



# New Jersey's Bio/Pharmaceutical, Life Science Cluster

Presented By:

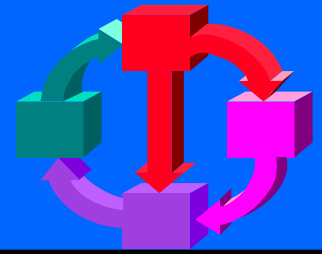
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Bureau of Labor Market Information

**Winter 2011**



# Role of Labor Market & Demographic Research



## Employment & Wages

- Employment and wage data for New Jersey, it's Labor Areas, Counties & Municipalities.
- Estimates of NJ's nonfarm wage & salary employment data by major industry classification & labor areas for the current year and prior.
- Associated maps.

## Occupational Information

Industry & occupational employment projections.



## Labor Demand

### Training Programs

*Are you looking to identify occupations in demand?  
Enhance training skills?  
Interested in viewing career opportunities?*

These Demand & Training Program tools identify and provide answers for skills in demand *TODAY!*

## DEMOGRAPHICS: Population characteristics

- Population & Household Estimates.
- Population & Labor Force Projections.
- Annual Demographic Profile.
- Affirmative Action Data
- Census related data & information.

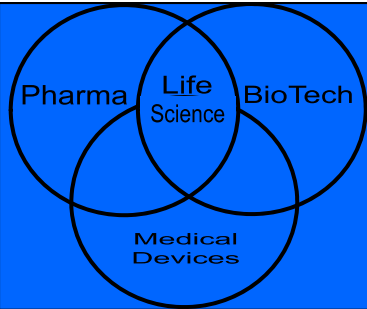
## Labor Market Analysis

Provide labor market and economic analysis of current conditions within New Jersey, Labor Areas and Industry clusters.

- Publish regional & industry cluster labor views and reports, along with County Community Fact Books and County Fact Sheets.
- Assist & educate with the usage of labor related data/information & tools.

## Data Reports

- Comprehensive labor market information reports for New Jersey; sortable by state, county, & workforce investment board area.
- Publications & Studies pertaining to specific industries and New Jersey regions.



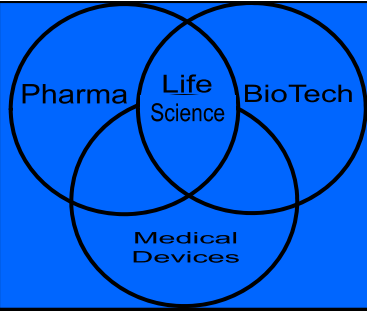
# NEW JERSEY BIO/PHARMACEUTICALS LIFE-SCIENCE CLUSTER Analysis



## The following is an Analysis of New Jersey's Bio/Pharmaceutical Life Science Cluster

Most data sets analyzed for this presentation are available on [New Jersey Department of Labor & Development's website](#) located under [Labor Market Information](#).





# NEW JERSEY BIO/PHARMACEUTICAL LIFE-SCIENCE CLUSTER

## Introduction



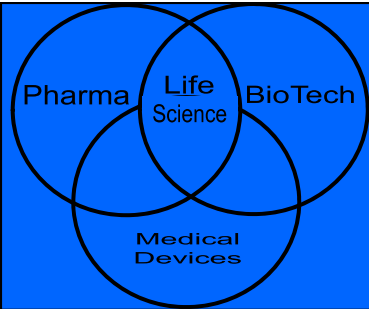
**New Jersey is collaborating with its traditional pharmaceutical, medical device and biotechnology stand alone industries and related organizations to craft the “New Jersey Bio/Pharmaceutical Life Science Cluster.” Rather than focusing on industry sectors separately, this cluster initiative provides a cohesive approach to draw upon each other’s strengths, while confronting many of the same interrelated issues and challenges, thereby empowering the industries to grow their core business cooperatively in the Garden State.**

❖ New Jersey's Bio/Pharmaceuticals Life Science Cluster consists of three key industry components; **pharmaceutical** (drug manufacturers & wholesalers), **medical devices** (medical equipment and supplies manufacturers), and **biotech** (scientific research & development (R&D) services and medical & diagnostic laboratories).

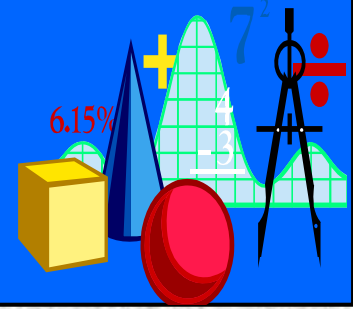
This collaborative approach strives to maximize and strengthen the features of each one’s unique individual component, while working together on points of mutual interest. Partnering also adds to producing/delivering products and services in a more efficient manner.

The similarities, as well as the complimentary attributes of the elements within this cluster continuously link and grow the strength and fortitude of the three components. It’s combined strength adds creditability when promoting or branding New Jersey's Bio/Pharma Life Science Cluster as one of the nation, as well as world's, top leaders. The ripple effect should generate momentous opportunities for N.J.’s labor force, as well as the State’s economy.





# NEW JERSEY BIO/PHARMACEUTICAL LIFE-SCIENCE CLUSTER Methodology

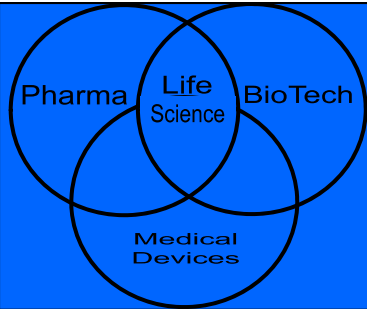


The information presented within was compiled mostly by utilizing various government data sets. For consistency, the data was filtered using the North American Industrial Classification System (NAICS), in order to examine this cluster and (when available and/or applicable) its elements.

This **cluster** is structured using three components: **pharmaceuticals**, **medical devices**, and **biotech**. Each component is comprised of *industry groups* (based upon 4-digits NAICS). The groups are each comprised of *industry sectors* (5-digits). Within each sector are applicable *industry subsector* (6-digit). (Note: Due to disclosure issues, some drilled down data cannot be released nor discussed in detail.)

*Note: Life science is not an industry, rather, it is a term used to capture companies that are focused on 'life-processes.'* Traditionally, these companies could have been categorized within one of the aforementioned components, however, many are changing their focus to adjust to the evolving business environment. As a result, companies are crossing the typical industry boundaries, making it increasingly unclear as to which component they belong too. Therefore, to ensure continuity, as well as exclude assumptions, company data used will be based upon its primary NAICS Code. And therefore, the term 'life-science' will not be explicitly emphasized.

Additional information about the North American Industrial Classification System (NAICS) is available at: <http://www.census.gov/eos/www/naics/>



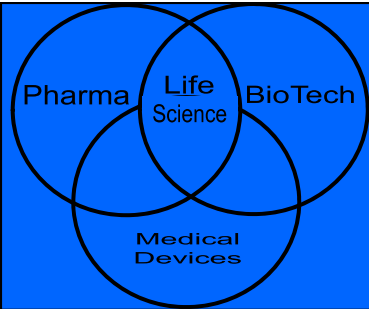
# NEW JERSEY BIO/PHARMACEUTICALS LIFE-SCIENCE CLUSTER Overview



**What does the  
Bio/Pharmaceutical  
Life Science  
Cluster  
offer New Jersey ?**

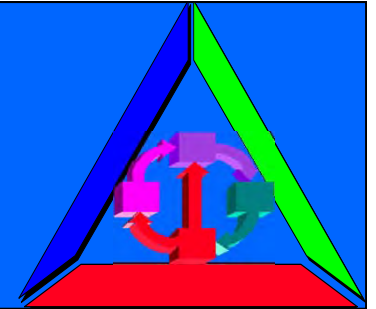
**Lets take a look!!**





# NEW JERSEY BIO/PHARMACEUTICAL LIFE-SCIENCE CLUSTER

## Synergy



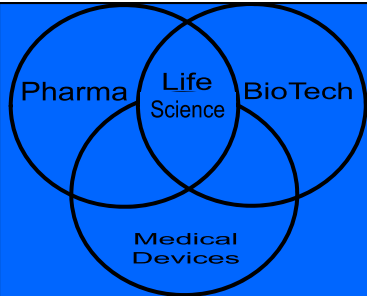
New Jersey's unique and vast concentration of biotech, medical device, and pharmaceutical companies, along with an exceptional labor force, continuously contribute towards positioning the Garden State as a global leader in the Bio/Pharmaceutical Life Science Cluster. The synergy of each adds enormous value:

**BIOTECHNOLOGY:** New Jersey has a long tradition of advanced scientific research and development, along with countless innovative breakthroughs and discoveries. This has been achieved because New Jersey has had, and continues to have, some of the greatest scientist including: Albert Einstein, Thomas Edison, Lloyd H. Conover, Sol J. Barer, Ph.D. and Julie J. Brown, Ph.D. As a result of the Garden State's well-educated and highly-skilled workforce, the State's biotechnology industry continues to rank among the best in the nation. This sector has helped earn New Jersey the honor of being known as "The Innovative State" and "Einstein's Alley."

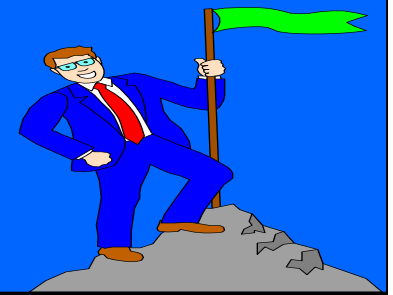
**MEDICAL DEVICE:** Part of the State's life-science group, this sector contributes towards New Jersey being *"home to more pharmaceutical and medical device companies than any other state in the country, or any other country in the world."*<sup>1</sup> Its no wonder the Biotechnology Industry Organization (BIO) refers to New Jersey as *"the epicenter of the global pharmaceutical and medical technology industry."*<sup>2</sup>

**PHARMACEUTICAL:** New Jersey's highly revered drug industry, with an exceptionally highly-educated and well-developed and talented workforce, has earned the State the distant honor of being globally known as the *"Medicine Chest of the Nation."*

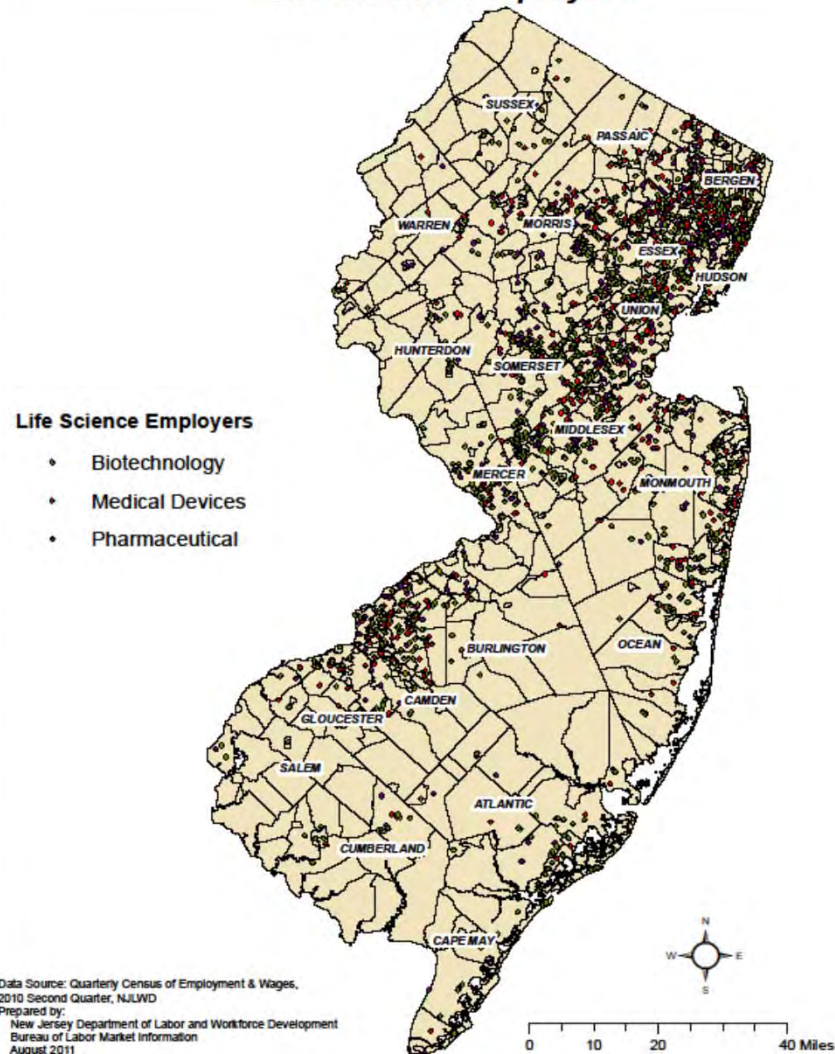




# NEW JERSEY BIO/PHARMACEUTICAL LIFE-SCIENCE CLUSTER Concentrated



**Life Science Employers**

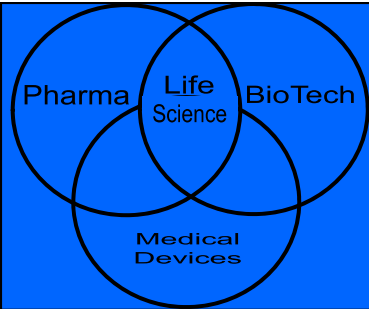


New Jersey had over 3,100 establishments directly engaged in its exceptionally highly concentrated Bio/Pharmaceuticals Life-Science Cluster in 2010.

❖ This cluster accounted for 1.2 percent of the total share of all the private sector establishments in New Jersey. Employment in this cluster accounted for 3.9 percent of the State's workforce with nearly 123,000 workers.

*NOTE: Due to the NAICS industry classification methodology, this analysis does not include data from establishments that were classified as being primarily engaged in administering, overseeing, and/or managing the activities of a company. This resulted in excluding several major employer headquartered establishments (along with associated job data) that one would normally expect to be included in the bio/pharmaceutical life science cluster. Therefore, it's noteworthy to mention that this resulted in an estimated 20,400 bio/pharmaceutical life science related jobs not being included in this analysis.*





# NEW JERSEY BIO/PHARMACEUTICAL LIFE-SCIENCE CLUSTER

## Major Industry Components



NJ's bio/pharmaceutical life science jobs in 2010 were identified within three primary components: pharmaceuticals (43.8%), biotechnology-R&D (34.6%) and medical device manufacturing (21.6%). The breakdown of the major sectors are:

### PHARMACEUTICALS

- Pharmaceutical & Medicine Mfg.
- Soap & Cleaning Compound & Toilet Preparation Mfg.
- Drugs & Druggists Sundries Wholesalers

**Biotechnology (R&D) component** consists of services related establishments primarily engaged in scientific research, development, analytic and/or diagnostics. In 2010, it had nearly 1,400 establishments with 42,555 jobs.

### MEDICAL DEVICES

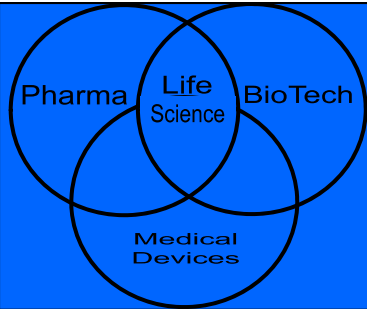
- Navigational, Measuring, Electromedical & Control Instruments Mfg.
- Medical Equipment & Supplies Mfg.

**Pharmaceutical component**, establishments that are primarily engaged in manufacturing or distribution of drug related products, accounted for 31.0 percent of the establishments in this cluster. It also accounted for over 53,771 jobs throughout the State in 2010.

### BIOTECHNOLOGY (R&D)

- Research & Development (R&D) in Physical, Engineering, Life Science & Social Science.
- Medical & Diagnostic Labs.

**Medical device component** consists of establishments engaged in manufacturing medical equipment and supplies. In 2010, this component consisted of 777 establishments in New Jersey with about 26,479 jobs.



# NEW JERSEY BIO/PHARMACEUTICAL LIFE-SCIENCE CLUSTER

## Major New Jersey Employers



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

### New Jersey: Home of Pharmaceutical Industry

- |   |   |  |
|---|---|--|
| <ul style="list-style-type: none"><li>• <b>Pharmaceutical &amp; Medicine Mfg.</b></li><li>• <b>Soap &amp; Cleaning Compound &amp; Toilet Preparation Mfg.</b></li><li>• <b>Drugs &amp; Druggists Sundries Wholesalers</b></li></ul> | <ul style="list-style-type: none"><li>• Bayer HealthCare Pharmaceutical</li><li>• Bristol-Myers Squibb Co.</li><li>• Daiichi Sankyo</li><li>• Ethicon, Inc.</li><li>• Johnson &amp; Johnson</li></ul> | <ul style="list-style-type: none"><li>• L'Oreal, USA, Inc.</li><li>• Merck &amp; Co. Inc.</li><li>• Novartis Pharmaceuticals</li><li>• Pfizer, Inc.</li><li>• Sanofi-Aventis, U.S., Inc.</li></ul> |
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### New Jersey: Home of Medical Device Industry

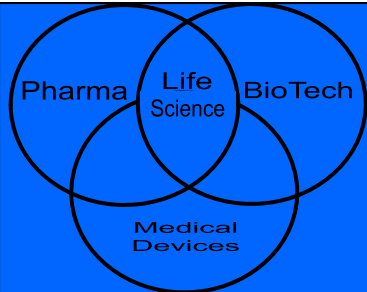
- |  |  |  |
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| <ul style="list-style-type: none"><li>• <b>Navigational, Measuring, Electromedical &amp; Control Instrument Mfg.</b></li><li>• <b>Medical Equipment &amp; Surgical Supplies Mfg.</b></li></ul> | <ul style="list-style-type: none"><li>• Becton Dickinson &amp; Co.</li><li>• C. R. Bard, Inc.</li><li>• Integra Life Sciences</li><li>• Micro Surgical Components</li><li>• Novo Nordisk, Inc.</li></ul> | <ul style="list-style-type: none"><li>• Ortho-McNeil-Janssen</li><li>• Oticon, Inc.</li><li>• Roche Molecular Systems</li><li>• Siemens Medical Solutions</li><li>• Stryker Orthopaedics</li></ul> |
|--|--|--|

### New Jersey: Home of Biotech (R&D)

- |  |   |   |
|--|---|---|
| <ul style="list-style-type: none"><li>• <b>Research &amp; Development (R&amp;D) in Physical, Engineering, Life Science &amp; Social Science.</b></li><li>• <b>Medical &amp; Diagnostic Labs.</b></li></ul> | <ul style="list-style-type: none"><li>• Celgene Corp.</li><li>• DSM North America</li><li>• Enzon Pharmaceuticals, Inc.</li><li>• GE Healthcare Bio-Sciences Corp.</li><li>• Ikaria</li></ul> | <ul style="list-style-type: none"><li>• ImClone System</li><li>• LifeCell Corp.</li><li>• PTC Therapeutics Inc.</li><li>• Quest Diagnostics</li><li>• Siemens, Corp. Research</li></ul> |
|--|---|---|

(Source: 2011 InforUSA)





# NEW JERSEY BIO/PHARMACEUTICAL LIFE-SCIENCE CLUSTER

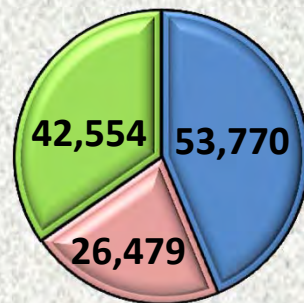
## Overall Impact



The bio/pharmaceutical life science cluster has had an enormous impact on growing high quality jobs and adding significant value to the State's economic activities. Highlights (in 2010) included:

### Employment

- Pharmaceuticals
- Medical Devices
- BioTech R&D

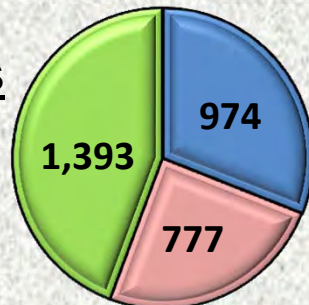


*Employment totaled almost 123,000 - or 3.9% - of all private sector workers in the state. -- Nationally, the proportion was just 2.0 percent!*

❑ **Well-paying jobs:** Paid \$14 billion in annual payroll; 8.1 percent of the state's total wages.

### Establishments

- Pharmaceuticals
- Medical Devices
- BioTech R&D

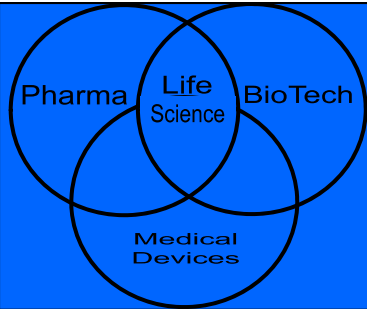


*Establishments over the past five years (2005-2010) expanded by 13.2 percent -- outpacing the nation by +3.6 percentage points.*

❑ **Investment Added Value:** Invested nearly \$20 billion in research and development, the 3rd most among the 50 states.

❖ **Added to Export Opportunities:** New Jersey exported approximately \$4.8 billion in manufactured goods worldwide in 2010, creating job opportunities in other industries.

❖ **Added to Growing the State's Economy:** This cluster accounted for \$23 billion (nearly 5.0%) of New Jersey's gross domestic product. (SOURCE: Rutgers, 2009)

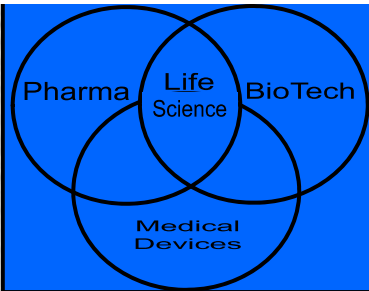


# NEW JERSEY BIO/PHARMACEUTICALS LIFE-SCIENCE CLUSTER

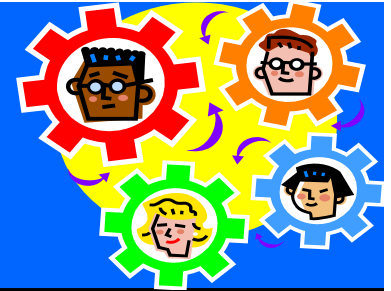


## Analysis: Industry Details of New Jersey's Bio/Pharmaceutical Life Science Cluster



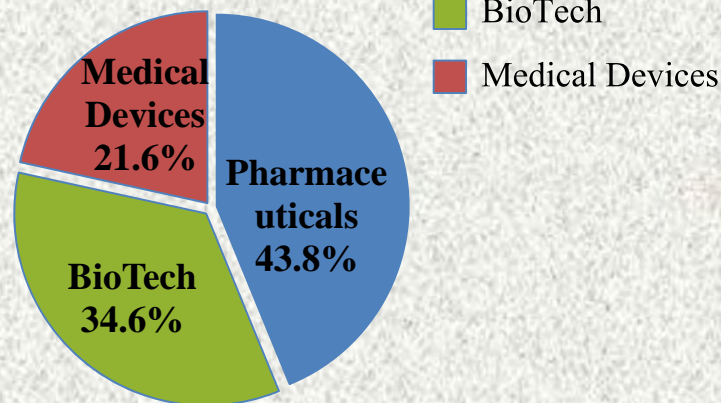


# NEW JERSEY BIO/PHARMACEUTICAL LIFE-SCIENCE CLUSTER Employment



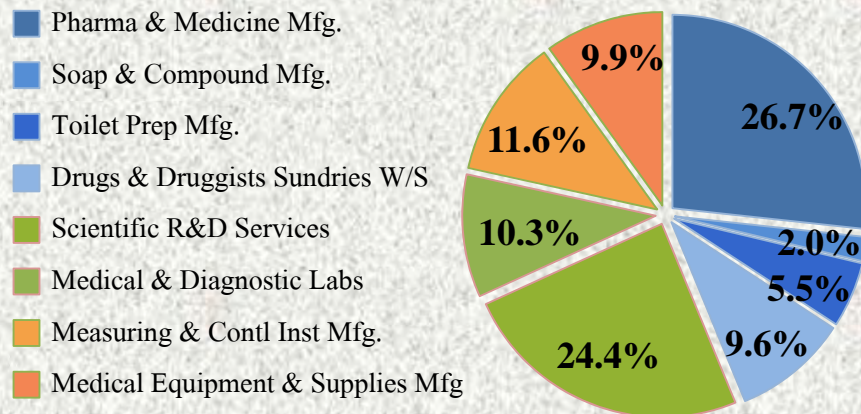
## Cluster Employment

2010



(SOURCE: Quarterly Census of Employment and Wages, 2010)

## Sector Employment



(SOURCE: Quarterly Census of Employment and Wages, 2010)

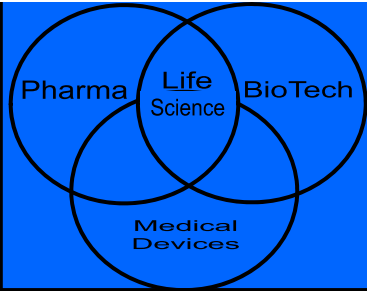
The 122,803 jobs within New Jersey's cluster in 2010 were concentrated as follows:

**Pharmaceuticals:** Two sub-sectors accounted for almost 70% of the employment within this component: pharmaceutical preparation mfg. (47.1%) and drugs & druggists sundries wholesales (21.9%).

**BioTech:** Scientific R&D services industry employment accounted for nearly 30,000 of the 42,554 jobs within this component. The R&D bio-life science sub-sector accounted for 68.4% of these jobs. (Note: New Jersey's R&D in physical, engineering & life science sub-sector accounted for 5.0% of the nation's jobs within this cluster.)

**Medical Devices:** Search, detection & navigation instruments (29.8%) and surgical appliance & supplies mfg. (25.6%) sub-sectors accounted for over half of the employment of the 26,479 jobs within this component.



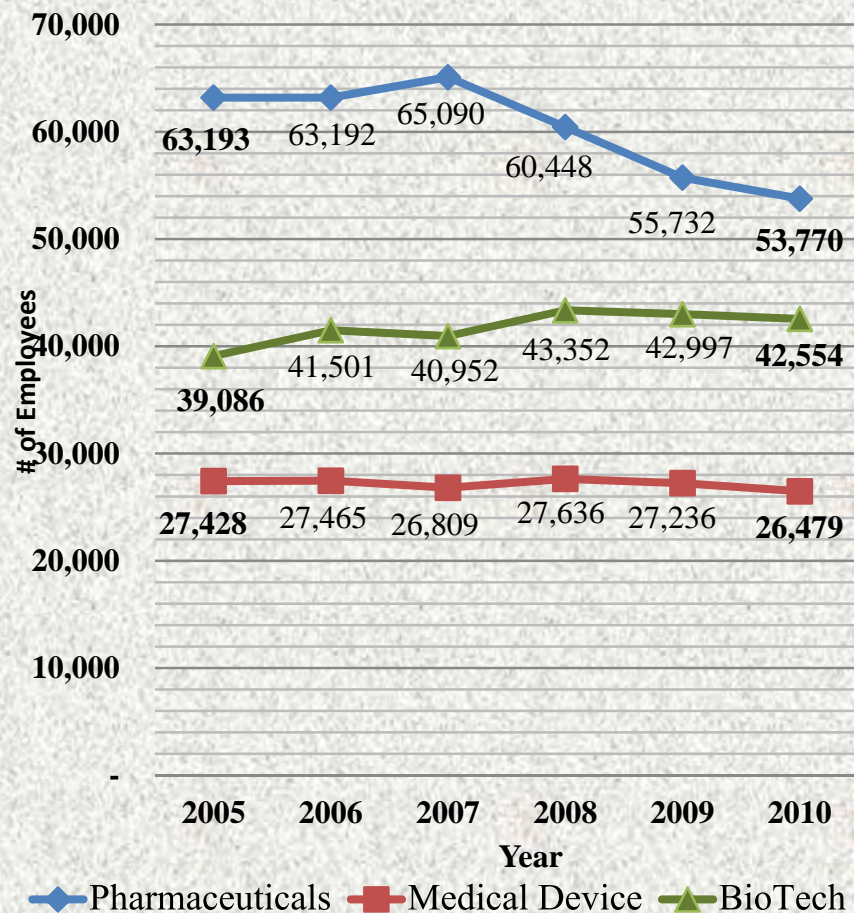


# NEW JERSEY BIO/PHARMACEUTICAL LIFE-SCIENCE CLUSTER 5-Year Employment Trend



## 5-Year Employment Trend

2005 – 2010



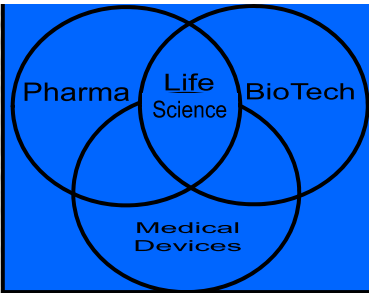
*Pharmaceutical* component in 2010 accounted for about 43.8% of this cluster's employment, down from 48.7% in 2005. Over the 5-year period, each of the three industry groups experienced a loss of jobs: pharmaceutical & medicine mfg. (-18.5%), soap & compound mfg. (-15.8%) and the drugs & druggists sundries wholesalers (-2.2%).

*BioTech* component, which accounted for 34.6% of the cluster's employment in 2010, was up from 2005 (30.1%). Employment growth was seen in both of its industry groups from 2005 to 2010 by nearly 3,500 (or +8.9%) jobs.

*Medical Device* component accounted for 21.6% of this cluster's jobs in 2010, up from 21.2% in 2005. Industry employment over the 5-years were mixed. Overall job gains were experienced in medical equipment & supply mfg (+.2%) while overall losses resulted in the navigation, measuring, electromedical & control instrument mfg. industry (-6.1%).

(SOURCE: Quarterly Census of Employment and Wages, 2010)



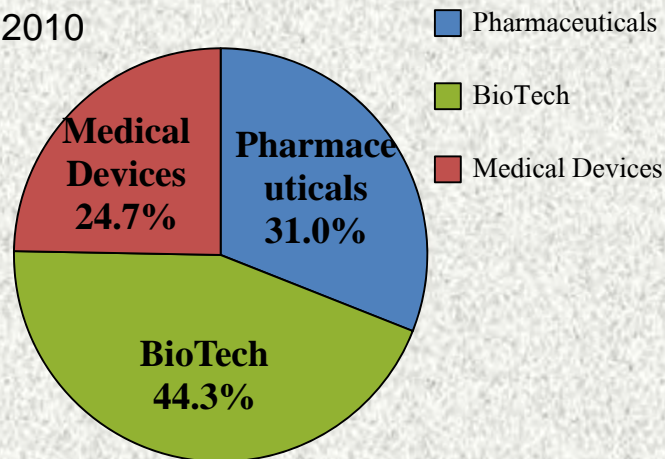


# NEW JERSEY BIO/PHARMACEUTICAL LIFE-SCIENCE CLUSTER Establishments



## Cluster Establishment

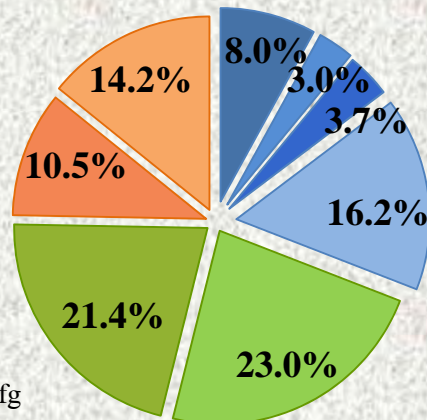
2010



(SOURCE: Quarterly Census of Employment and Wages, 2010)

## Sector Establishments

- Pharma & Medicine Mfg.
- Soap Compounds Mfg.
- Toilet Prep Mfg.
- Drugs & Druggists Sundries W/S
- Scientific R&D Services
- Medical & Diagnostic Labs
- Measuring & Cont'l Inst Mfg.
- Medical Equipment & Supplies Mfg.



(SOURCE: Quarterly Census of Employment and Wages, 2010)

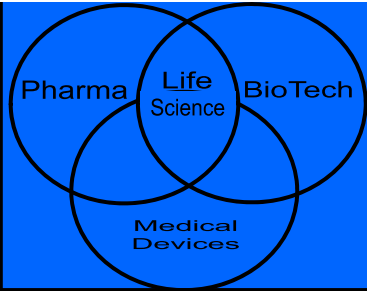
**This cluster's 3,144 establishments were highly concentrated in 2010 within:**

**Pharmaceuticals:** Nearly 80% of this component's 973 establishments (in 2010) were positioned within two industry sector; drug wholesalers (52.4%) and pharma & medicine mfg. (26.0%). *(Note: In 2010, New Jersey's pharma & medicine manufacturers accounted for 8.9% of all the nation's establishments).*

**BioTech:** More than half of this component's industry sector (1,393) establishments in 2010 were focused on R&D: in physical, engineering & life science (44.9%) and in the Social Sciences (6.7%).

**Medical Devices:** The majority of the industry sector for this component's 777 establishments in 2010 were found in medical equipment & supplies mfg. (61.2%).



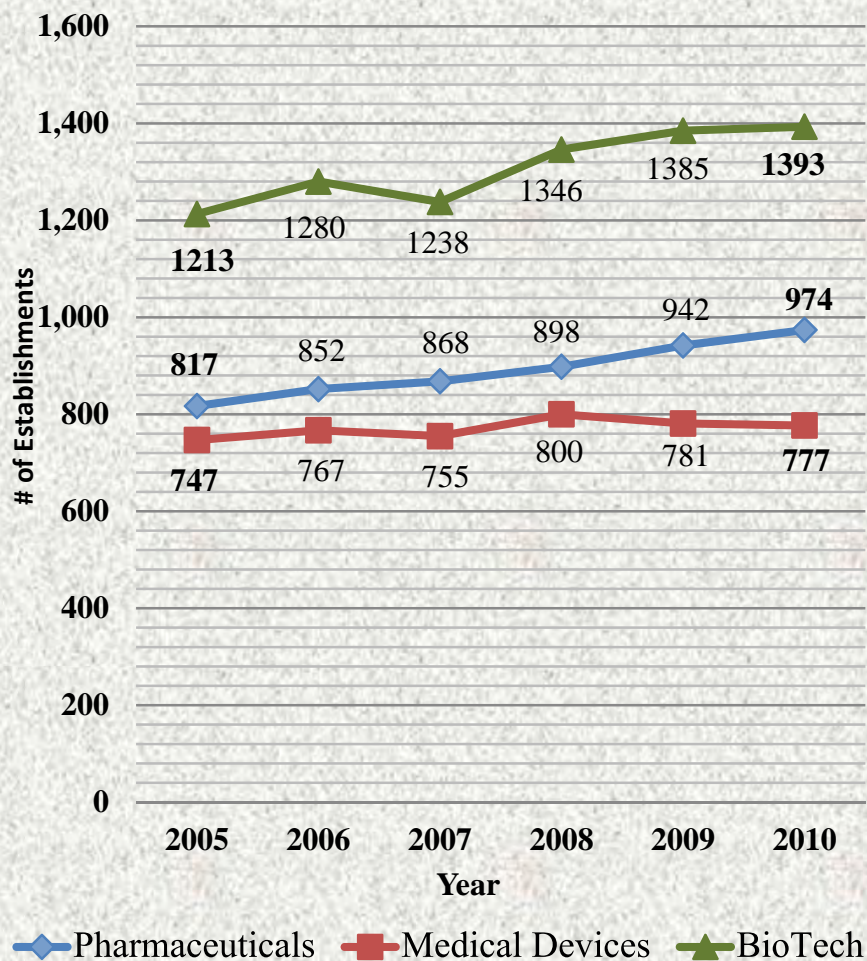


# NEW JERSEY BIO/PHARMACEUTICAL LIFE-SCIENCE CLUSTER 5-Year Establishment Trend



## 5-Year Establishment Trend

2005 – 2010



(SOURCE: Quarterly Census of Employment and Wages, 2010)

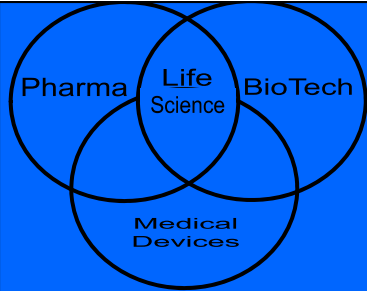
There were 3,144 establishments in this cluster in 2010, up from 2,777 in 2005. Over the 5-year period, establishments rose from 2005 by 13.2 percent. All three components experienced a gain!

*Pharmaceuticals* accounted for 31.0% of the cluster's establishments in 2010, up from 29.4% in 2005. Each of the three industry groups realized a gain over this 5-year time period resulting in a net increase of 19.2 percent of new establishments.

*BioTech* accounted for 44.3% of the establishments in this cluster in 2010, up from 43.7% in 2005. Both industry groups realized significant gains resulting in statewide growth of establishments (+14.8%).

*Medical Devices* consisted of 777 establishments in 2010. It accounted for 24.7% of the establishments within this cluster. Over the 5-year period from 2005 to 2010, total establishments grew by 4.0%.



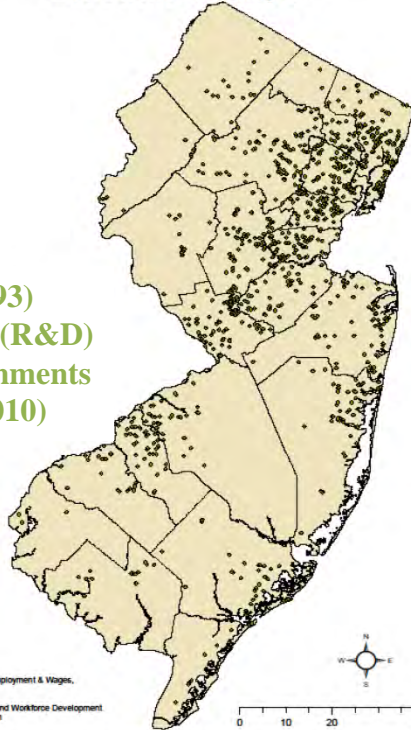


# NEW JERSEY BIO/PHARMACEUTICAL LIFE-SCIENCE CLUSTER Establishment Concentration



Life Science Employers

(1,393)  
**BioTech (R&D)**  
Establishments  
(in 2010)

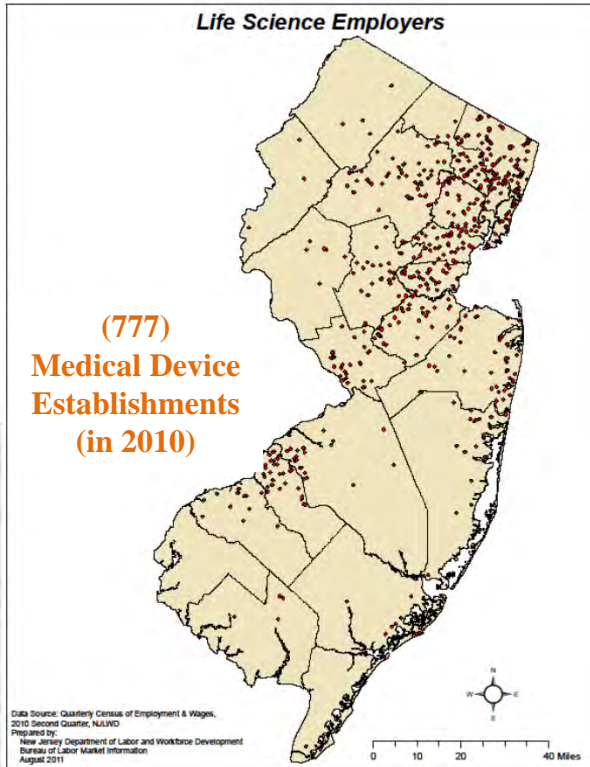


**BioTech** establishments have a strong presence in New Jersey, especially within the “*Einstein Ally Corridor*” area. Nearby universities and incubators are a significant contributing factor.

**Medical Device** establishments have a robust presence in NJ, especially located in the north-eastern section of the state in the heart of the manufacturing area, adjoining ‘Pharma’ country.

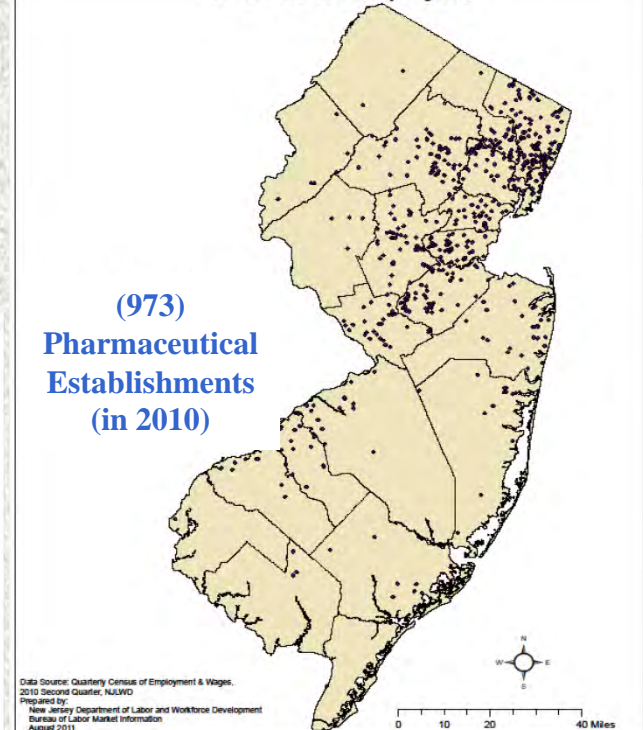
Life Science Employers

(777)  
**Medical Device**  
Establishments  
(in 2010)



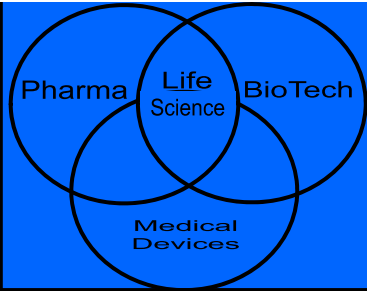
Life Science Employers

(973)  
**Pharmaceutical**  
Establishments  
(in 2010)



**Pharmaceutical** establishments have a powerful presence in northern NJ; attracted by -- an excellent labor pool, major universities and access to all modes of great transportation.





# NEW JERSEY BIO/PHARMACEUTICAL LIFE-SCIENCE CLUSTER Total Wage Impact



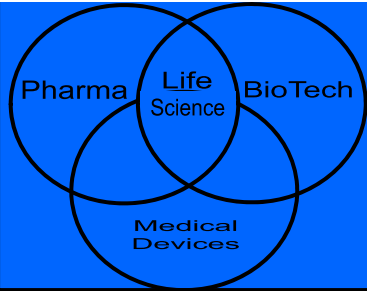
- ❖ While NJ's Bio/Pharmaceutical Life Science Cluster accounted for only 3.9% of the employment in 2010, wages accounted for 8.1% of the state's total wages.
- ❖ This cluster's total wages from 2005 to 2010, increased by 18.0% or \$2.15 billion, adding significantly to the state's economy.
- ❖ From 2005 to 2010, all seven of this cluster's industry groups experienced total wage growth in New Jersey: ranging from +8.0% to +30.2%. The top three were medical equipment & supplies mfg. (+30.2%), followed by drugs & druggists sundries wholesalers (26.9%) and scientific research & development services (24.5%) .

(SOURCE: Quarterly Census of Employment and Wages, 2010)

## **Note: Total wages are a significant factor because it can be used to:**

- ☐ Determine the value a cluster or industry has towards high paying jobs.
- ☐ Anticipate projected state revenues from payroll taxes.
- ☐ Help policy makers determine:
  - Type of industries to focus on for attracting and retaining quality jobs;
    - Type of jobs that likely will be created, expanded and/or retained.
  - Where and how to invest for economic development, education, training programs, etc.

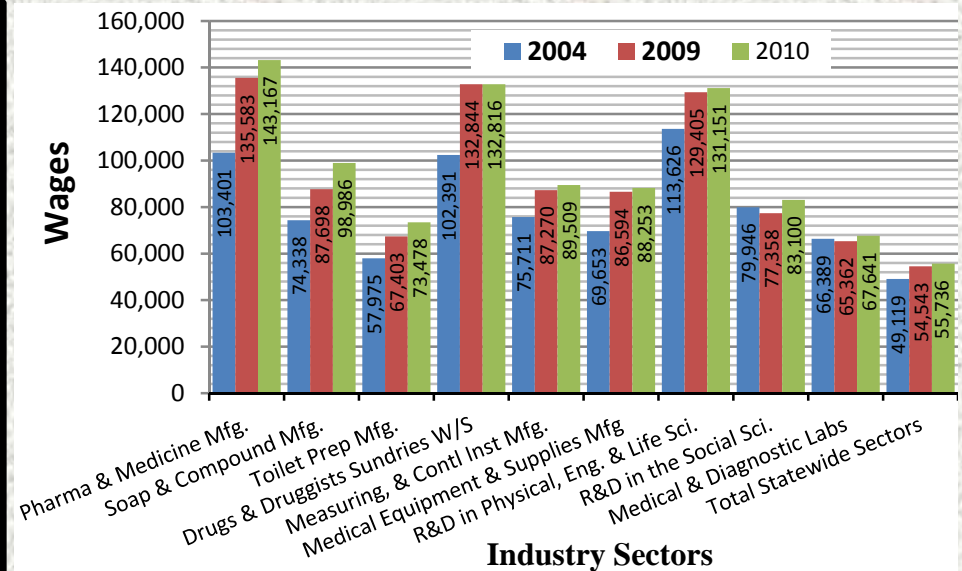




# NEW JERSEY BIO/PHARMACEUTICAL LIFE-SCIENCE CLUSTER Average Annual Wages



This cluster's average annual wage was \$114,757 in 2010, which was 105.9% higher than the state's total private average of \$55,736. Separately, all three components also had 2010 wages that were significantly higher than the state's total wages. These component's average annual wages ranged from **+77.5% (medical devices)** and **+97.1% (biotech)** to **+113.4% (pharmaceuticals)**.



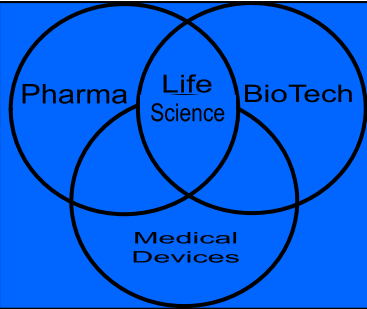
**Pharmaceuticals:** This component saw annual wages average \$130,143 in 2010. Over the 5-year (2005-2010) period, the annual average wages increased \$33,990 (or +35.4%). The increases in the industry sectors ranged from +26.7% (toilet preparation mfg.) to 38.5% (pharma & medicine mfg.).

**BioTech:** This component's 2010 annual average wage was \$111,382, up from \$98,790 in 2005. Over the 5-year (2005-2010) period, it increased 12.7%. The industry sectors varied over the same time period ranging from +1.9% (medical & diagnostic labs) to +15.4% (R&D: physical, engineering & life science).

**Medical Devices:** This component's annual average wage was \$88,930 in 2010, up from \$73,088 in 2005. Over the 5-year (2005-2010) period, the average annual wage increased 21.7%. The industry sector increases ranged from +18.2% (measuring & control instrument mfg.) to +26.7% (medical equip mfg.).

(SOURCE: Quarterly Census of Employment and Wages, 2010)



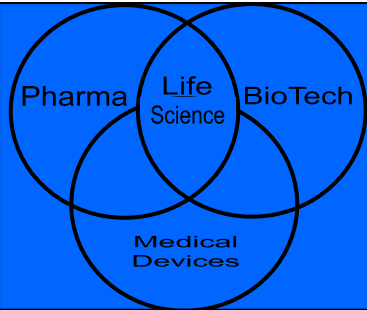


# NEW JERSEY BIO/PHARMACEUTICALS LIFE-SCIENCE CLUSTER



## Analysis: Staffing Patterns of New Jersey's Bio/Pharmaceutical Life Science Cluster



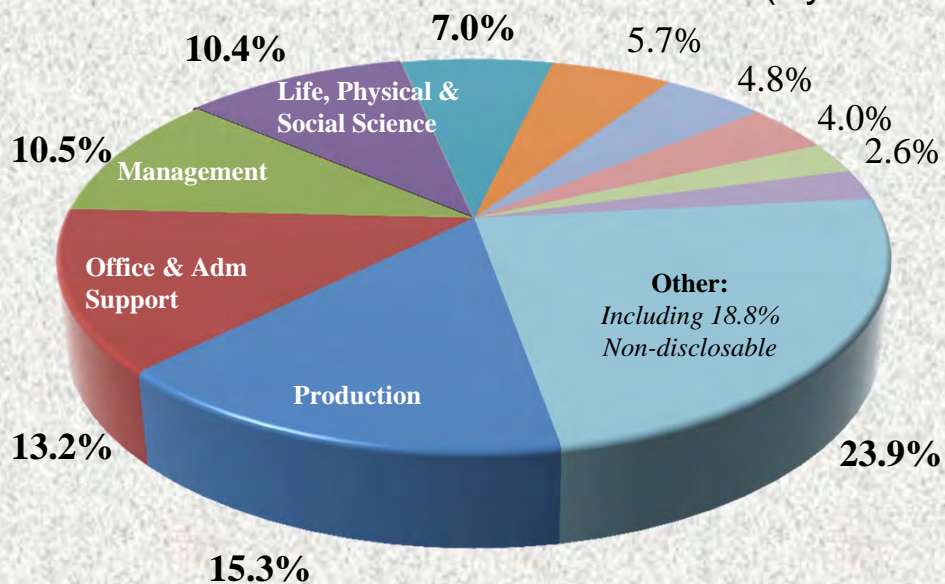


# NEW JERSEY BIO/PHARMACEUTICAL LIFE-SCIENCE CLUSTER

## Staffing Patterns: Cluster



**Major Occupational Group Breakdown**  
(By Jobs in 2009)



Source: New Jersey Department of Labor and Workforce Development,  
Division of Labor Market & Demographic Research  
Bureau of Occupational Research, Occupational Employment Projections

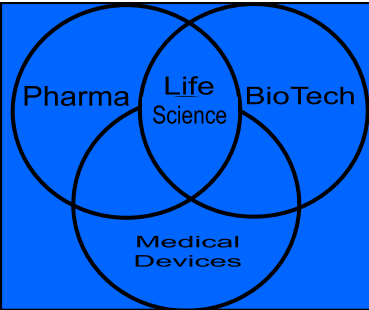
**Occupational analysis of 103,388 jobs out of a total of 127,394 identified within this cluster (in 2009) revealed that:**

❖ Of the discloseable data, most were held within four major occupations. They were: **production** (19,521 jobs), **office and administrative support** (16,832 jobs), **management** (13,349 jobs), and **life, physical, and social sciences** (13,252 jobs).

➤ These four major occupations accounted for nearly 50 percent of all the jobs identified within this cluster.

*NOTE: Do to disclosure/confidentiality issues, only 81.2 percent of the jobholder's data could be used for occupational analysis.*





# NEW JERSEY BIO/PHARMACEUTICAL LIFE-SCIENCE CLUSTER

## Occupations within Cluster



### New Jersey Bio/Pharmaceutical Life-Science Cluster's Top 20 Occupations (in 2009)

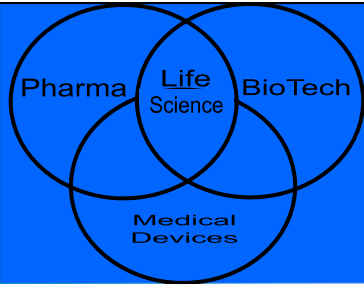
Occupations	Employment	(Minimum) Education/Training
Packaging and Filling Machine Operators and Tenders	4,211	Short-term on-the-job training
Chemists	3,696	Bachelor's degree
Business Operations Specialists, All Other	3,516	Bachelor's degree
Mixing and Blending Machine Setters, Operators, and Tenders	2,844	Moderate-term on-the-job training
Healthcare Support Workers, All Other	2,508	Short-term on-the-job training
Biochemists and Biophysicists	2,405	Doctoral degree
Natural Sciences Managers	2,149	Bachelor's or higher degree, plus work experience
Computer Software Engineers, Systems Software	2,111	Bachelor's degree
Stock Clerks and Order Fillers	1,999	Short-term on-the-job training
First-Line Supervisors/Managers of Production and Operating Workers	1,939	Work experience in a related occupation
Executive Secretaries and Administrative Assistants	1,850	Work experience in a related occupation
Assemblers and Fabricators, All Other	1,773	Moderate-term on-the-job training
Chemical Technicians	1,746	Associate degree
Customer Service Representatives	1,645	Moderate-term on-the-job training
Medical Scientists, Except Epidemiologists	1,576	Doctoral degree
Inspectors, Testers, Sorters, Samplers, and Weighers	1,564	Moderate-term on-the-job training
Computer and Information Systems Managers	1,495	Bachelor's or higher degree, plus work experience
Bookkeeping, Accounting, and Auditing Clerks	1,468	Moderate-term on-the-job training
First-Line Supervisors/Managers of Office and Administrative Support Workers	1,393	Work experience in a related occupation
Industrial Production Managers	1,389	Work experience in a related occupation

Source: New Jersey Department of Labor and Workforce Development, Division of Labor Market & Demographic Research  
Bureau of Occupational Research, Occupational Employment Projections

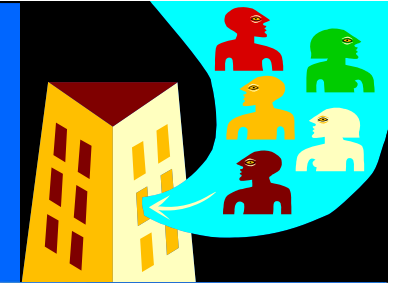
NOTE: Do to disclosure issues, only 81.2% of the occupational data could be analyzed.

There were 211 occupational titles identified from the 103,388 jobs analyzed for this cluster from the 2009 data. Most of the job titles were found to be within either production (28.5%), life, physical, and social sciences (21.8%), or office and administrative support (19.3%).



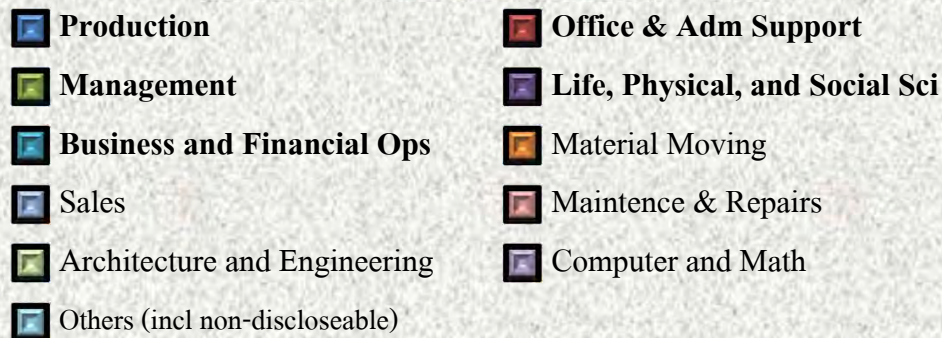
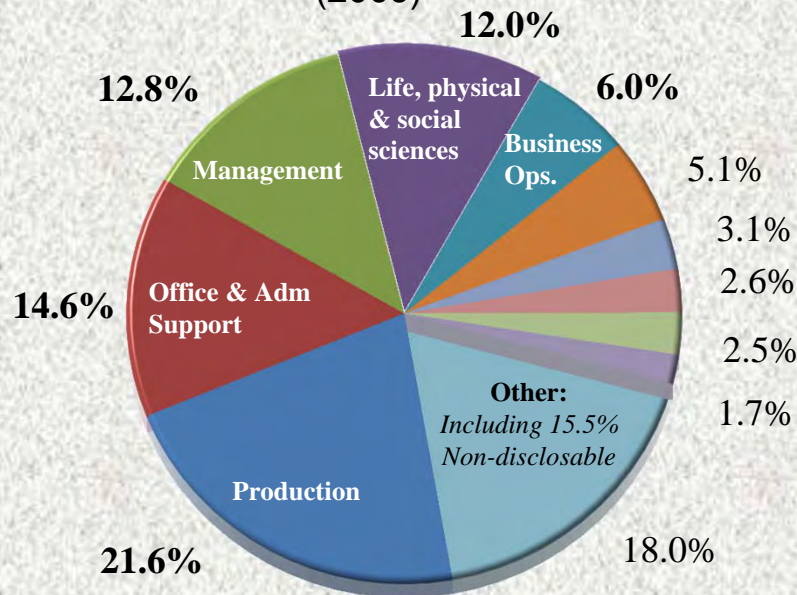


# NEW JERSEY BIO/PHARMACEUTICAL LIFE-SCIENCE CLUSTER Staffing Patterns



## Pharmaceutical Component

### Major Occupational Group Breakdown (2009)

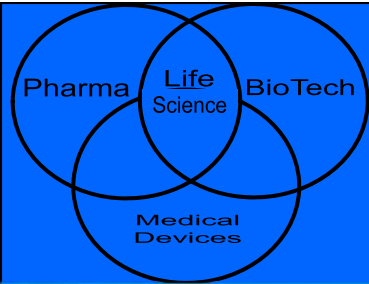


Occupational analysis of 44,543 jobs out of the total 52,704 jobs identified within the pharmaceutical component (in 2009) revealed that:

- ❖ Of the disclosable data, most were identified within five major occupations for this component. They were: **production** (11,362 jobs), **office and administrative support** (7,669 jobs), **management** (6,740), **life, physical, and social sciences** (6,334 jobs), and **business & financial operations** (3,153 jobs).
- These five major occupations accounted for nearly 80% of all the (disclosable) jobs identified within this component.

*NOTE: Do to disclosure/confidentially issues, only 84.5 percent of the jobholder's data could be used for occupational analysis.*





# NEW JERSEY BIO/PHARMACEUTICAL LIFE-SCIENCE CLUSTER Occupations



## Pharmaceutical Component

There were 142 occupational titles identified from 52,704 jobs within this component in 2009. Upon analyzing the 44,453 (disclosable) job's data within the pharmaceutical component, it was found that the following five titles lead the list (in terms of jobholders). These five occupations also accounted for 28.5% of the jobs in this component:

### New Jersey Pharmaceutical Component's Top 5 Occupations

OCCUPATIONS (2009)	EMPLOYMENT	WAGE	(MINIMUM) EDUCATION/TRAINING
Packaging and Filling Machine Operators	4,088	27,250	Short-term on-the-job training
Mixing and Blending Machine Operators	2,755	31,390	Moderate-term on-the-job training
Chemists	2,562	76,970	Bachelor's degree
Stock Clerks and Order Fillers	1,869	30,380	Short-term on-the-job training
Biochemists and Biophysicists	1,440	95,500	Doctoral degree

Source: New Jersey Department of Labor and Workforce Development, Division of Labor Market & Demographic Research  
Bureau of Occupational Research, Occupational Employment Projections

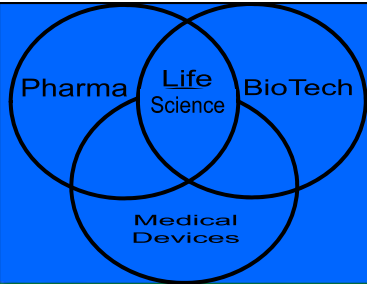
*NOTE: Do to disclosure issues, only 84.5% of the occupational data could be analyzed.*

**Packaging and Filling Machine Operators:** Operate or tend machines to prepare industrial or consumer products for storage or shipment.[1](#)

**Mixing and Blending Machine Operators:** The occupation is involved with the set up, operate, or tend machines to mix or blend materials; including chemicals.[1](#)

**Chemists:** Work varies upon field of expertise. Occupations range from discovering and/or developing new and improved products to working in production and quality control in the manufacturing plants. This well-paying occupation usually are involved with chemicals.



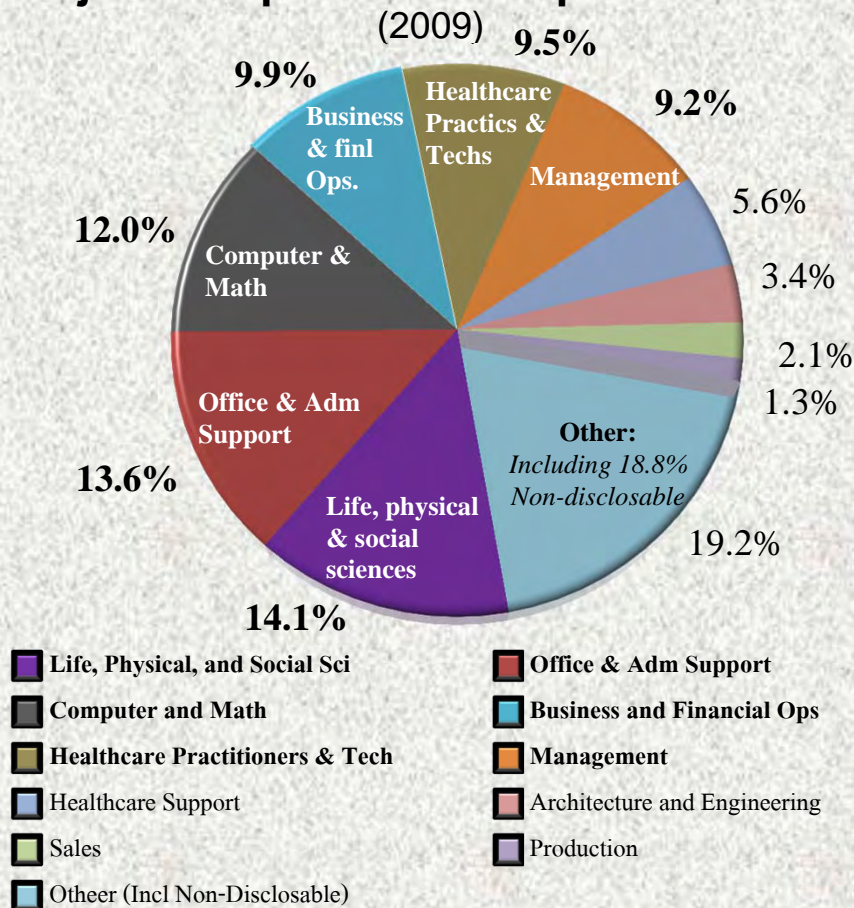


# NEW JERSEY BIO/PHARMACEUTICAL LIFE-SCIENCE CLUSTER Staffing Patterns



## Biotech (R&D) Component

### Major Occupational Group Breakdown



Occupational analysis of 39,211 jobs out of the total 47,169 identified jobs within the Biotech (R&D) component (in 2009) revealed that:

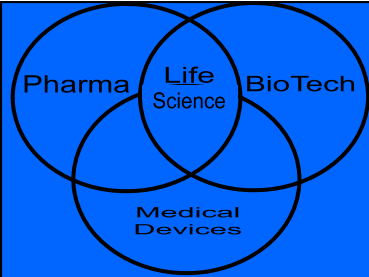
❖ Of the disclosable data, most were held within three major occupations. They were: **life, physical, and social sciences** (6,646 jobs), **office and administrative support** (6,398 jobs), and computers & math (5,662 jobs).

➤ These three major occupations, accounted for nearly half (47.7%) of all the (identifiable) jobs within this component.

*NOTE: Do to disclosure/confidentially issues, only 81.2 percent of the jobholder's data could be used for occupational analysis.*

Source: New Jersey Department of Labor and Workforce Development,  
Division of Labor Market & Demographic Research  
Bureau of Occupational Research, Occupational Employment Projections





# NEW JERSEY BIO/PHARMACEUTICAL LIFE-SCIENCE CLUSTER Occupations



## Biotech (R&D) Component

There were 167 occupational titles identified from 47,169 jobs within this component in 2009. Upon analyzing the 39,211 (disclosable) jobs within the biotech (R&D) component, it was found that the following five titles lead the list (in terms of jobholders). These five occupations also accounted for 24.2% of the jobs in this component:

### New Jersey Biotech (R&D) Component's Top 5 Occupations

OCCUPATIONS (2009)	EMPLOYMENT	WAGES	(MINIMUM) EDUCATION/TRAINING
Healthcare Support Workers, All Other	2,508	32,830	Short-term on-the-job training
Computer Software Engineers, Systems Software	2,111	105,190	Bachelor's degree
Business Operations Specialists, All Other	2,058	69,990	Bachelor's degree
Medical Scientists, Except Epidemiologists	1,496	124,270	Doctoral degree
Radiologic Technologists and Technicians	1,297	65,510	Associate degree

Source: New Jersey Department of Labor and Workforce Development, Division of Labor Market & Demographic Research  
Bureau of Occupational Research, Occupational Employment Projections

NOTE: Do to disclosure issues, only 81.2% of the occupational data could be analyzed.

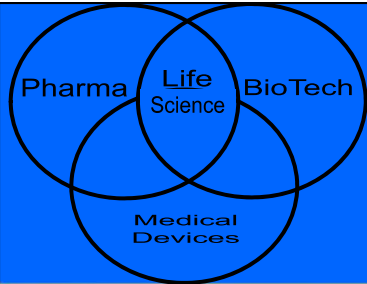
**Healthcare Support Workers, All Other:** Worker providing technical healthcare support in an office or laboratory environment. Generally involve performing clerical duties.

**Computer Software Engineers, Systems Software:** The occupation involves research, design, develop, and testing software applications for industries including medical and scientific research. Also involves using principles and techniques of computer science, engineering, and mathematical analysis. [1](#)

**Business Operations Specialists:** This occupation is as the title implies. [1](#)

**Medical Scientists:** Medical scientists research human diseases and conditions with the goal of improving human health. Most conduct biomedical R&D. *Those who work in private industry conduct applied research or support product development, using knowledge discovered through research to develop new drugs and medical treatments.* [1](#)



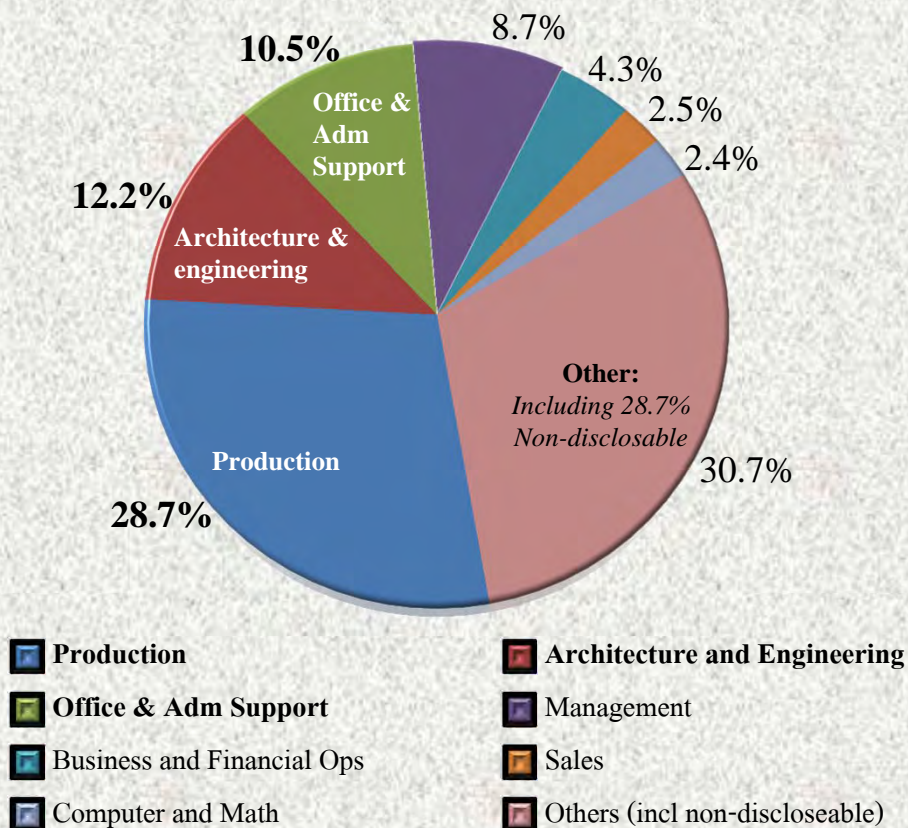


# NEW JERSEY BIO/PHARMACEUTICAL LIFE-SCIENCE CLUSTER Staffing Patterns



## Medical Device Component

### Major Occupational Group Breakdown (2009)



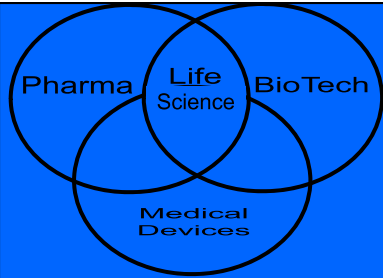
Occupational analysis of 19,634 jobs out of the total 27,520 identified jobs within the Medical Device component (in 2009) revealed that:

❖ Of the disclosable data, most jobs were held within three major occupations. They were: **production** (7,548 jobs), **architecture & engineering** (3,225 jobs), and **office and administrative support** (2,765 jobs).

➤ These three major occupations, accounted for almost seventy percent (68.9%) of all the (disclosable) jobs within this component.

*NOTE: Do to disclosure/confidentially issues, only 71.3 percent of the jobholder's data could be used for occupational analysis.*





# NEW JERSEY BIO/PHARMACEUTICAL LIFE-SCIENCE CLUSTER Occupations



## Medical Device Component

There were 119 occupational titles identified from 27,520 jobs within this component in 2009. Upon analyzing the 19,634 (disclosable) job's data within the medical device component, it was found that the following five titles lead the list (in terms of jobholders). These five occupations also accounted for 21.9% of the jobs in this component:

### New Jersey Medical Device Component's Top 5 Occupations

OCCUPATIONS (2009)	EMPLOYMENT	WAGE	(MINIMUM) EDUCATION/TRAINING
Assemblers and Fabricators, All Other	1,383	41,630	Moderate-term on-the-job training
Team Assemblers	907	24,250	Moderate-term on-the-job training
Electrical and Electronic Equipment Assemblers	802	37,710	Short-term on-the-job training
Dental Laboratory Technicians	794	40,500	Moderate-term on-the-job training
First-Line Supervisors/Managers (Production/Operating)	409	66,510	Work experience in a related occupation

Source: New Jersey Department of Labor and Workforce Development, Division of Labor Market & Demographic Research  
Bureau of Occupational Research, Occupational Employment Projections

*NOTE: Do to disclosure issues, only 71.3% of the occupational data could be analyzed.*

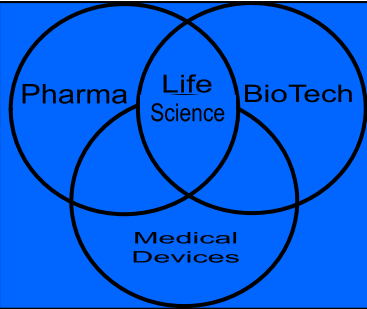
**Assemblers and Fabricators, All Other:** This occupation produces a wide range of finished goods from manufactured parts to subassemblies. It usually involves intricate manufactured products.

**Team Assemblers:** Most assemblers work on teams. The education level and qualifications needed to enter these jobs vary depending on the industry and employer. While a high school diploma or GED is sufficient for most jobs, experience and extra training is needed for more advanced assembly work. [1](#)

**Electrical and Electronic Equipment Assemblers:** This occupation involves assembling or modifying electrical or electronic equipment. [1](#)

**Dental Laboratory Technicians:** Construct and repair full or partial dentures or dental appliances. (Note: This occupation excludes "Dental Assistants.") [1](#)





# NEW JERSEY BIO/PHARMACEUTICALS LIFE-SCIENCE CLUSTER



## **Analysis: Characteristics of New Jersey's Bio/Pharmaceutical Life Science Cluster**



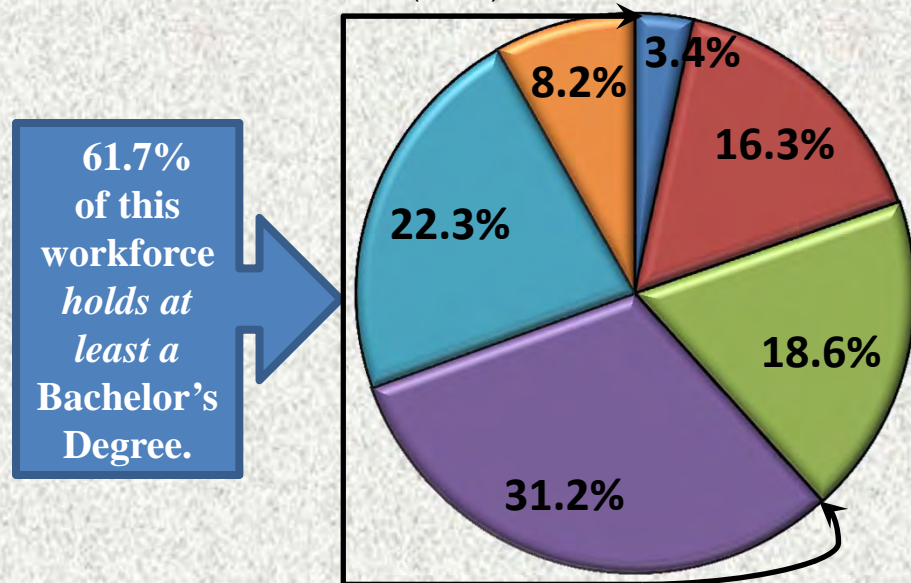


# NJ BIO/PHARMACEUTICAL LIFE-SCIENCE CLUSTER Education Characteristics



Due to the high level and technical demands of many of the occupations found in this cluster, these related New Jersey employer's had a tremendous need for highly well-educated workers.

Educational Breakdown  
(2010)



❑ New Jersey's highly well-educated workforce is overwhelmingly realized in this cluster as nearly *two thirds* of its workforce *holds at least* a bachelor's degree, of which 22.3% hold a Master's/ Professional and 8.2% hold a Doctoral degree.

❑ The education/training for the top 20 occupations broke-down as follows: short-to-moderate training (41.6%); bachelors or bachelor's or higher degree, plus work experience (29.9%); work experience in related occupation (15.2%); doctoral degree (9.2%) and associates degree (4.0%).

- |                               |                     |
|-------------------------------|---------------------|
| Less than High School         | High School diploma |
| Some college/Associate degree | Bachelor's degree   |
| Master's/Professional degree  | Doctoral degree     |

(Source: 2010 American Community Survey Public Use Microdata Sample)





# NJ BIO/PHARMACEUTICAL LIFE-SCIENCE CLUSTER Education Attainment



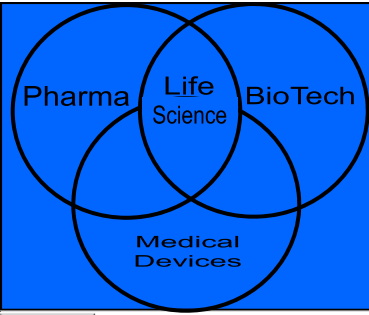
Having availability to highly educated scientists and engineers is vital for these related companies to compete and succeed. Therefore, it's understandable as to why the related businesses within this cluster gravitate to New Jersey. *(In fact – as of May 2010, according to the Bureau of Labor Statistics – New Jersey ranked 2<sup>nd</sup> in the nation in terms of highest employment and highest concentration, of chemist.)*

In 2010, New Jersey awarded almost 19,000 certificates/degrees for many of the related occupations employed by this cluster. They included;

CIP	Related Degrees Awarded in 2010 by New Jersey's Institution of Higher Education	Cert	Assoc	Bach	Mast	Doct Research	Doct Prof	TOTAL
11	Computer and Information Sciences and Support Services	82	378	739	539	24	--	1,762
14	Engineering	1	150	1,908	1,268	206	--	3,533
15	Engineering Technologies and Engineering-Related Fields	55	512	224	206	3	--	1,000
26	Biological and Biomedical Sciences	1	74	2,134	224	162	--	2,595
27	Mathematics and Statistics	--	33	513	227	54	--	827
40	Physical Sciences	2	125	455	228	101	--	911
41	Science Technologies/Technicians	3	27	28	3	--	--	61
51	Health Professions and Related Programs	986	3,024	1,999	1,104	191	816	8,120
	<b>Totals</b>	<b>1,130</b>	<b>4,323</b>	<b>8,000</b>	<b>3,799</b>	<b>741</b>	<b>816</b>	<b>18,809</b>

(Source: New Jersey Commission on Higher Education, 2010)

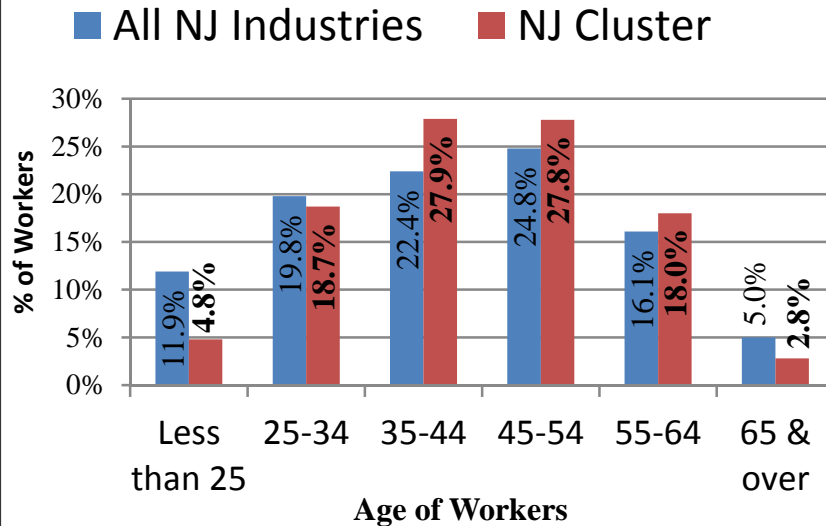




# NEW JERSEY BIO/PHARMACEUTICALS LIFE-SCIENCE CLUSTER Characteristics



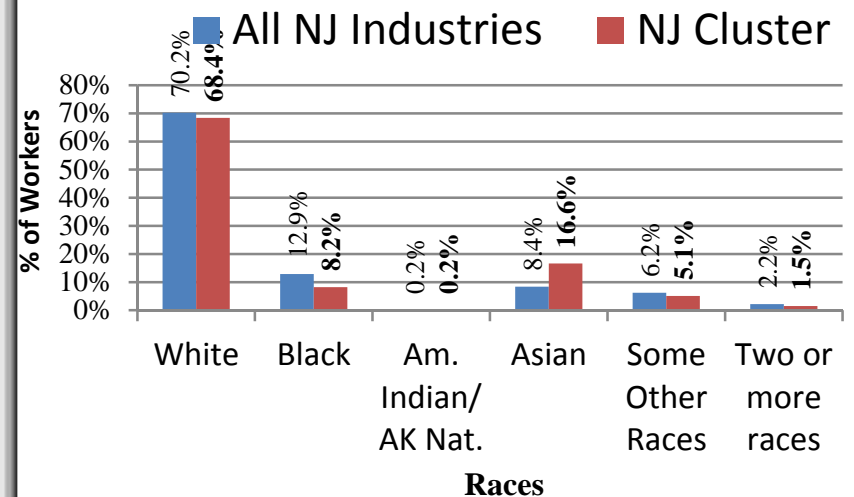
## AGE



- Majority of New Jersey workers employed in this cluster are between 35-54 (55.7%) of age.
- While all New Jersey companies (combined) employ 11.9% of the workforce under 25 years of age, this cluster employs only about 4.8% of this same age group.
- Similar to all the other New Jersey companies (combined), about 19-20% of the workers are between 25 and 34 years of age.

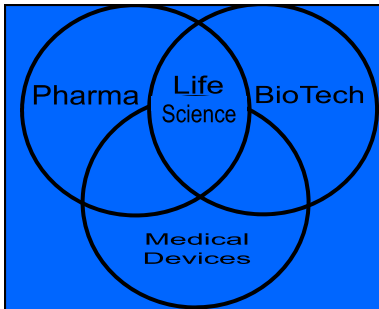
- The majority of workers employed in this cluster are White, which is similar to all New Jersey companies (combined).
- This cluster employs a larger proportion of the Asian population (16.6%), more than is typically seen in N.J.'s companies (8.4%).
- Collectively, Whites & Asians account for 85.0% of the workforce in this cluster.

## RACE



(Source: 2010 American Community Survey Public Use Microdata Sample)

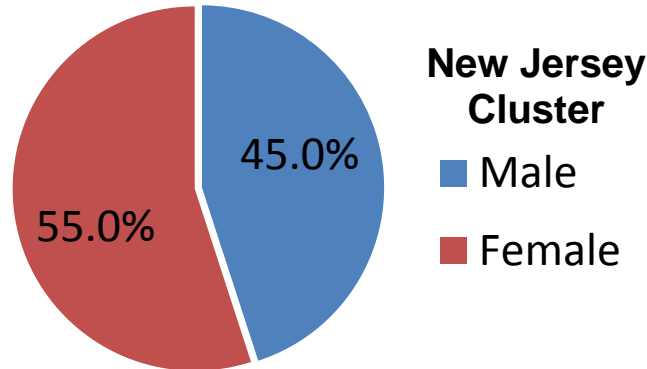




# NEW JERSEY BIO/PHARMACEUTICALS LIFE-SCIENCE CLUSTER Characteristics



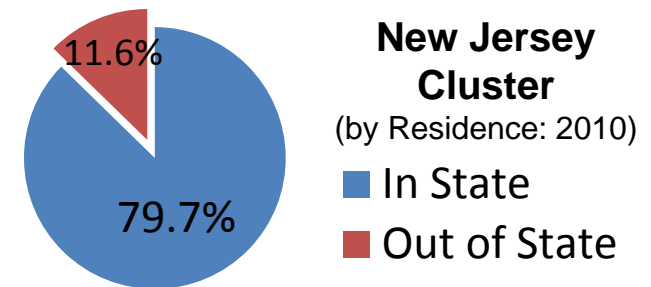
## GENDER



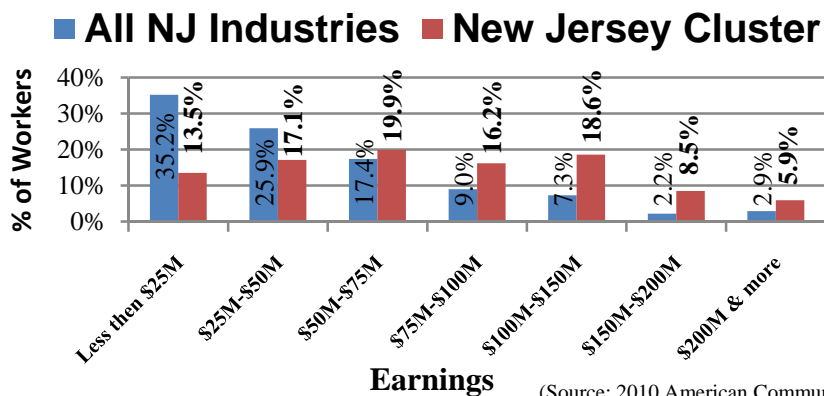
- There were more females employed within this cluster than males in 2010.
- This cluster proportion in 2010 was unlike the state's gender employment gap where more males were employed (52.5%) in the (combined) workforce than females (47.5%).

- Overwhelmingly, 79.7% of NJ's residences within this cluster in 2010 worked 'In state'.
- Comparably, this cluster's 'In State' residence workers in 2010 was greater than NJ's (combined) workforce (75.4%).

## PLACE of WORK

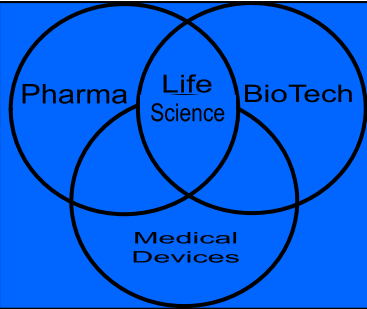


## EARNINGS



- More than two-thirds of the worker in this cluster earned at least \$50,000, whereas less than half of all workers (in all industries combined) earned greater than \$50,000.



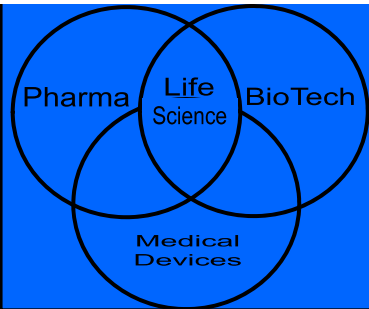


# NEW JERSEY BIO/PHARMACEUTICALS LIFE-SCIENCE CLUSTER



## **Analysis: Summing-up the New Jersey's Bio/Pharmaceutical Life Science Cluster**





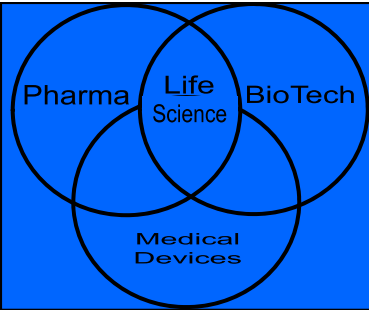
# NEW JERSEY BIO/PHARMACEUTICALS LIFE-SCIENCE CLUSTER Challenges



Like the state, as well as the nation, overall this cluster's employment was negatively impacted by the recession. However, other challenges facing this cluster are also limiting or restraining employment growth. Included are:

- ❖ **Industry Presence within New Jersey:** The perception some have about the recent mega-mergers and acquisitions, and that it could greatly reduce the face of New Jersey's (related-industry) dominance, could have harmful effects on associated investments. In turn, it has brought into question this cluster's employment viability. *It's noteworthy to mention* that these mega-merger may have provided opportunities for other drugmakers. While employment has been reduced, this clusters establishment numbers continued to rise between 2005 and 2010 -- by 13.2%. It's likely that the situation provided other cluster related companies an opportunity to purchase or lease state-of-the-art facilities that they most likely would never be able to afford under normal economic conditions. Therefore, as the economy recovers, these added establishments could potentially set the groundwork for employment growth.
- ❖ **US Food and Drug Administration:** The government's complex approval process can sometimes impede, or discourage development and/or testing of a new product. As a result, opportunities to create, expand, or spinoff a new business are sometimes delayed or halted, and in turn, the opportunity for job growth is hindered.
- ❖ **Drug Development Cost:** It costs an estimated \$1.3 billion and takes 10 to 15 years to develop a new drug.
- ❖ **Drug Development Pipeline:** Many companies in this cluster have limited products in their pipelines. With many drug patents expiring in the near future, it is pushing companies to consider consolidation options.
- ❖ **Risk & Compliance:** Liability is a major concern when evaluating the research & development, as well as the release of new products. As a result, potential opportunities to grow a business, along with related employment, is sometimes jeopardized.





# NEW JERSEY BIO/PHARMACEUTICALS LIFE-SCIENCE CLUSTER OUTLOOK



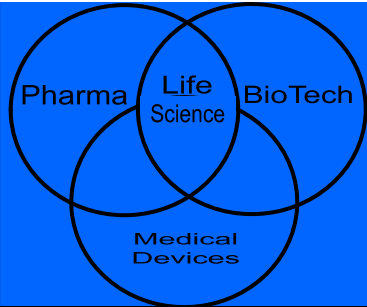
New Jersey's customary pharmaceutical, medical device and biotechnology stand-alone industries have been undergoing various changes in order to confront many of the challenges that lie ahead in their future. Among them is the changing business environment where companies are now focusing on new business 'life-processes' models, which is causing them to cross traditional industries boundaries. The support from this cluster should help companies collaborate and make necessary changes without losing their fundamental uniqueness.

New Jersey's approach is setup for companies within the cluster to collaborate and work together. This attitude should help all involved in addressing many of the same interrelated issues and challenges. As this partnerships develop, the 'team' will be collectively helping each other to make a successful transformation or just minor adjustments, if necessary.

❖ *Example:* As businesses look to find cost effective methods of getting products to an aging population, pharmaceutical companies are partnering with medical device companies to deliver products, such as injectable medications, to deliver to the end user. In this case, the pharmaceutical industry is pre-filling self-injectable needles - developed by the medical device industry - before delivering the drugs to the end user. Likewise, pharmaceuticals are teaming up with biotech R&D labs to expand similar services to address safety issues such as minimizing workers from being exposed to communicable diseases. In the end, these alliances are encouraging (New Jersey) companies to support each other and grow, via maximizing technology.

This examples illustrates that while each of the industry related companies may have had to make some operational adjustments, they kept their core business, while working with other New Jersey companies within the cluster, to change with the times.





# NEW JERSEY BIO/PHARMACEUTICALS LIFE-SCIENCE CLUSTER Outlook

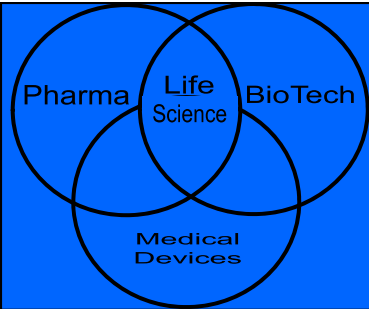
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While there are many economic related issue to deal with, the long-term outlook for this New Jersey cluster is being view with cautious optimism. *Reasons include:*

- ❖ The State's supportive effects for this cluster should help companies collaborate and make necessary changes without these firms losing their fundamental uniqueness.
- ❖ The fundamentals are in place for related establishment growth – which is an encouraging sign for future job opportunities.
- ❖ The State's “*Business Friendly*” attitude is already showing encouraging signs for attracting, retaining, and nurturing growth expansion of related companies within the Garden State.
- ❖ New Jersey continues to provide this cluster with a highly educated and well developed workforce. In addition, the New Jersey Department of Labor and Workforce has obtained a \$3.6 million Federal Pharma N.E.G. funding initiative for additional training for this group.
- ❖ New Jersey also continues to offer major ports, airports, and other transportation resources allowing for the Garden State companies to be closely linked to global market activities.
- ❖ New Jersey has developed partnerships with key players such as BioNJ, which administers the New Jersey Dept. of Labor's ‘*Talent Network*’ program. With BioNJ helps, N.J. Labor will better understand what the companies are thinking, doing and need, and in turn can be better service by the State. Collectively, all will be helping each other to be successful in the Garden State!





# NEW JERSEY BIO/PHARMACEUTICALS LIFE-SCIENCE CLUSTER Outlook

*(Continued from the previous page)*



There are other encouraging factors for this sector including:

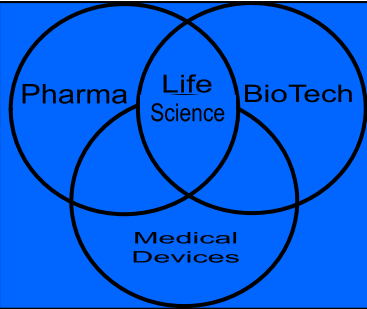
- **Well educated and talented workforce:** New Jersey continues to offer an outstanding educational system, which provides this cluster with the highly educated workers needed for their operations. Having such availability to one of the most talented workforces in the nation helps in attracting and encouraging companies in this cluster to expand their establishments in New Jersey. As the economy improves and these establishments develop, this cluster should experience overall increased hiring within the state.
- **Transportation:** With companies having access to New Jersey's major ports, airports, and other transportation resources, the Garden State is closely linked to global market activities. In fact, many international U.S. headquarters identified within this cluster, are located here because of our great transportation access to the world. In addition, many of the companies need the specific mode of transportation, which other states or even countries can not provide. As the economy recovers and global activities pickup, this cluster again should see business increase, and in turn, hiring should improve.

Utilizing this cluster approach should also help cluster members to deal with other major issues such as an erratic economic conditions, containing costs, changing business models, etc. The end result is viewed with optimism since this cluster's companies will be able to continue to develop and grow their core business. In turn, as business grows and flourishes, this clustered approach will led to a path of related employment growth within the Garden State.

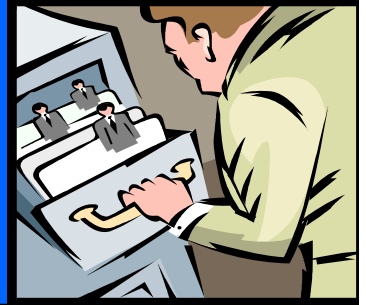
***New Jersey's "well-established life science industry and supporting infrastructure" helped offset the economic downturn....The state is just one example of how economies that have advanced technological infrastructures and strong innovation mechanisms for production consistently perform well."***

.....Milken Institute, January 2011



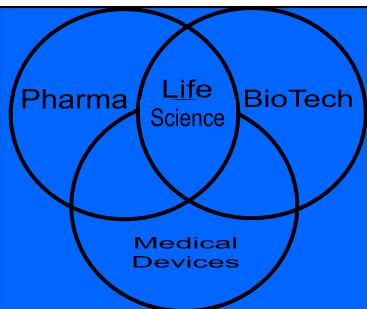


# NEW JERSEY BIO/PHARMACEUTICALS LIFE-SCIENCE CLUSTER



## Resources for the New Jersey's Bio/Pharmaceutical Life Science Cluster





# NEW JERSEY BIO/PHARMACEUTICALS LIFE-SCIENCE CLUSTER

## Resources for Collaboration



### Bio/Pharmaceutical Life Sciences Cluster

#### **Private Sector Industry Groups:**

BioNJ (*formerly known as Biotechnology Council of New Jersey*)

HealthCare Institute of New Jersey

#### **Private Sector Research Institutes:**

Independent Four-Year Colleges (14)

#### **Joint Private / Public Industry Groups:**

NJ Hospital Associations

NJ Biotechnology & Life Sciences Coalition

NJ Commission on Science & Technology

NJ Technology Council's Life Science Industry Network

#### **Joint Private / Public Research Institutes:**

Center for Advanced Biotechnology & Medicine

Research & Development Council of NJ

### General

#### **Private Sector Industry Groups:**

- Greater NJ Process Technology Alliance
- The Business Coalition for Educational Excellence
- New Jersey Business / Industry / Science Education Consortium

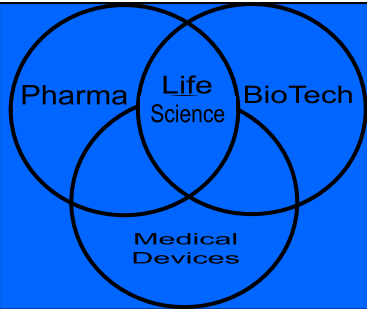
#### **Informal Networks:**

New Jersey Institute of Technology, UMDNJ, Princeton, Rutgers alumni  
Alumni from other universities  
Angel investor community

#### **Joint Private / Public Industry Groups:**

Commission on Health Science, Education & Training  
New Jersey Technology Council Venture Fund  
New Jersey President's Council





# NEW JERSEY BIO/PHARMACEUTICALS LIFE-SCIENCE CLUSTER

## Resources for Skilled Workers



**To ensure NJ's Bio/Pharmaceutical Life Science Cluster succeeds, the Garden State continues to invest in providing availability to a well-educated and talented workforce by having:**

### An Excellent Education System

- ✓ Access to more than 60 colleges, universities and technology schools including four top ranking engineering schools that are on the 100 National Best Engineering School List: Princeton University (#18); Rutgers, The State University of New Jersey (#58); Stevens Institute of Technology (#77); and New Jersey Institute of Technology (#92).
- ✓ Network of 21 public two-year community colleges with life science career programs.
- ✓ Strong continuing education opportunities including UMDNJ Biopharma and Rutgers MBS programs.
- ✓ Unique learning opportunities, such as University of Medicine & Dentistry of NJ, which offers 4 main campuses with 8 schools, plus a University Hospital and University Behavioral HealthCare on 185 acres with 64 buildings making it the largest institution of its kind in the nation.
- ✓ New Jersey maintains a high educational achievement ranking N.J. 6<sup>th</sup> in the nation with individuals aged 25 or older.

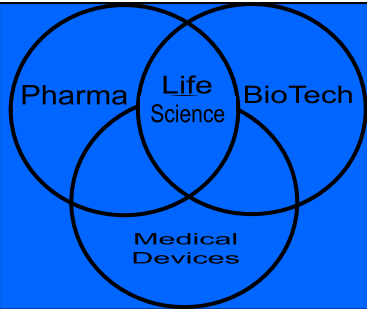
### Support for a Talented Workforce

The Mission of N.J. Dept. of Labor's 'Talent Networks' are to:

- ❑ Support the efforts of the workforce development system and educational institutions to prepare workers for opportunities in key industry sectors;
- ❑ Serve as the primary workforce contact for the industry sector;
- ❑ Encourage networking between job seekers, employers and education and training providers; and
- ❑ Establish a Talent Development Advisory Group to obtain regular feedback on the workforce needs of employers in order to guide future workforce development efforts.

*Note:* Partnering with BioNJ, a NJ industry association, Labor's Life Science Talent Network is implementing new and effective programs to connect industry talent with job opportunities, and working to create innovative resources to engage the sector, with both professionals and employers. It is the key hub for industry-related talent information and resources for companies doing business in Biotechnology, Pharmaceutical, Medical Device, Diagnostic and Clinical Operations, in New Jersey.





# NEW JERSEY BIO/PHARMACEUTICALS LIFE-SCIENCE CLUSTER PROGRAM ENHANCEMENTS



**New Jersey has a history of investing in the life sciences sector. Through the state's Economic Development Authority (EDA), the Edison Innovation Fund has provided over \$27 million in direct, equity-like investments to 45 life sciences and technology companies that have created an estimated 1,140 new jobs and leveraged over \$118 million in total investment in New Jersey's economy.**

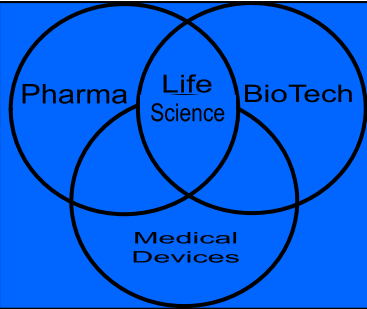
Life sciences companies in New Jersey are now eligible for up to \$500,000 in aid from the EDA. These programs are structured to support emerging and early stage companies.

- ☐ **Edison Innovation Angel Growth Fund:** Provides up to \$250,000 to leverage the funding from angel investors, with a 2:1 angel matching fund requirement.
- ☐ **Edison Innovation VC Growth Fund:** Provides up to \$500,000 to leverage the funding from venture capital-backed investments, with a 1:1 venture capital matching fund requirement.
- ☐ **Edison Innovation Growth Stars Fund:** Providing "follow on" funding of up to \$500,000 to support the best performing Edison Innovation Fund –assisted companies that have received 1:1 match funding from an angel investor/group or venture capital firm.

Also, in an effort to help promote New Jersey as a home for innovation, funds available through the **Technology Business Tax Certificate Transfer Program** have been increased from \$30 million to \$60 million in the 2011-12 state budget.

(SOURCE: New Jersey Economic Development Authority)





# NEW JERSEY BIO/PHARMACEUTICALS LIFE-SCIENCE CLUSTER



## Fast Facts Related to New Jersey's Bio/Pharmaceutical Life Science Cluster





# NEW JERSEY BIO/PHARMACEUTICALS LIFE-SCIENCE CLUSTER 'Fast Facts Excerpts'



## ***New Jersey's bio/pharma life-sciences cluster...***

- ❖ Accounted for \$23 billion (*nearly 5.0%*) of New Jersey's Gross Domestic Product.  
(SOURCE: Rutgers's Study, 2009)
- ❖ Employment comprised of three primary components: pharmaceutical sector (43.8%), biotechnology (34.6%) percent and medical device manufacturing (21.6%).
- ❖ Employment totaled almost 123,000 in 2010, or 3.9 percent of all private sector workers in the state. -- *Nationally, the proportion was just 2.0 percent!*
- ❖ Saw the expansion of its establishment from 2005 to 2010 by 13.2 percent, which outpaced the nation by 3.6 percentage points.
- ❖ Employer's paid more than \$14 billion in wages during 2010, or 8.1 percent of the state's total wages.
- ❖ Has a highly well-educated workforce with nearly two thirds of the jobholder having at least a bachelor's degree. Many have excelled to achieve even higher degrees such as their Master's/Professional (22.3%) and Doctoral (8.2%) degree.





# NEW JERSEY BIO/PHARMACEUTICALS LIFE-SCIENCE CLUSTER 'Notable Related Facts'



## *About New Jersey...*

- ❖ Has over 4,750 FDA-regulated establishments.  
(Source: FDA Budget Report).
- ❖ Employed over 20,800 Science, Engineering and Health Doctoral Holders in 2006.  
(Source: National Science Foundation)
- ❖ Ranked 1<sup>st</sup> in the nation with the highest concentration of biochemists and biophysicists (3,330).  
(Source: Bureau of Labor Statistics)
- ❖ Ranked 2<sup>nd</sup> with the highest employment level and concentration of chemists in the US. (5,640)  
(Source: Bureau of Labor Statistics)
- ❖ Ranked 3<sup>rd</sup> in the highest concentration of chemical technicians in the US. (3,380)  
(Source: Bureau of Labor Statistics)
- ❖ Chemical manufacturing accounted for 63.1 percent of New Jersey's business in Research & Development in 2007.  
(Source: National Science Foundation)





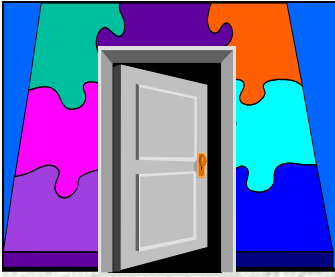
# NEW JERSEY BIO/PHARMACEUTICALS LIFE-SCIENCE CLUSTER 'Notable Related Facts'



## *About New Jersey...*

- ❖ Has been responsible for 4,345 patents in 2010. Over the 2005-2010 period: 1,649 in drug, bio-affecting and body treating compositions (ranked 2nd); 551 in organic compounds (ranked 2nd); 351 in chemistry: molecular biology and microbiology (ranked 7th); 348 in image analysis (ranked 4th); and surgery -- 162: medicators and receptors (ranked 6th) & 158: instruments (ranked 10th).
- ❖ For several decades, saw New Jersey-headquartered pharmaceutical companies discover and develop more than 1/3 of the new drugs approved by FDA.
- ❖ Has Advanced research at the Cancer Institute of NJ, Stem Cell Institute, W.M. Keck Center for Collaborative Neuroscience, Center for Advanced Biotechnology and Medicine (CABM), Biotechnology Center for Agriculture and the Environment, Waksman Institute, Center for Advanced Food Technology.
- ❖ Has a collaborative network of 11 technology incubators currently with over 350 entrepreneurial clients, graduating over 24 firms since 2004, supported by the NJ Commission on Science and Technology, NJEDA and the Edison Innovation Fund. Those focusing on the life sciences include the North Brunswick Commercialization Center, The Rutgers Food Innovation Center, Camden, Burlington County College High Tech Center, and the Enterprise Development Center at NJIT.
- ❖ Is home of major healthcare foundations – the Robert Wood Johnson Foundation, Christopher and Dana Reeve Foundation, Henry H. Kessler Foundation, and the Healthcare Foundation of NJ.
- ❖ Had access to nearly \$20 billion in total research and development investment, the 3rd most among the 50 states nationally. N.J. also had access to venture capital investment in 2009 of \$556.6 million.





# Contact Information



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**Trenton, NJ 08625-0057**

### **Labor Planning & Analysis**

[http://lwd.dol.state.nj.us/labor/lpa/LMI\\_index.html](http://lwd.dol.state.nj.us/labor/lpa/LMI_index.html)

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