Freight, Stock, and Material Movers, Hand</td>
<td>120,400</td>
<td>138,300</td>
</tr>
<tr>
<td>Receptionists and Information Clerks</td>
<td>54,000</td>
<td>60,050</td>
</tr>
<tr>
<td>Packers and Packagers, Hand</td>
<td>31,600</td>
<td>34,950</td>
</tr>
<tr>
<td>Chemists</td>
<td>7,350</td>
<td>8,100</td>
</tr>
<tr>
<td>Biochemists and Biophysicists</td>
<td>5,650</td>
<td>6,250</td>
</tr>
<tr>
<td>Chemical Technicians</td>
<td>4,200</td>
<td>4,650</td>
</tr>
<tr>
<td>General and Operations Managers</td>
<td>44,800</td>
<td>49,100</td>
</tr>
<tr>
<td>Natural Sciences Managers</td>
<td>4,300</td>
<td>4,650</td>
</tr>
<tr>
<td>Pharmacy Technicians</td>
<td>10,200</td>
<td>11,100</td>
</tr>
<tr>
<td>Packaging and Filling Machine Operators and Tenders</td>
<td>15,550</td>
<td>16,900</td>
</tr>
<tr>
<td>Sales Reps., Wholesale and Mfg., Except Tech and Scientific Products</td>
<td>46,950</td>
<td>49,800</td>
</tr>
<tr>
<td>Compliance Officers</td>
<td>11,200</td>
<td>11,800</td>
</tr>
<tr>
<td>Customer Service Representatives</td>
<td>70,750</td>
<td>74,350</td>
</tr>
<tr>
<td>First-Line Supervisors of Production and Operating Workers</td>
<td>13,000</td>
<td>13,600</td>
</tr>
<tr>
<td>Mixing and Blending Machine Setters, Operators, and Tenders</td>
<td>4,050</td>
<td>4,150</td>
</tr>
<tr>
<td>Chemical Equipment Operators and Tenders</td>
<td>3,550</td>
<td>3,650</td>
</tr>
<tr>
<td>Inspectors, Testers, Sorters, Samplers, and Weighers</td>
<td>13,250</td>
<td>13,050</td>
</tr>
<tr>
<td>Office Clerks, General</td>
<td>73,450</td>
<td>72,050</td>
</tr>
<tr>
<td>Secretaries and Adm. Assistants, Except Legal, Medical, and Executive</td>
<td>68,150</td>
<td>62,950</td>
</tr>
</tbody>
</table>

Prepared by: New Jersey Department of Labor and Workforce Development, January 2020
NEW JERSEY LIFE SCIENCES INDUSTRY SECTOR
PROJECTED ANNUAL AVERAGE OPENINGS FOR TOP OCCUPATIONS

2016-2026 Projected Annual Average Job Openings

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Exits</th>
<th>Transfers</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laborers and Freight, Stock, and Material Movers, Hand</td>
<td>1,790</td>
<td>3,710</td>
<td>11,060</td>
</tr>
<tr>
<td>Customer Service Representatives</td>
<td>360</td>
<td>5,440</td>
<td>9,510</td>
</tr>
<tr>
<td>Office Clerks, General</td>
<td>4,270</td>
<td>4,160</td>
<td>8,290</td>
</tr>
<tr>
<td>Receptionists and Information Clerks</td>
<td>3,550</td>
<td>3,780</td>
<td>7,930</td>
</tr>
<tr>
<td>Secretaries and Administrative Assistants, Except Legal, Medical, and</td>
<td>3,530</td>
<td>3,440</td>
<td>6,450</td>
</tr>
<tr>
<td>Executive</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Packers and Packagers, Hand</td>
<td>2,250</td>
<td>2,720</td>
<td>5,310</td>
</tr>
<tr>
<td>Sales Representatives, Wholesale and Manufacturing, Except Technical and</td>
<td>1,600</td>
<td>3,240</td>
<td>5,120</td>
</tr>
<tr>
<td>Scientific Products</td>
<td>280</td>
<td>970</td>
<td>4,200</td>
</tr>
<tr>
<td>General and Operations Managers</td>
<td>2,800</td>
<td>430</td>
<td></td>
</tr>
<tr>
<td>Packaging and Filling Machine Operators and Tenders</td>
<td>770</td>
<td>1,080</td>
<td>1,970</td>
</tr>
<tr>
<td>Inspectors, Testers, Sorters, Samplers, and Weighers</td>
<td>1,010</td>
<td>1,530</td>
<td></td>
</tr>
</tbody>
</table>

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New Jersey Department of Labor & Workforce Development

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