

The Workforce Needs of New Jersey's Pharmaceutical and Medical Technology Industry

**Prepared for
HealthCare Institute of New Jersey and Member Companies**

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Executive Summary

The pharmaceutical and medical technology industry is, and will continue to be, an important part of the New Jersey economy. The industry employs 60,000 people in New Jersey and has an estimated impact of almost \$27 billion on the state's economy.¹ New Jersey's educated, skilled workforce is a primary reason for the industry's success in the state. To help further enhance the industry's success, the state, led by Governor Corzine's Office of Economic Growth and in partnership with state colleges and universities, is taking positive steps to help build a world-class workforce for New Jersey's pharmaceutical and medical technology companies.

This report, based on an online survey conducted in spring 2006 of pharmaceutical and medical technology companies in New Jersey, identifies the current and future workforce needs of the industry. The State of New Jersey and its educational institutions can use information from this report to develop partnerships and address industry needs.

Findings

- Pharmaceutical and medical technology companies in New Jersey project modest growth across all functional areas during the next four years.

- More than half of all jobs in the industry are in corporate administration (32%), sales (10%), and marketing (10%). More than one-quarter of jobs in the industry in the state are in basic research (17%) and clinical development (10%).
- Companies project high levels of growth through 2010 for some occupations including clinical scientists, public relations managers, regulatory affairs managers, lawyers, and product managers/marketing managers.
- New Jersey higher educational institutions produce a relatively low number of students with several specific degrees in demand by the industry. These degrees include bachelor's degrees in biochemistry, chemistry, animal science, and marketing, as well as master's degrees and doctoral degrees in a variety of scientific and business areas.
- Companies report particular difficulty in hiring individuals for the following five occupations: product manager/marketing manager, clinical scientist, regulatory affairs manager, medical doctor, and biostatistician. Medical technology companies, in particular, report a high level of difficulty hiring engineers.

High-Demand Occupations in New Jersey's Pharmaceutical and Medical Technology Industry

**Product Manager/
Marketing Manager**

Clinical Scientist

Regulatory Affairs Manager

Medical Doctor

Biostatistician

Engineer

¹ Deloitte & Touche LLP, *Challenges and Opportunities: New Jersey and the Pharmaceutical and Medical Technology Industry*, 2006 annual economic report for the HealthCare Institute of New Jersey.

Introduction

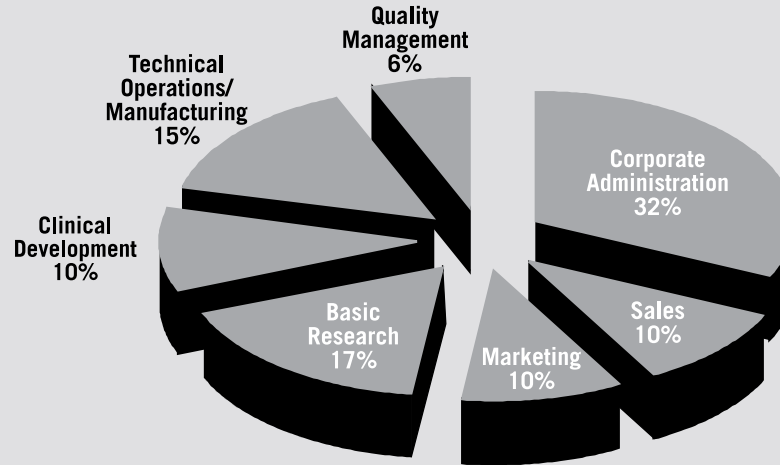
The pharmaceutical and medical technology industry is a significant part of the state's economy, providing jobs to 60,000 people and having an economic impact of \$27 billion.²

This report, based on a survey of companies that are members of the Health-Care Institute of New Jersey, describes employment in the industry by functional area, education level and degree, and occupation. The report also profiles six occupations for which companies report particular difficulty in hiring individuals.

Employment by Functional Area

The pharmaceutical and medical technology industry in New Jersey includes a broad range of operations, from administration to research to manufacturing. More than half of industry employment is in corporate administration, sales, and marketing. (See Figure 1.) Corporate administration makes up almost one-third of all jobs in the industry, the single largest functional area in the state. Common jobs in this area include financial managers, human resources managers, and information systems managers. An additional 10% of jobs are in sales and 10% in marketing. Common jobs in these areas include sales managers and product manager/marketing managers.

Figure 1. Distribution of Pharmaceutical and Medical Technology Employment in New Jersey by Functional Area, 2006



New Jersey is a significant center of research and development for the industry. Seventeen percent of jobs in the industry in the state are in basic research, and 10% of jobs are in clinical development. Common occupations in research and development include clinical scientists, medical doctors, and biologists.

Finally, the state is home to facilities that produce and manufacture pharmaceuticals and medical products and devices. Fifteen percent of the jobs in the industry in New Jersey are in technical operations/manufacturing and an additional 6% are in quality management. Common occupations in these areas include mechanical engineers, manufac-

turing engineers, quality assurance engineers, manufacturing managers, and quality control managers.

The distribution of employment in the state by functional area is not expected to change during the next four years. However, companies report that they have the most difficulty in hiring employees for positions in marketing, basic research, and clinical development. (See Table 1.)

Marketing

Companies report that marketing positions represent a disproportionate share of total job openings. While 10% of all cur-

². Ibid.

rent jobs are in marketing, 14% of current openings are in this area. Half of open marketing positions are new positions (growth) and half of the open positions are filling jobs held by employees who have left the company (replacement). By comparison, more than one-third (36%) of open positions in all functional areas are a result of growth. Finally, most companies responding to the survey report that they have difficulty in hiring employees in this area. (See Table 2.)

Basic Research

While companies do not have a disproportionate number of openings in the area of basic research, most companies responding to the survey report that they have difficulty in hiring workers in this area.

Clinical Development

Companies also report a high level of difficulty in hiring employees in clinical development. This area also has a disproportionate share of open positions in the industry. Seventeen percent of open positions in the industry are in clinical development, while only 10% of the industry's jobs are in this area. Most of these openings (71%) are due to replacement.

Table 1. Distribution of Employment and Job Openings by Functional Area, 2006

Functional Area	Distribution of Current Workforce	Distribution of Open Positions	High Level of Hiring Difficulty
Corporate Administration	32%	28%	
Sales	10%	9%	
Marketing	10%	14%	✓
Basic Research	17%	18%	✓
Clinical Development	10%	17%	✓
Technical Operations/ Manufacturing	15%	11%	
Quality Management	6%	3%	
All Functional Areas	100%	100%	

Table 2. Cause of Job Openings by Functional Area, 2006

Functional Area	Percent of Positions Open Due to Growth	Percent of Positions Open Due to Replacement	High Level of Hiring Difficulty
Corporate Administration	31%	69%	
Sales	37%	63%	
Marketing	50%	50%	✓
Basic Research	37%	63%	✓
Clinical Development	29%	71%	✓
Technical Operations/ Manufacturing	38%	62%	
Quality Management	41%	59%	
All Functional Areas	36%	64%	

Employment by Education Level

While the pharmaceutical and medical technology industry employs a significant number of highly educated individuals, the industry also employs individuals with a wide variety of educational experience. Nearly 70% of employees have earned a bachelor's degree or higher. However, more than one-quarter of employees have earned only a high school diploma. (See Figure 2.)

The most common degree held by employees is a bachelor's degree (46%). An additional 16% of employees hold a master's degree as their highest degree attained. Finally, 7% of employees have earned a doctoral degree (Ph.D. or M.D.).

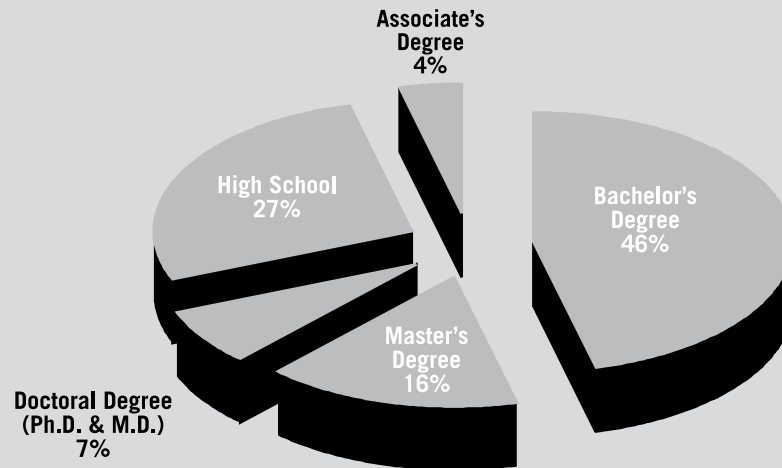
Associate's Degrees

The only common associate's degree held by employees in the industry is one in business administration. Companies report moderate numbers of employees with an associate's degree in business administration, but do not report any difficulty in hiring individuals with such a degree.

Bachelor's Degrees

The single most common degree held by employees in the industry is a bachelor's degree in business administration. (See Table 3.) In fact, companies have

Figure 2. Distribution of the Pharmaceutical and Medical Technology Employment in New Jersey by Highest Degree Attained, 2006



nearly three times as many employees with this degree than the second most common degree, a master's degree in the same discipline.

In addition, companies report that a significant number of employees possess bachelor's degrees in finance, accounting, and computer information sciences. Companies report that they employ smaller numbers of individuals with bachelor's degrees in other science fields.

Recent hiring efforts by companies have disproportionately focused on individuals with bachelor's degrees in business administration, accounting, computer information sciences, and biological sciences.

Companies do not report any difficulty in hiring individuals with only a bachelor's degree. However, New Jersey public higher educational institutions produce a relative small number of individuals with some specific degrees. The ratio of recent hires in the industry to recent New Jersey graduates is particularly low for bachelor's degrees in marketing, animal science, biochemistry, and chemistry.

Table 3. Employment Levels by Highest Degree Attained, Bachelor's and Associate's Degrees, 2006

Occupation	Overall Employment*	High Proportion of Degreed Employees Who are Recently Hired**	Low Ratio of Recent Hires to Recent New Jersey Graduates*
A.A. - Business Administration	Medium		
B.A. - Business Administration	Large	✓	
B.A. - Finance	Large		
B.A. - Accounting	Large	✓	
B.A. - Marketing	Small		✓
B.A. - Communications	Small		
B.A. - Electrical Engineering	Small		
B.A. - Mechanical Engineering	Medium		
B.A. - Chemical Engineering	Small		
B.A. - Computer Information Sciences	Large	✓	
B.A. - Animal Sciences	Small		✓
B.A. - Biological Sciences	Medium	✓	
B.A. - Biochemistry	Small		✓
B.A. - Chemistry	Medium		✓
B.A. - Mathematics/Applied Mathematics	Small		
B.A. - Microbiology	Small		
B.A. - Nursing	Small		
B.A. - Pharmaceutical Sciences	Small		

* Employment is indicated as large, medium, or small by evaluating the total employment count, as well as the ranking of the occupation within a company.

** Statistic is calculated using (Number of Employees Hired in Past Year)/(Current Employment). The result is ranked within companies, and the lowest average rankings indicate high levels.

*** Source: New Jersey Commission on Higher Education, 2002-2005 data on degrees conferred (SURE system).

New Jersey graduates with each degree are identified using Cipcodes. (Recent Graduates)/(Recent Hires) is calculated to indicate relatively low supply.

Master's Degrees

Companies report high numbers of employees with a master's degree in business administration (M.B.A.). Companies also have moderate numbers of employees with master's degrees in finance, marketing, computer information sciences, and biological sciences. (See Table 4.)

Companies also report that recent hiring efforts have disproportionately included individuals with a master's degree in business administration, marketing, computer information sciences, and biological sciences.

New Jersey higher educational institutions produce relatively low numbers of individuals with master's degrees that are in demand by the industry. Of the eight master's degrees commonly hired by companies, five have a low ratio of recent New Jersey graduates to recent hires by the industry: finance, marketing, chemical engineering, computer information sciences, and chemistry.

New Jersey educational institutions graduate a relatively high number of students with M.B.A.s. However, pharmaceutical and medical technology companies report a high level of difficulty in finding employees with M.B.A.s. Companies also report a high level of difficulty in hiring individuals with a master's degree in computer information sciences.

Doctoral Degrees

Employees with doctoral degrees are largely concentrated in basic research and clinical development. In fact, nearly 9 in 10 employees with doctoral degrees hold a degree in a math or science discipline. The single most common doctoral degree held by employees is an M.D.

Companies report that they have a high level of difficulty in hiring individuals with all types of doctoral degrees with one exception: companies do not report difficulty in hiring individuals with a Ph.D. in biochemistry. In addition, New Jersey's higher educational institutions produce a relatively small number of individuals with Ph.D.s in biological sciences, chemistry, and pharmaceutical sciences.

Table 4. Employment Levels by Highest Degree Attained, Master's and Doctoral Degrees, 2006

Occupation	Overall Employment*	High Proportion of Degreed Employees Who are Recently Hired**	High Level of Hiring Difficulty	Low Ratio of Recent New Jersey Graduates to Recent Hires***
M.A. - Business Administration (M.B.A.)	Large	✓	✓	
M.A. - Finance	Medium			✓
M.A. - Marketing	Medium	✓		✓
M.A. - Chemical Engineering	Small			✓
M.A. - Computer Information Sciences	Medium	✓	✓	✓
M.A. - Biological Sciences	Medium	✓		
M.A. - Chemistry	Small			✓
M.A. - Medicine	Small			
Ph.D. - Biological Sciences	Small		✓	✓
Ph.D. - Biochemistry	Small			
Ph.D. - Chemistry	Small		✓	✓
Ph.D. - Pharmaceutical Sciences	Small		✓	✓
M.D.	Medium	✓	✓	

* Employment is indicated as large, medium, or small by evaluating the total employment count, as well as the ranking of the occupation within a company.

** Statistic is calculated using (Number of Employees Hired in Past Year)/(Current Employment). The result is ranked within companies, and the lowest average rankings indicate high levels.

*** Source: New Jersey Commission on Higher Education, 2002-2005 data on degrees conferred (SURE system).

New Jersey graduates with each degree are identified using Cipcodes. (Recent Graduates)/(Recent Hires) is calculated to indicate relatively low supply.

Employment by Occupation

Administration, Sales, and Marketing Occupations

Corporate headquarters functions represent the largest share of employees in the industry in the state. Five specific occupations in this functional area have significant levels of employment: financial manager, human resources manager, information systems manager, sales manager, and product manager/marketing manager. (See Table 5.) In fact, the single largest occupation in the entire industry in the state is product manager. Product managers also account for the largest number of current openings in the industry.

Two occupations with moderate levels of current employment have a high level of job openings. General and operations managers and regulatory affairs managers have a high ratio of current openings to current employment. Companies project employment growth between 2006 and 2010 in four occupations: regulatory affairs managers, lawyers, product managers, and public relations managers.

Companies also report that they have a high level of difficulty in hiring regulatory affairs managers and product managers. Both of these occupations have relatively high levels of job openings and are expected to grow during the next four years.

Table 5. Employment by Occupation: Administration, Sales, and Marketing, 2006

Occupation	Current Employment*	High Level of Job Openings**	High Level of Hiring Difficulty	High Employment Growth through 2010***
General and Operations Manager	Medium	✓		
Governmental Affairs Manager	Small			
Financial Manager	Large	✓		
Human Resources Manager	Large			
Public Relations Manager	Small			✓
Regulatory Affairs Manager	Medium	✓	✓	✓
Lawyer	Medium			✓
Information Systems Manager	Large	✓		
Sales Manager	Large	✓		
Product Manager/Marketing Manager	Large	✓	✓	✓
Purchasing Agent/Buyer	Medium			

* Employment is indicated as large, medium, or small by evaluating the total employment count, as well as the ranking of the occupation within a company.

** Statistic is calculated using (Number of Job Openings)/(Current Employment). The result is ranked within companies, and the lowest average rankings indicate high levels and well-dispersed job openings.

*** Statistic is calculated using (Projected Employment)/(Current Employment). The result is ranked within companies, and the lowest average rankings indicate high levels of growth that is well dispersed.

Table 6. Employment by Occupation: Research/Clinical Development, 2006

Occupation	Current Employment*	High Level of Job Openings**	High Level of Hiring Difficulty	High Employment Growth through 2010***
Biochemist	Medium			
Biologist	Large			
Biophysicist	Small			
Biostatistician	Medium		✓	
Chemist	Medium			
Clinical Scientist	Medium	✓		✓
Medical Doctor	Medium	✓	✓	
Microbiologist	Small			
Nurse	Small			
Pharmacist	Medium			
Research Associate	Large	✓		
Veterinarian	Small			

* Employment is indicated as large, medium, or small by evaluating the total employment count, as well as the ranking of the occupation within a company.

** Statistic is calculated using (Number of Job Openings)/(Current Employment). The result is ranked within companies, and the lowest average rankings indicate high levels and well-dispersed job openings.

*** Statistic is calculated using (Projected Employment)/(Current Employment). The result is ranked within companies, and the lowest average rankings indicate high levels of growth that is well dispersed.

Research/Clinical Development Occupations

Four research and clinical development positions have high levels of employment: biologists, clinical scientists, medical doctors, and research associates. (See Table 6.) Of these four occupations, only one, biologists, does not have a high level of current job openings. All three other occupations exhibit a high ratio of current openings to current employment.

While companies expect that overall employment in research and clinical development will grow modestly during the next four years, companies expect high growth in the number of clinical scientists.

Companies report that they have a high level of difficulty in hiring two research and clinical development occupations: biostatisticians and medical doctors.

Technical Operations/ Manufacturing and Quality Management

Six occupations in the area of technical operations/manufacturing and quality management have moderate levels of employment, including mechanical engineers, manufacturing engineers, and quality control managers. Medical technology companies report a high level of difficulty in hiring materials research, product design and development, and quality assurance engineers. (See Table 7.)

Table 7. Employment by Occupation: Technical Operations/Manufacturing and Quality Management, 2006

Occupation	Current Employment*	High Hiring Difficulty
Chemical Engineer	Small	
Electrical Engineer	Small	
Mechanical Engineer	Medium	
Manufacturing Engineer	Medium	
Materials Research Engineer	Small	✓ **
Packaging Engineer	Small	
Product Design/Development Engineer	Small	✓ **
Production Planner	Small	
Quality Assurance Engineer	Medium	✓ **
Test Engineer	Small	
Animal Handler/Technician	Medium	
Biological Technician	Small	
Chemical Technician	Small	
Manufacturing Manager	Medium	
Quality Control Manager	Medium	
Chemical Engineer	Small	

* Employment is indicated as large, medium, or small by evaluating the total employment count, as well as the ranking of the occupation within a company.

** Medical technology companies

High-Demand Occupations

Six occupations in the pharmaceutical and medical technology industry can be classified as high-demand occupations, based on the following factors (see Table 8):

- Reported difficulty in hiring new employees,
- A large number of employees, and
- Expected growth in the occupation.

In addition, some of these occupations require educational degrees that have a low supply of recent graduates in New Jersey.

Product Manager/Marketing Manager

According to companies responding to the survey, product manager is the single largest occupation in the industry in the state.

Product managers play a crucial role in the pharmaceutical and medical technology industry. They are the main individuals responsible for managing all aspects of specific products or portfolios of products. They manage business development and marketing, and more specifically they are responsible for market and therapy assessments, vendor relationships, and developing and coordinating marketing activities to support the commercialization of products. They work closely with research and clinical development staff and with individuals in a

Table 8. Summary Results: High-Demand Occupations

Occupation	Occupational Demand Characteristics
Product Manager/ Marketing Manager	Very high-volume position with many openings and significant growth projections. Rated to have high hiring difficulty.
Clinical Scientist	High-volume position with considerable job openings and substantial growth projections. Rated with medium to high hiring difficulty.
Regulatory Affairs Manager	Medium-volume position with extensive penetration and high-growth projections. Rated to have high hiring difficulty.
Medical Doctor	Medium high-volume position with many open positions. Very high hiring difficulty indicated.
Biostatistician	Medium-volume position with high indicated hiring difficulty.
Engineer	Medium-volume position at some companies with high hiring difficulty at medical technology companies.

variety of corporate administration functions. Successful product managers have strong teamwork and communication skills, knowledge of scientific disciplines, and may need to possess substantial knowledge of a therapeutic area.

Companies report that there are a significant number of job openings in this occupation. Companies also project that the number of product managers in the state will grow during the next four years. Most importantly, companies report that they have a high level of difficulty in hiring individuals in this occupation.

Product managers are normally required to have an M.B.A. and between three to five years of relevant experience.

Some companies, however, report that they are willing to train recent M.B.A. graduates if they have some prior, relevant experience. Many openings are filled by the promotion of more junior staff members. When companies hire individuals from outside of the company, they tend to prefer applicants who have experience in the pharmaceutical or medical devices industry.

New Jersey higher educational institutions produce a relatively large number of graduates with M.B.A.s. However, companies note that many of these graduates have not focused their education on marketing in the pharmaceutical and medical technology industry.

Clinical Scientist

Companies in the pharmaceutical and medical technology industry in New Jersey employ considerable numbers of clinical scientists. Companies report a moderate to high level of difficulty in hiring individuals for this position. In addition, there are a relatively large number of job openings for this position, and companies project that the number of clinical scientists will increase during the next four years.

Clinical scientists are responsible for managing clinical trials and related research. They are responsible for the planning, implementation, and monitoring of clinical studies in all phases of drug and medical device development. In addition to being responsible for all data collection activities, clinical scientists also interpret results. Consequently, clinical scientists must have strong project management, business knowledge, and scientific skills. Clinical scientists must be able to effectively manage timelines, budgets, and various stakeholders.

Clinical scientists are required to have a PharmD or a master's degree in a relevant science discipline. Companies will often hire clinical scientists from clinical research organizations, companies that conduct clinical trials on contract for pharmaceutical companies.

Regulatory Affairs Manager

Regulatory affairs managers are responsible for ensuring that new pharmaceutical and medical technology products are approved by the Food and Drug Administration and other appropriate regulatory agencies in the United States and other countries. They work closely with research and development and marketing teams to compile regulatory dossiers. Regulatory affairs managers also work in a variety of functional areas including labeling, drug development, manufacturing, and advertising and promotion.

While there are only a moderate number of regulatory affairs managers in the industry, every company responding to the survey employs such managers. In addition, regulatory affairs managers have a relatively high level of job openings. Companies also expect significant growth in the number of regulatory affairs managers during the next four years.

The education requirements for this position vary widely depending on the expected level of responsibility. Education requirements can range from a bachelor's degree in a science discipline for entry-level managers to a Ph.D. for managers with a higher level of responsibility. In addition to an appropriate degree, regulatory affairs managers generally need at least three to seven years of experience in regulatory issues.

Regulatory affairs managers must have both scientific expertise and business skills. Successful managers need strong

technical skills, interpersonal/communication skills, a strong desire to learn, and the ability to adapt to change. At large companies, regulatory affairs managers specialize in specific substantive areas. At small companies, managers usually have responsibility for a wider variety of areas and must have broad, cross-functional experience.

Companies responding to the survey report a high level of difficulty in hiring regulatory affairs managers. In addition, New Jersey educational institutions produce a relatively small number of individuals with appropriate degrees for this position, including a bachelor's degree in biochemistry and chemistry, master's degrees in chemistry, and doctoral degrees in chemistry and pharmaceutical science.

Medical Doctor

Medical doctors play a variety of roles within the pharmaceutical and medical technology industry. Medical doctors typically work on clinical trials and interface with the Food and Drug Administration. Medical doctors also work in medical affairs positions where they provide guidance to product managers regarding drug labeling and other matters. Medical doctors can also act as liaisons, providing training to practicing medical doctors who are interested in, or have questions about, the company's products. Finally, medical doctors can also play a role in sales and marketing functions by interfacing with practicing doctors who may use or prescribe the company's products.

Companies employ a moderate number of medical doctors and report a very high degree of difficulty in hiring them. In addition, there are a relatively large number of job openings for medical doctors in the industry.

The role of medical doctors in the industry is quite different from private practice. As a result, companies typically prefer to hire medical doctors with experience in the industry. Experience with clinical trials in a hospital setting may substitute for formal industry experience, in some cases. Hiring medical doctors directly from private practice can be a difficult venture. Companies report that some doctors coming from that setting have unrealistic expectations of industry employment and find the transition more difficult than anticipated.

Biostatistician

While pharmaceutical and medical technology companies employ a moderate number of biostatisticians, companies report a high level of difficulty in hiring individuals for these positions. Biostatisticians work closely with clinical research scientists to perform statistical analyses in support of clinical trials. They manage biometrics work including statistical analyses, programming and data management, and quality control of these activities. In addition, biostatisticians serve on clinical research project teams. They also provide input and support to regulatory affairs managers on regulatory submissions.

Biostatisticians are normally required to have a doctoral degree in statistics or biostatistics. In some cases, companies will hire biostatisticians with a master's degree in statistics or another science discipline. Companies prefer to hire individuals with three to five years of experience but will hire individuals with no experience in some instances. Companies interviewed report that biostatisticians must have strong teamwork skills, possess an entrepreneurial spirit, and be innovative in order to be successful in the industry.

Engineer

Engineers, in a variety of disciplines, are essential employees in medical technology companies and in some pharmaceutical companies. Companies report employing a moderate number of mechanical, manufacturing, and quality assurance engineers.

Medical technology companies, in particular, report a high level of difficulty in hiring engineers. These companies — which conduct research, and design and manufacture medical products, such as orthopedic implant devices and instrumentation and medical diagnostic devices — report a high level of difficulty in hiring materials research, product design and development, and quality assurance engineers.

Engineers are typically required to have a bachelor's of science degree or master's of science degree in an engineering discipline, such as mechanical, industrial, electrical, or chemical engineering. They are also typically required to have experienced applications labs in various specialty areas such as biomechanics or electronics.

Workforce Partnerships of New Jersey's Pharmaceutical and Medical Technology Industry

The following section is a compilation of the workforce and training education partnerships currently undertaken by the member companies of the HealthCare Institute of New Jersey (HINJ). It is not part of the Heldrich Center's research for HINJ, but is provided by each company for informational purposes.

BD

BD, a leading global medical technology company that manufactures and sells medical devices, instrument systems, and reagents, is dedicated to improving people's health throughout the world. BD is focused on improving drug therapy, enhancing the quality and speed of diagnosing infectious diseases, and advancing research and discovery of new drugs and vaccines. The company's capabilities are instrumental in combating many of the world's most pressing diseases. Founded in 1897 and headquartered in Franklin Lakes, NJ, the company employs more than 25,000 people in approximately 50 countries throughout the world. The company serves health care institutions, life science researchers, clinical laboratories, industry, and the general public.

The BD Matching Gift Program matches associates' gifts made to accredited, nonpublic primary and secondary schools, and special education schools up to and including an aggregate of \$1,000. Higher education is matched dollar for dollar up to \$10,000 per calendar year per associate. In FY2006, BD matched \$281,307 to education, \$58,687 to schools in New Jersey, \$44,462 to higher education, and \$14,225 to K-12 education.

New Jersey SEEDS

BD funds support a statewide program that provides educational opportunities to children of high academic potential whose families are financially limited. Through the SEEDS program, scholars of diverse economic and racial backgrounds are brought together and given the academic preparation and financial assistance they need to gain entrance to an independent school and achieve success in their new environments.

Ramapo College Foundation

BD supports the BD Scholars Program to benefit two entering freshman per year at Ramapo College of New Jersey. The primary goal of the BD Scholars Program is to give minority students from underserved communities an opportunity to achieve a college degree. Candidates for the scholarship will be interested in health-related areas such as nursing.

The Saint Barnabas Health Care System Foundation

BD supports a two-part relationship as follows: (1) To enhance patient safety throughout the hospital by helping the hospital to implement projects such as a patient safety log, computerized physician order entry, and medication reconciliation. This protocol will then be used and replicated throughout to other units and systems. (2) To support the Renal Transplant Classroom partnership. BD is part of a collaboration between the Saint Barnabas Health Care System Foundation, Liberty Science Center, and New Jersey's Organ and Tissue Sharing Network. Through this educational collaboration, BD's support is used to advance the way New

Jersey high school students learn about health science, stimulate greater interest in becoming health professionals, promote the vital importance of organ donation, and encourage healthy living choices. The two-way interactive videoconference surgical experience is broadcast live from the operating rooms at Saint Barnabas Medical Center directly to New Jersey high school students in the Liberty Science Center amphitheater.

William Paterson University

The BD/Russ Berrie Institute Sales scholarship at William Paterson was created to provide a stream of qualified diverse globally focused sales professionals. The scholarships help to provide critical financial assistance and encouragement needed for students to continue their education.

Fairleigh Dickinson University

Through this grant, BD supports the expansion of the Henry P. Becton School of Nursing and Allied Health to include a doctoral program to prepare nurses for leadership in the clinical and education areas.

Independent College Fund of New Jersey

The BD Higher Education and Leadership Training for Healthcare (HEALTH) Program is designed to facilitate the creation of a talented new generation of health care providers who will make significant contributions in helping people around the globe lead healthier lives. The goal of the BD HEALTH Program is to encourage student achievement and foster faculty leadership and commitment in the area of health care, especially as it relates to the fields of applied science, health care management,

public health policy, and nursing. Ultimately, the program helps address emerging and long-term health care needs by preparing undergraduate students in the breadth and depth of knowledge required to work in today's global health care arena. BD also annually supports general operating scholarship donations to member schools.

Hope Chest Scholarship

The Hope Chest Scholarship Foundation helps minority students in New Jersey enroll in and graduate from college by providing financial assistance.

New Jersey Institute of Technology (NJIT)

Proceeds from a gala event are used to provide scholarship assistance to deserving students in NJIT's Albert Dorman Honors College.

Bayer HealthCare Pharmaceuticals

Bayer HealthCare Pharmaceuticals Inc., headquartered in Wayne, NJ, is the U.S.-based pharmaceuticals unit of Bayer HealthCare. Bayer HealthCare's pharmaceutical business is dedicated to developing, manufacturing, and marketing products that help improve human health, and globally ranks among the top 10 specialty pharmaceutical companies. The global pharmaceutical business employs more than 40,000 people, with approximately 5,500 employees in the United States.

Bayer's combined pharmaceutical portfolio includes product offerings in, and research groups devoted to, Diagnostic Imaging, Hematology/Cardiology, Oncology, Specialized Therapeutics, and Women's Health Care. Leading products in the United States include:

- *A first-in-class oral oncology treatment for adults with kidney cancer.*
- *The first disease-modifying therapy for use among patients with relapsing remitting multiple sclerosis.*
- *The first I.V. contrast agent for use in magnetic resonance imaging.*
- *A recombinant human factor VIII treatment recommended for people living with hemophilia A.*
- *A unique intrauterine contraceptive system, which is 99.9 percent effective for up to five years.*
- *The first oral contraceptive (OC) to contain the unique progestin drospirenone, introduced in 2001.*
- *The first and only OC ever approved by the FDA for three distinct indications: as an OC, as well as a treatment for acne and/or the emotional and physical symptoms of premenstrual dysphoric disorder in women choosing an OC for contraception.*

Informing College Students About Career Opportunities

- Precept current sixth-year Rutgers University, Ernest Mario School of Pharmacy students during five-week rotational assignments
 - Students gain practical experience in Medical Information Services.
 - Students meet with members of various departments in the company to discuss the career opportunities available to PharmD's.

Internship Programs

- Rutgers PharmD Fellowship Program. In partnership with the Ernest Mario School of Pharmacy, Rutgers University, offers a two-year Pharmaceutical Industry Fellowship Program.
- Health Economics Internship
 - Health Economics internship for students of Pharmacy or Public Health to analyze the implications of therapies in the marketplace, as well as the impact of health care policies on the access to health care. Students have the opportunity to become fellows receiving educational non-restrictive grants.
 - Typically summer internship full-time for a duration of 12 weeks.
- Organizational Psychology Internship
 - Internship provided for doctoral students in Psychology at Rutgers University Graduate School of Applied and Professional Psychology.
 - 16-40 hours per week, depending on student's schedule, for 1-2 years.
 - Study and practice in all areas related to organizational psychology practice in industry: Attitude survey design, administration, and follow-up; Human Resource systems design and integration; Change Management; Team development; and Research.

Curriculum Design

- Assisted Fairleigh Dickenson University in designing a graduate level Pharmaceutical Chemistry program.

Bristol-Myers Squibb

Bristol-Myers Squibb is one of the leading pharmaceutical and related health care companies in the world. The company's mission is to extend and enhance human life by providing the highest quality pharmaceutical and related health care products. New Jersey is home to eight Bristol-Myers Squibb campuses and nearly 8,000 employees.

Centers for Science Teaching and Learning

Bristol-Myers Squibb has a long history of supporting science education and developing programs to strengthen the teaching of science in schools. This commitment has led to the establishment of university teacher training centers designed to improve how science is taught at every level, from kindergarten through college.

Two such centers have been developed in New Jersey, one at Montclair State University and the other at Rider University in Lawrenceville. These centers are focal points for regional activities in science education reform, administering needs analyses, coordination of services to educators, and evaluation of progress. A growing network of these centers will ensure broad dissemination of best practices for schools and students.

- Montclair State University: Established in 2005 through a grant from Bristol-Myers Squibb, the Bristol-Myers Squibb Center for Science Teaching and Learning on the campus of Montclair State University is the hub of a Montclair State initiative to improve teacher preparation in mathematics and science. The initiative, known as PRISM (Professional Resources in Science and Mathematics), emphasizes inquiry-based teaching strategies and instructional uses of technology to improve student outcomes.

- Rider University: In 2002, Bristol-Myers Squibb funded the creation of the Bristol-Myers Squibb Center for Science Teaching and Learning at Rider University. This facility is the home of SELECT (Science Education and Literacy Center), a university initiative dedicated to improving teaching and learning in science and mathematics from kindergarten through college. The ongoing Bristol-Myers Squibb/Rider University Grant Program for Enhancement of Science Teaching also supports initiatives that improve the teaching of science.

Rutgers College of Nursing

Bristol-Myers Squibb has donated, over the period of three years, \$150,000 toward the construction of a new building in downtown New Brunswick, NJ for the College of Nursing at Rutgers, The State University of New Jersey. Bristol-Myers Squibb's donation will assist Rutgers with its initiative to provide a state-of-the-art facility for its nursing students studying at the New Brunswick/Piscataway campus. Groundbreaking for the new College of Nursing building took place in late 2005.

Cardinal Health

Cardinal Health serves the health care industry with a broad portfolio of products and services that help customers reduce costs, improve safety and productivity, and deliver better care to patients. Its Pharmaceutical Technologies and Services business segment, headquartered in Somerset, NJ, is the leading provider of pharmaceutical development services, drug delivery technologies, manufacturing, packaging, and product commercialization services to the global pharmaceutical and biotechnology industry. Among its more than a thousand patents for drug delivery systems are Zydys® fast-dissolve, Vegicaps®

Soft plant-derived softgel, Microsponge® time-release, and Del Pouch® single-dose pouch/applicator technologies.

Cardinal Health firmly believes in helping to advance New Jersey's already strong culture of science and innovation by participating in industry associations, recruiting top talent from area universities, and contributing to the local community.

- Cardinal Health recruits full-time employees for a variety of scientific and management positions from Rutgers University and the New Jersey Institute of Technology.
- Cardinal Health recruits recent graduates from Rutgers University for its Manufacturing Development Program, a rotational leadership development program designed to give trainees exposure to the areas of quality, manufacturing, materials management, and project management.
- Through a 12-week Summer Intern Program, Cardinal Health offers students from Rutgers University an opportunity to gain valuable work experience at a U.S. manufacturing facility.
- As a member of the New Jersey Technology Council, Cardinal Health has offered educational opportunities for members affiliated with the life sciences.
- Through its annual "Take Your Children to Work Day" event, Cardinal Health employees demonstrate to elementary school students the value of science in society and the importance of working in the health care industry.
- Cardinal Health's Somerset facility received the Somerset County Economic Development Council Award (2005) from the Somerset County Business Partnership in recognition of its economic impact on Somerset County in terms of job creation and training, sales growth, profitability, and reinvestment.

Celgene

Celgene Corporation and its employees are working relentlessly to provide solutions for unmet medical needs in cancer and debilitating inflammatory diseases. Its goal is to provide next-generation therapies that deliver quality outcomes for better health care. Celgene is dedicated to improving health care by delivering more disease-altering therapies to patients in need. In fact, there are more than 200 ongoing clinical trials at major medical centers worldwide using innovative compounds from Celgene. These promising drugs include many high-potential compounds in our rich regulatory pipeline. These investigational compounds are being actively studied in clinical trials for patients with incurable hematological and solid tumor cancers, including multiple myeloma, myelodysplastic syndromes, chronic lymphocytic leukemia (CLL), non-Hodgkins lymphoma, glioblastoma, ovarian, pancreatic, and prostate cancer.

Celgene is committed to improving the lives of patients worldwide. By utilizing the latest advances in molecular and cellular research to develop novel therapies that target the mechanisms of disease at their source, Celgene is making potentially life-saving treatments a reality for the millions of patients around the world fighting cancer and other debilitating diseases.

Given the rapid growth within the biotechnology and pharmaceutical sector, Celgene along with other large pharmaceutical and biotechnology companies compete for the same talent base in New Jersey. Having hired over 600 employees in the past four years, it has become increasingly difficult to source existing high-caliber talent specifically in the scientific and clinical development functions and especially Clinical Scientists, Clinical Operations, Clinical Physicians, and Biostatisticians. The demand at this juncture

clearly outweighs the supply. Celgene has begun to work with New Jersey higher education to assist not only with awareness but to begin to develop partnerships for cultivating future talent in these areas. It will be critical for New Jersey to focus both on increasing the enrollment of students in these degreed and advanced programs and to further develop within the curriculum, active practical learning that will facilitate graduates who have actual work experience correlating to the growing gap that exists for this base of talent in the state. Further, state assistance to such programs will keep jobs in the state as the talent will be available for corporations.

Celgene is committed to the continuous development of scientific literacy among students within the New Jersey college system. Its ongoing ability to attract, retain, and develop future talent directly correlates with its ability to form collaborative relationships with academicians at Rutgers University and the University of Medicine and Dentistry (UMDNJ) and other higher learning institutions within New Jersey. Although Celgene is relatively early on in this initiative, the company is proud of its achievements to date and looks forward to expanding its efforts in the near future.

Some examples of its initial framework are: Celgene contributes to the RISE (Research in Science and Engineering) program, which is a jointly sponsored program by Rutgers and UMDNJ designed to promote and advance undergraduate diversity in science, math, and engineering. This summer program sponsors outstanding undergraduates to participate in cutting-edge research in sciences, math, and engineering. In 2007, Celgene plans to sponsor and track the progress of one to two students until their graduation dates. Subsequently, Celgene will invite them to interview for positions within its scientific functions. To this point, in addition to New

Jersey actively supporting the development of student capability within the science and clinical arena, there is a further dimension of diversity. With the growing Hispanic and African American population, RISE is a great example of a program designed to not only increase the availability of talent in this specific area but also build a pool of diverse talent.

Additionally, in 2006, Celgene initiated a paid internship program, CREW (Clinical Research Editors and Writers), in collaboration with Douglass College at Rutgers. The goal of the program was to introduce students to careers in science and medical writing. It was available to undergraduate students in biology and other science majors. The internship program assignment ran in summer 2006 and students received course credits toward their degrees for the time they spent working within the medical writing function at Celgene.

Finally, Celgene has also provided sponsorship funding for fellowship programs at Rutgers to build talent. In 2007, Celgene will sponsor two fellowship programs at Rutgers. One program has been set up in memory of a former employee and will be in the general science area covering a diversity of scientific subjects. The second fellowship will be in drug discovery and will span a variety of scientific disciplines to ensure that the participant(s) are trained across the spectrum of scientific disciplines that comprise the drug discovery process. The students will complete their fellowship programs primarily at the college but will also have the opportunity to work within Celgene to gain firsthand experience of the drug discovery and development process.

Celgene is committed to bringing the important benefits of its innovative therapies to thousands of people around the world. The company is establishing broad patient support programs to help ensure that

patients will continue to have access to the clinical benefits that Celgene's innovative therapies can provide, and is working hard to rapidly advance promising new drugs for cancer and inflammatory-based diseases so that even more patients in need can be helped.

Celgene's ability to continue its commitment to patients and its future success requires planning to cultivate and access the skills, experience, and capability of talent it will need. The company fully supports the collaboration and partnership of HINJ as it seeks to collectively address this current and future challenge in New Jersey.

Chugai Pharma U.S.A., LLC

As a member of the Chugai-Roche Group, Chugai Pharma USA LLC (CPUSA), founded in 1995 in San Diego, CA and currently based in Bedminster, NJ, is committed to the timely development and commercialization of safe and effective drugs for the North American marketplace. For more than 70 years, its parent company, Chugai Pharmaceutical Co. Ltd., has provided high-quality, safe, and effective drugs to the Japanese and global marketplace, a heritage that will be continued in North America by CPUSA. As a result of its alliance with F. Hoffmann-La Roche Ltd. in 2002, CPUSA enjoys the resources of a large global conglomerate while preserving the focus and agility of a small local company. CPUSA maintains the same therapeutic focuses as its parent, currently working mainly in the areas of treatments for cardiovascular disease, cancer, metabolic disease, and diseases involving inflammation. It is a company of collaborative, committed, talented, and experienced people with an unwavering dedication to quality and the highest environmental and ethical standards. Its employees all take great pride in bringing new medicines to market for the benefit of those in need.

CPUSA's mission is to contribute local experience, expertise, and flexibility to Chugai's global effort to rapidly develop and market high-quality, innovative therapies for the benefit of human health and the maximization of shareholder value, and to create additional value by emphasizing advancements in specialty indications for the North American market.

In support of educational excellence, Chugai Pharma supports the following universities and associations:

- Chugai Award for Excellence in Mentoring and Scholarship, presented to a member of the American Society for Investigative Pathology with a distinguished career that especially links excellence in mentoring and education with outstanding research achievements in experimental and investigative pathology.
- University of California, San Diego Cancer Center
- University of Glasgow
- The University of Iowa
- University of Kansas Medical Center
- University of Massachusetts, Amherst-College of Natural Sciences and Mathematics

C.R. Bard

For almost 100 years, C.R. Bard, Inc., a leading multinational developer, manufacturer, and marketer of innovative, life-enhancing medical technologies in the fields of vascular urology, oncology, and surgical specialty products, has committed its resources to creating innovative products and services that meet the needs of health care providers and patients.

Bard pioneered the development of single-patient-use medical products for hospital procedures; today Bard is dedicated to pursuing technological innovations that offer superior clinical benefits while helping to reduce overall costs.

Bard's outreach programs in New Jersey include:

- The company is currently paying off a \$250,000 pledge to the Meridian Health Foundation (\$50,000 per year) for the Bard Nursing Education Foundation Endowment Fund.
- The company is currently paying off a \$60,000 pledge to the "Give a Boy a Year" Financial Aid Program (\$15,000 per year) at the Delbarton School.
- The company is currently paying off a \$50,000 pledge to the New Jersey SEEDS capital campaign (\$10,000 per year).
- The company is currently paying off a \$25,000 pledge to the "Building Our Children's Tomorrow" Campaign (\$5,000 per year).
- Annual contribution of \$25,000 to the Tri-County Scholarship Fund.
- Annual contribution of \$17,500 to the Independent College Fund of New Jersey in support of the C.R. Bard Foundation Nursing Scholarship Program.
- Annual contribution of \$15,000 to the Summit Speech School early intervention and preschool program.
- Annual contribution of \$6,000 to The College of New Jersey in support of the C.R. Bard Foundation Nursing Scholarship Program.
- Annual contribution of \$5,000 to Bloomfield College in support of the C.R. Bard Foundation Nursing Scholarship Program.
- Annual contribution of \$5,000 to Fairleigh Dickenson University Charter Day Scholarship Fund.

Daiichi Sankyo, Inc.

Daiichi Sankyo, Inc. is the U.S. subsidiary of Tokyo-based Daiichi Sankyo Co., Ltd., a leader in global pharmaceutical innovation and the second-largest pharmaceutical company in Japan. With a century of discovery by its Japanese parents as a guide, Daiichi Sankyo joins together a solid combination of rigorous invention and operational excellence that works to deliver therapies that put lives into balance, and add to the balance of life.

Headquartered in Parsippany, NJ, the company's strengths include an expanded product portfolio, global clinical research capabilities, and a promising pipeline. Balancing a spirit of invention with a commitment to scientific rigor, Daiichi Sankyo is a primary source of new therapeutic agents, including important medicines for cardiovascular disease.

Medical Affairs Fellowships

Daiichi Sankyo offers two unique and rewarding one-year fellowships in Medical Affairs that immerse the fellows in the real world of a pharmaceutical company. A unique opportunity for recent graduates to gain valuable industry experience, the program is geared toward transforming the fellows from students into pharmaceutical professionals.

A team approach is emphasized and the fellows are integrated into cross-functional groups involving the Marketing, Sales Training, New Product Planning, and Regulatory departments. The program also offers a strong field-based component where fellows work closely with medical liaisons and have the opportunity to interact with key opinion leaders in the cardiovascular and metabolic therapeutic areas. All of these experiences are tailored to meet the individual needs of the fellows and to help them become more confident in their personal career development.

Management Development Program

As a company facing substantial near term growth, Daiichi Sankyo has established a Management Development Program aimed at recruiting M.B.A. students from universities across the United States. The current program includes nine universities, all with top M.B.A. programs in Marketing and Pharmaceutical/Health Care Management. Rutgers University has become a primary source for the company in its M.B.A. recruiting initiative.

Participants of the Management Development Program begin their rotation as a Sales Representative for 12 to 18 months. Upon successful completion of this rotation, participants can transfer to a corporate position in areas such as Marketing Research, Market Planning, New Product Planning, Brand Management, Managed Care, or Sales Operations. The rotational assignments provide a solid foundation of experience for future growth opportunities within Daiichi Sankyo.

Daiichi Sankyo maintains an ongoing relationship with the students and faculty from the each of the targeted M.B.A. schools. As part of its recruiting initiative, first- and second-year M.B.A. students are invited to Daiichi Sankyo to meet and speak with members of the senior management team. The students are given a high-level overview of the company, the Management Development Program, and key business units including Marketing, Market Research, Sales Training, Sales Operations, Managed Care, and Supply Chain.

Daiichi Sankyo also participates in on-campus recruiting for its Management Development Program at each designated school. Presentations are delivered by members of the company's senior management team, and visits include on-campus interviews of second-year M.B.A. students.

Internship Program

Daiichi Sankyo works with a number of New Jersey colleges, such as Rutgers University, Stevens Institute of Technology, St. Elizabeth's College, New Jersey Institute of Technology, and Montclair State University, and associations such as Inroads of New Jersey, to identify and employ students working toward degrees in areas such as Finance, Human Resources, and Information Technology. The company's internship program continues to be a successful means of providing hands-on business experience to students, as well as creating a solid candidate pool for potential employment post graduation.

Johnson & Johnson

J&J is the world's most comprehensive and broadly based manufacturer of health care products, as well as a provider of related services, for the consumer, pharmaceutical, and professional markets.

J&J scientists currently are engaged in research to bring new hope to Alzheimer's patients, to develop treatments for ulcerative colitis, and to find better ways to detect and treat cancer and diabetes. Johnson & Johnson's prescription pharmaceuticals include products for family planning, psychiatry, mental illness and diseases of the nervous system, gastroenterology, oncology, immunotherapy and cardiovascular disease, as well as biotechnology-derived products. The company has introduced prescription antifungals, anthelmintics, antihistamines, antiparasites, and anti-allergy products.

Headquartered in New Brunswick, NJ since its founding in 1886, Johnson & Johnson is recognized for its support of the communities in which the company has operations. Its extensive social responsibility program is an outgrowth of the company's renowned credo, which outlines its

responsibilities to consumers, employees, the community, and shareholders.

Johnson & Johnson is engaged in a number of workforce development and education incentives, including:

- Bridge to Employment is a national school-to-career grant program active in eight communities around the United States and Puerto Rico. In New Jersey, the company has current sites in Bound Brook and New Brunswick. For 2006-2007, J&J is developing a project in Trenton with Janssen Pharmaceutica. Total grant dollars for 2006-2007 New Jersey sites total \$70,000.
- Liberty Science Center (LSC) funding is directed to the LSC's "Cardiac Classroom," as well as a new effort to offer professional development for science teachers. Cardiac Classroom exposed K-12 students to a live, interactive, surgical procedure with special emphasis on health care careers. The professional development initiative will be an innovative experience for teachers using the museum as a learning and teaching laboratory. Total grant dollars for 2006-2007 for these initiatives total \$300,000.
- J&J works with Rutgers University to fund two major initiatives targeted to K-12 students: the Saturday Science Academy and the Douglass Science Institute. These projects total approximately \$60,000.
- Independent College Fund of New Jersey. J&J's 2005 grant has enabled six member institutions to develop and implement projects.
- Bloomfield College has implemented a program titled "Improving Academic Success Through Technological Support." This program assists incoming students in need of remedial math and/or English tutoring, helps juniors and seniors with coaching regarding job placement or graduate school, and brings together the institution's student support services in a Center for Academic Development.
- Centenary College has implemented a First-Year Experience Program that has involved 265 freshmen in a special academic track that is complemented by service learning. These students have had extensive community service participation over the past year working in the area of equine rescue, a local kindergarten, and a retirement community and at The Matheny School.
- Drew University established a Retention Task Force that linked admissions, financial aid, academic affairs, student affairs, the graduate school, the registrar, institutional research, and the alumni offices. The Task Force has developed a Retention Marketing Program that is being rolled out institution-wide.
- Georgian Court University has joined a highly selective initiative of the Policy Center for the First Year of College. This network of 300 institutions only offers membership to less than 20 new institutions per year. The Center's Foundations of Excellence program is a comprehensive, guided self-study process for evaluating and enhancing an institution's ability to realize its goals for student learning, success, and persistence to degree. It is based on a set of Foundation Dimensions that guide measurement of institutional efforts and provide an aspirational model for the entirety of the college experience from beginning contact with prospective students through admissions, orientation, the first-year curriculum, and the transition to second year.
- The approach at Saint Peter's College is parent-centered in that so many of its incoming students are first generation college students and there is a need to orient the parents about the experience their sons and daughters will have as college students. This way, the parents can reinforce the college's retention goals. This project has included an expanded summer orientation that involves parents. A Parents' Webpage has been established, a communications campaign will be conducted, and Parents' Weekend in mid-October is especially themed to complement this initiative.
- Seton Hall University is taking an intentional approach by extending admission to a small group of at-risk students and involving them in a summer semester preparatory to the arrival of the freshman class in September. Some 90 students who scored below 1,000 on the SATs but who have the potential for success were identified and invited to participate this summer. Currently 21 have accepted the offer and are enrolled. The program ran from July 5 to August 8 with the students taking seven credits (two courses) and participating in mandatory study halls.
- Physician Scientist Training Program at Temple University. This program was established to identify exceptionally gifted minority students beginning as early as grade 7 and place them in a long-term comprehensive training curriculum that continues through medical/graduate school. Each year, approximately 15-20 students are selected from a national pool of candidates. Participants are exposed to various research environments (academia, government laboratories, and industry). The program consists of a 10-week summer institute at the junior high level and an apprenticeship in a research laboratory and hospital setting in grade 9. Beginning in grade 10, trainees intern with a biomedical investigator and are encouraged to conduct their own research. Johnson & Johnson has supported this program at the \$50,000 level for a number of years
- Business Coalition for Education Excellence (BCEE). BCEE was founded to advocate for high standards and assessments in New Jersey public education. J&J supports the efforts to create rigorous core content standard and workplace readiness skills. Support for this program is \$25,000.

- In addition, J&J supports the following education organizations on an annual basis: InroadsNJ (\$10,000), Junior Achievement New Jersey (\$5,000), Public Education Institute (\$10,000), and Teach for America New Jersey (\$15,000).

Merck & Co. Inc.

Merck & Co. Inc. is a global research-driven pharmaceutical products company headquartered in Whitehouse Station, NJ. Merck employs nearly 64,000 people worldwide, conducts research in 10 major research centers (with an 11th under construction), and operates 31 production facilities and 17 distribution centers in 25 countries. In 2003, Merck's global sales were \$22.5 billion.

Since its founding in 1891, Merck researchers have pioneered innovations for treating serious diseases, a tradition that produced such major medical advances as cortisone for rheumatoid arthritis, streptomycin for tuberculosis, statins for cholesterol management, and Crixivan for HIV/AIDS, to name a few.

Today, many of Merck's major products are market leaders. Current products include Singulair (asthma and seasonal allergies), Fosamax (osteoporosis), Zocor (cholesterol), Cozaar/Hyzaar (hypertension), and Zetia (cholesterol), which was developed through a partnership with Schering-Plough Corporation.

Merck's longstanding record of achievement continues as the company works to develop breakthrough medicines and vaccines. Today, Merck scientists are focusing on novel treatments in critical areas such as diabetes, obesity, Alzheimer's disease, respiratory disease, coronary heart disease, rheumatoid arthritis, cancer, and vaccines.

Recognizing that serving the public interest also serves our business interests, Merck is a leader in global health policy issues worldwide. In the United States, Merck provided its medicines for free to more than 600,000 Americans in need last year through its Patient Assistance Program. In the developing world and in those countries hardest hit by the epidemic, Merck offers its HIV/AIDS medicines at prices at which it does not profit. And, through a partnership with the government of Botswana and the Bill and Melinda Gates Foundation, Merck has helped build a large-scale, comprehensive program focused on HIV/AIDS prevention, treatment, care, and support. As part of the program, the Merck Company Foundation and the Bill and Melinda Gates Foundation each provided \$50 million to the partnership.

With a focus on discovering and developing novel medicines and vaccines, as well as innovative programs and policies to ensure that people throughout the world have access to them, Merck contributes to improving the health of people in all nations.

The following summarizes Merck & Co.'s higher education partnerships in New Jersey:

Career Opportunities

In informing students in the state's colleges about career opportunities, Merck maintains an active relationship with several New Jersey universities, including Rutgers, NJIT, Princeton, Rider, and Stevens Institute of Technology. At these schools, there are regular informational meetings and recruiting visits for needs that match appropriate academic programs offered. In addition, Merck has a highly active internship program that includes a selective Engineering and Technology (E&T) Fellow program, as well as other summer intern opportunities for undergraduates, graduate

students, and M.B.A.s. The company has found that these intern programs are highly beneficial in informing students about Merck as well as aiding identification of talent for the future. Merck's internship program and new college graduate job opportunities are described and posted on the merck.com/careers website.

Internship Programs

As noted above, Merck has active internship programs for undergraduate and graduate students. Its E&T Fellow program provides the opportunity for the selected student to have a paid intern assignment as well as a scholarship.

In addition, the Merck/AAAS Undergraduate Science Research Program (USRP) is a national competitive award program, focusing on primarily undergraduate institutions, which provides \$60,000 in grant funding over a three-year period to 15 successful applicants each year. The funds are used to provide research stipends to undergraduate students working with faculty mentors on interdisciplinary research projects and to support related programs that enhance the research and educational experience. Three New Jersey universities are current Merck/AAAS USRP grant recipients: Drew University, Fairleigh Dickinson University, and Rider University. For more information, visit www.merckaaasusrp.org.

Developing College Curriculum

In the past, Merck has provided input through specific faculty and departmental contacts regarding course content, structure, and alignment on both Merck and general industry needs for graduating professionals. Specifically, Merck is actively involved with the Rutgers Pharmaceutical M.B.A. program as a financial supporter of their Industry Scholars program, and is represented on their Board of Advisers.

In addition, the Merck Institute for Science Education was awarded a grant from the National Science Foundation to work with Kean University's mathematics and science departments and the School of Education. Through the grant, Kean academic faculty will be equipped to deliver inquiry-centered science and mathematics courses for undergraduates using effective strategies to increase student interest and learning, resulting in a higher number of educators who understand science and mathematics content and improving their instructional practice.

Continuing Education

Merck encourages its employees to continue their education via appropriate pathways. These include part-time education at local universities (e.g., Rutgers) that may be part of an overall degree-granting program. The breadth of available programs has historically met these needs without specific "designed-for-Merck" programs. However, Merck has partnered with Stevens Institute of Technology to offer employees a Master of Science in Information Systems (M.S.I.S.) at two remote locations: Raritan Valley Community College and a hotel near Merck's Rahway facility.

The New Jersey college partners involved in partnerships and the specific degrees/programs that are involved are:

- Rider University: Undergraduate Finance and Accounting
- Rutgers: Engineering (especially Chemical, Mechanical)/Science (Chemistry, Pharmacy) at all degree levels, Human Resources Masters Program (School of Management and Labor Relations), Business School including the Pharmaceutical M.B.A. Program
- NJIT: Engineering at all degree levels

- Princeton: Engineering/Science/Information Technology at all degree levels
- Stevens: Engineering/Science/Information Technology at all degree levels

Novartis Pharmaceuticals Corporation

Novartis Pharmaceuticals Corporation is the U.S. affiliate of Swiss-based Novartis AG, a world leader in health care, with core businesses in pharmaceuticals, consumer health, generics, eye care, and animal health. Operating in more than 140 countries, Novartis Group employs approximately 81,000 people around the world.

Since its creation in 1996 from the merger of Swiss giants Ciba-Geigy and Sandoz, each bringing more than 100 years of experience to the union, the Novartis Group is securing a leadership position in the highly competitive health care industry.

Novartis Pharmaceuticals Corporation, headquartered on a 200-acre campus in East Hanover, NJ, employs 11,200 people at three sites in East Hanover and Florham Park, NJ, and Suffern, NY and in four sales regions throughout the country.

Novartis Pharmaceuticals Corporation (NPC), one of the Novartis Group Companies, researches, develops, manufactures, and markets leading innovative prescription drugs used to treat a broad range of disease areas including: cardiovascular, endocrine, and respiratory diseases; dermatology; gastroenterology; infectious diseases; neuroscience; oncology/hematology; rheumatism/bone and hormone therapy; ophthalmology; and transplantation.

County College of Morris Foundation

Novartis awarded \$10,000 to County College of Morris Foundation in support of four scholarships for County College of Morris students.

Drew University

Novartis Awards in Science Program. Novartis awarded the college \$8,000 for eight scholarships to Drew University students.

Fairleigh Dickinson University

Novartis awarded Fairleigh Dickinson University \$15,000 in support of the Science Scholarship Program at the university's Maxwell Becton College and Florham Park campuses.

New Jersey City University Foundation Inc.

Novartis awarded the university \$10,000 in support of its Proyecto Science academic enrichment program for Latino students interested in pursuing careers in mathematics, science, engineering, and technology.

Rutgers PharmD Fellowship Program

A two year Post-Doctoral Pharmaceutical Industry Fellowship designed to identify practice opportunities for pharmacists within Novartis through assignments that will build depth of experience and enhance the potential for accelerated career development. In 2006, Novartis contributed a total of \$857,600 to Rutgers in support of the program.

Rutgers Graduate School of Business

Novartis is a funding supporter of the Rutgers Pharmaceutical Management M.B.A. Program.

Novo Nordisk

Novo Nordisk is a health care company with an 80-year history of innovation and achievement in diabetes care. In addition to diabetes care, Novo Nordisk has a leading position within areas such as hemostasis management, growth hormone therapy, and hormone therapy for women. Novo Nordisk's business is driven by the Triple Bottom Line: a commitment to economic success, environmental soundness, and social responsibility to employees and customers. With headquarters in Denmark, Novo Nordisk employs more than 23,600 employees in 79 countries, and markets its products in 179 countries. Novo Nordisk's B shares are listed on the stock exchanges in Copenhagen and London. Its ADRs are listed on the New York Stock Exchange under the symbol 'NVO'. For global information, visit novonordisk.com; for United States information, visit novonordisk-us.com. Novo Nordisk has a number of workforce and education programs, including:

Novo Nordisk Mentoring Program

Each month, Novo Nordisk welcomes 10 new Trenton High School students to its Plainsboro offices as part of a mentoring program the company offers attendees of the school's Law and Justice Academy. Participants learn about various legal and other business topics. For the past four years, Novo Nordisk has provided computers for participants to use throughout their high school careers.

Management Associate Program (MAP)

This program offers both summer and two-year employment opportunities for graduate students at targeted graduate school across the country.

INROADS Intern Program

This program is a partnership between the INROADS organization and Novo Nordisk to place diverse, undergraduate college students already accepted by INROADS into summer internships at Novo Nordisk.

PharmD Residency Program

This program provides an opportunity for pharmacy professionals to gain experience in drug information, as well as other functional areas within the pharmaceutical industry.

Informal Internships

Although there is no formal summer internship program for high school or college students (not already included in INROADS) at Novo Nordisk, there are often individual opportunities within business units. Should there be a need within a team or department, positions are often posted directly with local colleges and universities.

Organon USA

Organon Inc. of West Orange, NJ is the U.S. affiliate of N.V. Organon, a renowned international ethical pharmaceutical company.

Organon maintains a strong commitment to health care, conducting research in the areas of psychiatry, contraception, fertility, anesthesiology, thrombosis, immunology, osteoporosis prevention, and treatment of postmenopausal symptoms.

Organon is one of the business units of AKZO Nobel. Headquartered in the Netherlands, AKZO Nobel is a market-driven and technology based company, serving customers throughout the world with healthcare products, coatings, and chemicals. The company employs 68,000 people and has activities in more than 75 countries.

Based in Oss, The Netherlands, N.V. Organon began as the unlikely collaboration of three men: Dr. Saal van Zwanenberg, owner of a meat processing firm; Dr. Ernst Laqueur, a leading endocrinologist and professor of pharmacology at the University of Amsterdam; and Dr. Jacques van Oss, a mathematician from Amsterdam. Their theory that hormones present in animal organs could be extracted for the production of standardized human pharmaceuticals was proved to be true in 1923 with the development of the first rapidly acting insulin for diabetes control and discovery of estrogen that followed three years later. This marked a beginning of what became the most acclaimed Organon's endeavor: isolation and then mass-production of reproductive hormones.

Today, over three-quarters of a century later, Organon has compiled a long and impressive list of firsts in pharmaceutical discovery and development, innovative, new generation products. Market-driven and research-based, Organon has always remained adherent to its main mission: contributing and making the difference where health and people matter.

Strong reliance on its expertise in research and development and unprecedented commitment to women's health care allowed Organon to contribute significantly to three areas of vital importance — contraception, fertility, and osteoporosis prevention — and placed the company in range of world leaders in this field.

Organon's scientists and research assistants worldwide have also added strongly to groundbreaking research programs and treatment of central nervous system disorders, especially depression and psychosis as well as diversified and highly specialized anesthesia products.

Proud of the past and in control of the present, Organon reaches to the future showing promising research in the fields of cardiovascular diseases and immunology. Compounds for the treatment of atherosclerosis and rheumatoid arthritis entered advanced stages of development to further address the growing patients' needs and extend Organon's product portfolio.

Specifically in the United States, Organon not only develops, manufactures, and markets pharmaceuticals, but also provides educational resources and programs to support physicians and their patients. Products currently marketed in the United States include oral contraceptive MIRCETTE® (desogestrel/ethinyl estradiol and ethinyl estradiol), injectable fertility treatment FOLLISTIM® (follitropin beta for injection), an innovative FOLLISTIM®/ANTAGON® (follitropin beta for injection and ganirelix acetate) kit with the innovative GnRH-antagonist, and a PREGNYL® (chorionic gonadotropin for injection, USP). In addition, Organon markets REMERON® SolTab™ (mirtazapine) antidepressant orally disintegrating tablets, muscle relaxants ZEMURON™ (rocuronium bromide) and RAPLON™ (rapacuronium bromide), and anticoagulant ORGARAN® (danaparoid sodium) injection.

Organon's commitment to health care research and development continues with joined efforts of nearly 2000 employees in the United States (a number of whom quadrupled in the past 10 years) and accounts for the dynamic growth in all Organon's therapeutic fields.

Partnership with Rutgers Graduate Business School Pharmaceutical M.B.A. Program

Organon is one of seven corporate sponsors of this program. As a corporate sponsor, the company hosts a yearly seminar that provides the management students with

relevant industry topics that will prepare them for their future careers. Such topics include: Role of FDA and the relationship with the Pharmaceutical Industry. Direct to Consumer Advertising.

College Recruiting Venues

Organon is proud to be an active participant at Rutgers University (both undergraduate and graduate), Seton Hall University, St. Peter's College, and Fairleigh Dickinson University.

PharmFest 2006

Organon participated in PharmFest in 2006 at Montclair State University. This program allowed high school and college students an opportunity to explore career opportunities within the pharmaceutical industry.

Internships

Organon provides internship programs for primarily bachelor's and graduate degree students. These internships are in various areas of the business including Market Research, Brand Management, Corporate Finance, Field Sales, Human Resources, and Medical Affairs. These programs are held during the summer as well as during the regular school year. Organon also includes graduating high school seniors in these internships as well.

Organon has partnered with INROADS-Northern New Jersey since 1999. In doing so, the company has consistently offered internship opportunities for INROADS students, and also assists in facilitating such programs as resume critique and mock interviews. In 2006, Organon USA Inc. hosted an INROADS talent pool event on-site in its corporate headquarters in Roseland, NJ.

Curriculum Development

Organon has participated in such design/modification of curriculum for both St. Peter's College in Jersey City and Rutgers University (Pharmaceutical M.B.A. Program) in Newark, NJ.

Continuing Education

Organon is in the process of discussing with St. Peter's College in Jersey City, NJ the possibility to host an on-site program. At this time, no formal program is set, however this is under consideration for 2007.

Pfizer

Pfizer is a research-based, global pharmaceutical company. Pfizer has two business segments: health care and animal health. The Pfizer pharmaceutical product portfolio is one of the broadest and deepest in the industry, covering cardiovascular disease, infectious disease, diseases of the central nervous system, metabolic disorders, cancer, inflammatory diseases, women's health, and ophthalmology. Although Pfizer's headquarters is in New York City, it maintains several operational sites in New Jersey.

Pfizer and its employees give approximately \$7 million in charitable contributions and product donations in the state of New Jersey every year. In addition, Pfizer conducts a number of educational initiatives at all educational levels in the state. Specific support to higher education includes:

- Morristown High School Career Academy in Science
- Fairleigh Dickinson University Summer Science Program
- Drew University Summer Scholars Program
- Rutgers University Bio Statistical program

- Independent College Fund — Pfizer Undergraduate Research Educational Grant (PURE)
- County College of Morris County Foundation Scholarship
- Centenary College
- William Paterson University Distinguished Lecture Series
- Tri-County Scholarship Fund
- St. Elizabeth College
- Newark Academy Scholarship
- INROADS Internship Program
- Liberty Science Center — Traveling Science Program for schools

Roche

Hoffmann-La Roche Inc. is the U.S. prescription drug unit of the global health care company, the Roche Group, founded in 1896 in Basel Switzerland. Known simply as Roche, the company is a leading innovator of medicines and services that enhance people's health, well-being, and quality of life. Roche global businesses include Pharmaceuticals and Diagnostics, and employs more than 74,000 people and sells its products in over 150 countries.

In the U.S., Roche markets medicines for cancer, hepatitis C, HIV/AIDS, influenza, osteoporosis, and transplantation. In most of the product markets in which Roche competes, the company's drugs rank among the top in their class.

Roche established U.S. operations in New York City in 1905 and moved them to Nutley, NJ in 1929. Located on a 127-acre, university-like campus, the Nutley site is now the headquarters of Roche's U.S. Pharmaceuticals business and employs some 3,000 people who work in the discovery, development, manufacturing, and marketing of prescription medicines.

Areas of key research conducted in Nutley include the search for treatments for metabolic, inflammation and autoimmune diseases, and cancer. In addition to the people on the Nutley campus, the company has an award-winning, nationwide sales force.

An employer of choice, Roche has been named one of the top 20 Pharmaceutical and Biotech employers (Science magazine), ranked as the no. 3 best company to work for in New Jersey (NJBIZ magazine), the no. 1 company to sell for (Selling Power), and one of AARP's top companies for older workers. In 2005, Roche was named one of Fortune magazine's best companies to work for in America.

Over the past several years, Roche has built partnerships with several educational institutions in New Jersey:

- Fairleigh Dickinson: Courses are held on the Nutley campus to support continuing professional development to company employees.
- Independent College Fund of New Jersey: Science and math scholarship (undergraduate).
- Montclair State University Foundation: Bilingual science project (undergraduate majoring in science education).
- New Jersey City University: Summer Science program (undergraduate).
- New Jersey Institute of Technology: Research Interns (undergraduate).
- William Paterson University: Bio-Ethics training for science teachers (undergraduate).
- Ramapo College Foundation: Science and math scholarship (undergraduate).
- Rutgers University: Founding sponsor of the Pharmaceutical Management Scholars Program (M.B.A.) within Rutgers Business School. Participated in assess-

ment of Scholars program candidates and evaluation of the program curriculum.

- Rutgers University: Active sponsor and participant in the Rutgers Pharmaceutical Industry Fellowship through the Ernest Mario School of Pharmacy.
- Rutgers University Foundation: Support for special science teams (undergraduate).

In addition, Roche sponsors a comprehensive Summer Intern Program for undergraduate and graduate students. In 2006, Roche hosted summer interns from several New Jersey colleges and universities including Rutgers University, Montclair State University, Fairleigh Dickinson University, New Jersey City University, and The College of New Jersey.

sanofi-aventis

sanofi-aventis is one of the world's leading pharmaceutical companies. Backed by a world-class R&D organization, sanofi-aventis is developing leading positions in seven major therapeutic areas: cardiovascular, thrombosis, oncology, metabolic diseases, central nervous system, internal medicine, and vaccines.

sanofi-aventis is dedicated to improving public health by meeting the needs of its patients. It has a world-class R&D program driven by a commitment to address the world's expanding needs to prevent, treat, or cure diseases known today and those that will be faced tomorrow.

With over 4,000 employees in New Jersey, sanofi-aventis focuses many of its efforts on higher education to support the communities in which the company's employees live and work, including:

- A fellowship program with Rutgers University in an innovative program to provide training within the pharmaceutical

industry tailored to the needs of PharmD graduates. The fellowship experience at sanofi-aventis provides a solid foundation for future career success.

- An M.B.A. Minds Matter program with Rutgers University and several other U.S. universities to attract and retain exceptional talent into the field of pharmaceutical operations. This program also helps identify and cultivate future leaders with superior business acumen and leadership skills and supplement talent management strategies used in developing current employees.
- Opportunities with science and medical affairs for undergraduates from Rider University, the College of New Jersey, Rutgers, and Seton Hall University to attract candidates with biology and chemistry backgrounds for careers in drug discovery.

Schering-Plough Corporation

Schering-Plough Corporation is a global science-based health care company with leading prescription, consumer, and animal health products. Through internal research and collaborations with partners, the company discovers, develops, manufactures, and markets advanced drug therapies to meet important medical needs. Schering-Plough's vision is to earn the trust of the physicians, patients, and other customers served by approximately 33,500 people around the world. The company's products reach patients and caregivers in more than 120 countries. In 2006, net sales totaled \$10.6 billion.

Schering-Plough is continuing a fundamental transformation under a six- to eight-year action agenda that began in 2003 upon the arrival of CEO Fred Hassan. The company invested approximately \$2.2 billion in research and development in 2006. Current areas of therapeutic focus are various cancers, infectious

diseases, acute and chronic respiratory conditions, inflammatory diseases, cardiovascular and metabolic diseases, and neurodegenerative diseases.

Drew University

An annual grant supports the "Schering-Plough Summer Research Scholars," an undergraduate research initiative at the university. The program funds participation by two science students and their faculty mentors during the summer months.

Kean University

"Students Partnering with Faculty Summer Research Program" allows students majoring in mathematics, computer science, biological sciences, chemistry, or physics to work with faculty members to initiate original research projects during a six-week summer session. Research continues in the fall, with work culminating in presentations at regional and national conferences, in journal publications, and on the Internet. Schering-Plough is the sole funder of the program.

Also at Kean, Schering-Plough provided support necessary to inaugurate the university's master's degree program in biotechnology. Schering-Plough remains involved, as company researchers serve as adjunct faculty and matriculating students receive practical experience in company laboratories. A number of Schering-Plough colleagues have completed the degree program.

New Jersey City University

The "Schering-Plough Corporate Scholars Program" funds tuition for the final two years of college for chemistry majors who are members of minority groups. Two scholars are selected annually. The students participate in paid summer internships, working side-by-side with Schering-Plough researchers.

New Jersey Institute of Technology

Schering-Plough supports NJIT's annual Chemical Engineering Scholarship. The company provides significant resources to fund scholarships for students enrolled in NJIT's Albert Dorman Honors College. Schering-Plough is a major funder of the institute's master's degree program in Pharmaceutical Engineering. This is one of very few such programs in the country and helps meet the pharmaceutical industry's critical need for skilled professionals in the areas of pharmaceutical facilities design, drug manufacturing, and pharmaceutical product development. Schering-Plough colleagues are significantly involved in the program as guest lecturers and mentors.

Rider University

The "Schering-Plough Science Scholarship" benefits economically disadvantaged Rider students majoring in one of the sciences.

Rutgers University

A Schering-Plough endowment funds scholarships for students of the Ernest Mario College of Pharmacy. The John J. Heldrich Center for Workforce Development is the recipient of significant funding from Schering-Plough in support of its mission to enrich career opportunities for New Jersey residents.

Schering-Plough Foundation Scholars Program

Six New Jersey colleges and universities receive annual funding for scholarships to provide financial assistance to students who demonstrate financial need.

Seton Hall University

Schering-Plough is a major funder of the chemistry teaching laboratory at Seton Hall's new Science and Technology Center.

The College of New Jersey

A grant to the college supports Educational Opportunity Fund scholarships for 10 students who have demonstrated financial need. The recipients, who are students studying science or business administration, participate in a paid summer internship opportunity at Schering-Plough.

Union County College

A Schering-Plough endowment funds the Allied Health Scholarship Program, which provides tuition assistance for students pursuing studies in the health sciences.

University of Medicine and Dentistry of New Jersey

The company annually sponsors attendance by medical students at the Student National Medical Association Conference. Attendees participate in lectures, workshops, and mentorship exercises dedicated to retention and graduation of underrepresented minority students pursuing medical degrees. Also at UMDNJ, Schering-Plough funds the "Research Program for Undergrads in Neuroscience." This summer program aims to introduce college students who are New Jersey residents to biomedical research opportunities in the state, particularly in the area of neuroscience. Virtually all program participants pursue studies in biomedical research or one of the health-related professions following college graduation. Data indicate that a growing number of these students choose New Jersey institutions for their graduate studies.

Stryker Corporation

Stryker Howmedica Osteonics is a global leader in the development, manufacture, and sale of orthopedic products and services. Through technology and innovation, it enriches the quality of life of patients around the world.

Orthopedic disease and trauma affect millions of people around the globe each year. They limit mobility, decrease productivity, and reduce the quality of life. Patients have come to rely on Stryker Howmedica Osteonics for the products they need to restore normal function, reduce pain, and return them to the activities of daily living.

The company's Hip, Knee, Upper Extremity, Trauma, and Spinal Systems, as well as its Bone Cement and Bone Substitutes are designed to help patients lead healthier, more active lives. Its entire range of products and services makes surgery and recovery from an orthopedic implant procedure simpler, faster, and more effective.

For decades, Stryker Howmedica Osteonics has employed innovative and experienced professionals to develop and introduce unique new products that help solve specific clinical demands and enhance the lives of recipients.

Stryker Howmedica Osteonics is one of the most successful divisions within Stryker Corporation, a worldwide leader in health care. Stryker Corporation has delivered more than 20 years of 25% compounded annual net earnings growth. Its technically advanced products and services are the direct result of an ongoing investment in research, development, and expansion.

Informing Students about Educational Opportunities in the Industry

- Advertising outreach: NextStop New Jersey Magazine and NJNextStop.org advertisements, which reach high school students across the state about careers in medical device/pharmaceutical industry.
- College career fairs and on-campus briefing sessions focused at both liberal arts students, as well as business and finance

concentrations and various engineering disciplines: NJIT, Ramapo College, Rutgers, Seton Hall, Stevens Institute of Technology, and Bergen Community College.

- Job openings on college career boards: NJIT, Ramapo College, Rutgers, Seton Hall, Stevens Institute of Technology.
- Diversity career fairs.

Stryker's Outreach in Internships Programs

- Cooperative education/internships for Associate's Degree: Bergen Community College.
- Cooperative education for Bachelor's degrees in mechanical, biomedical, materials, operations management, and other engineering disciplines as well as marketing, finance, and accounting at the following institutions: Ramapo College, NJIT, Rutgers University, Stevens Institute of Technology.
- Graduate degrees in general business, marketing, finance at Rutgers.

Stryker's Work in University Curriculum

- Partnership with Bergen Community College in establishment of Technology Education Center and establishment of curriculum, simulated manufacturing lab, and Associate's Degree program in Manufacturing Technology.
- Early stage "Business Partner" with Ramapo College in establishment of Institute for Innovation and Entrepreneurship, to deliver an undergraduate certificate program in Innovation and Entrepreneurship.
- Participation at Stevens Institute of Technology with Steering Committee around technology and business curriculum approaches.

Continuing Education Programs that Help Meet the Needs of the Company

- Bergen Community College, AAS degree in Manufacturing Technology tailored to the needs of medical device manufacturing operations including simulated manufacturing laboratory, course sequencing, and “soft skills”.
- New Jersey Institute of Technology (NJIT) on-site offerings, tailored to the needs of Stryker employees, consisted of :
 - Masters of Science in Manufacturing Systems Engineering
 - Masters of Business Administration
 - Executive Masters of Business Administration (accelerated 18-month long program)

Wyeth

Wyeth's vision of leading the way to a healthier world means discovering, developing, manufacturing, and marketing health care products that improve lives. It also means building charitable partnerships and using its resources to build a better, healthier way of life around the world. Wyeth does this by providing support through financial contributions, product donations, patient assistance, volunteerism, and partnering with organizations that share similar visions and goals. Support is given to nonprofit organizations that strive to enhance the quality of life in local communities through programs in health care, social services, education, and the arts.

Wyeth has a long history of providing support to educational institutions in New Jersey. Some of the programs that the company is supporting or has supported over the past few years are:

- UMDNJ School of Public Health and Rutgers Bloustein School of Planning and Public Policy: Internships for graduate and undergraduate students with Wyeth's Global Scientific Affairs. Students have participated in several product development projects in the nutritional and analgesics areas.
- Seton Hall University: Wyeth Human Resources has worked with the university's career development program to deliver an annual hour-long interview skills workshop to graduating seniors.
- Farleigh Dickinson University and College of Saint Elizabeth: Internships for 2-3 undergraduates throughout the calendar year with Wyeth Advertising.
- Rutgers University: Major contributor to the Rutgers University touring science bus, a “classroom on wheels” that travels throughout all of the state's middle schools.

Wyeth also offers a matching grants program to qualified educational institutions, and alumni funds, foundations, or associations connected with qualified educational institutions, equal to 50% of the amount contributed. In addition, Wyeth provides financial support to many of the schools' ongoing scholarship programs through contributions to annual fundraisers.

About the Report

This report is based on an online survey conducted in spring 2006 of the current and future workforce needs of companies that are members of the HealthCare Institute of New Jersey (HINJ). More than two-thirds of HINJ member companies (15 of 22) responded to the survey. These companies represent 38,000 of the 60,000 jobs at HINJ member companies.

The survey requested information on employment by functional area, occupational title, educational level, and degree. Data were collected on number of employees, job openings, recent hires, and employment projections. In addition, HINJ member companies were also asked to assess the difficulty of hiring specific occupations and degrees, using a low-medium-high scale. Data on graduates of New Jersey degree programs from the New Jersey Commission on Higher Education were assembled to provide a basis of comparison for workforce supply. Finally, structured interviews were conducted with human resources managers at HINJ member companies to profile the skill and educational requirements of high-demand occupations.

This effort was guided by the HINJ Human Resources Committee. This committee, led by co-chairs Lisa Peterson, Vice President, Human Resources, Stryker Orthopedics, and Michael Kahrer, Vice President, Human Resources and Business Services, Organon, provided essential guidance throughout the project. Bill Healey, Executive Vice President, HINJ, also provided valuable input and guidance.

This initiative was funded by the following participating companies: ALTANA/Nycomed, Bristol-Myers Squibb, GE Healthcare, Hoffmann-La Roche, Lundbeck Research, Novartis, Novo Nordisk, Organon, Pfizer, sanofi-aventis, Schering-Plough, and Stryker Orthopedic.

