

Challenges and Opportunities: New Jersey and the Pharmaceutical and Medical Technology Industry

2005 Annual Economic Report

Executive Summary of Economic Study
Conducted by Deloitte & Touche LLP for the
HealthCare Institute of New Jersey



Deloitte.





President's Message

"Challenges and Opportunities"

A \$22 Billion Impact on the State of New Jersey

The HealthCare Institute of New Jersey (HINJ) is pleased to share its eighth annual economic impact statement covering New Jersey's pharmaceutical and medical technology industry with our valued stakeholders.

As you will see, 2004 has been a year of mixed economic news. Although this year's report highlights a number of positive developments, global market conditions have been particularly challenging. As a result, for the first time in nine years, there has been negative growth in a number of key indicators.

Our industry is experiencing a period of intensified competition and greater government scrutiny. 2004 was also characterized by strategic consolidation within our industry which is reflected in this year's employment numbers.

We remain, however, the State of New Jersey's premier industry. And while the forces of change, global competition and government regulation have had an impact on the pharmaceutical industry over the past year, we believe this new environment presents an extraordinary opportunity to improve the delivery of healthcare.

Each and every day, tens of thousands of New Jerseyans go to work committed to improving the condition of human health by developing new medicines and better technology. You'll see our companies building new facilities as you travel around the state: Roche Diagnostics in Branchburg, Stryker Orthopaedic in Mahwah, and the brand new Novo Nordisk drug development center taking shape at the New Jersey Technology Centre in North Brunswick. Last year, our member companies spent more than \$1.35 billion on capital improvements.

In the pages that follow, you'll read how New Jersey companies occupy positions of global leadership in the health care industry. With fully one quarter of our workforce actively involved in the day-to-day activities of research and development, it's no wonder why our companies lead in the discovery of new products that help people live longer, healthier lives.

The pharmaceutical and medical technology industry is not without challenges, and those challenges can have a profound impact on the State of New Jersey. However, the outlook for a robust R&D pipeline, a dynamic climate for life sciences, and a state government that values the pharmaceutical and medical technology industry all portend great things for our future. We are optimistic that this industry's best days are just ahead.

Sincerely,

A handwritten signature in black ink that reads "Bob Franks". The signature is written in a cursive, flowing style.

Hon. Bob Franks
President
HealthCare Institute of New Jersey

To learn more about the HealthCare Institute of New Jersey and the contributions we make to the state economy, please visit www.hinj.org.

About the 2005 Survey

The HealthCare Institute of New Jersey (HINJ) commissioned the first economic impact study of the New Jersey pharmaceutical and medical technology industry in 1997. Since then, the study has served as an annual benchmark for one of the state's leading economic drivers.

The 2005 survey is compiled from the 23 leading pharmaceutical and medical technology companies that comprise HINJ's membership and were surveyed in 2004. The sample group includes all of the HINJ companies that participated in the previous year's study and also captures data from INO Therapeutics LLC, one of HINJ's newest associate members.

While the data elements presented in this and last year's report remain consistent, the 2005 report has been enhanced in two important ways. First, the charitable contributions data highlights the industry's valuable philanthropy not only within New Jersey but also throughout the world. Second, the methodology and data for calculating the economic multiplier impacts of payroll, vendor spending and capital spending has been revised and updated from last year's survey. This change in methodology has had an impact on the calculation of the results in this report.

In conclusion, the study seeks to identify the various elements of the state of New Jersey's economy that retain the pharmaceutical and medical technology industry as a core part of its economic engine and then to quantify the economic impact of this vital industry. This study employs widely accepted economic multiplier formulas.

New Jersey's Pharmaceutical and Medical Technology Industry

Contributing To The State's Overall Economic Health

The economy of New Jersey thrives on the concentration of life science businesses in the state. As a result, the pharmaceutical and medical technology industry remains a leading economic sector within the state.

In 2004, HINJ member companies had an estimated overall economic impact of almost \$22 billion on New Jersey's economy. Direct HINJ member company spending was approximately \$17 billion and economic activity resulting from the industry's presence and investment in the state resulted in almost \$5 billion more.

Direct Economic Impact Of The Pharma/Med Tech Industry On New Jersey

Pharma/Med Tech Device Activity Area	2004	
	Portion of HINJ Member Firm Spending To NJ Recipients (amounts in billions)	Portion of HINJ Member & Spin-Off Firms' Spending To NJ Recipients (amounts in billions)
Payroll	\$5.32	\$6.89
Benefits	1.18	1.18
Vendor spending	4.27	6.22
Capital spending	1.35	2.55
R&D	4.70	4.70
Charitable donations	.13	.13
<i>Estimated \$ Impact</i>	\$16.95	\$21.67

* Multiplier effects are only calculated for the following activities and are based on the 2001 IMPLAN model:

payroll, vendor spending and capital spending.

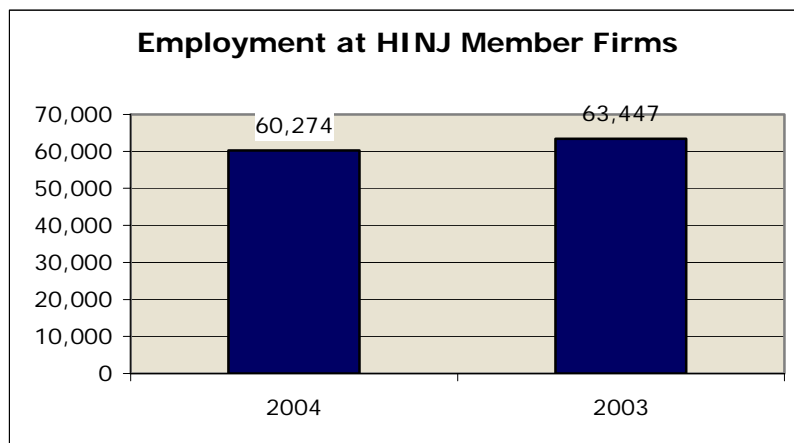
The industry continues to contribute greatly to New Jersey's economy and, as a result, many businesses in the state depend on pharmaceutical and medical technology companies for their continued growth.

"The Pfizer/Dendrite partnership began in the late '80s. Today, we support Pfizer professionals in over 15 countries. Dendrite is proud to be a preferred solutions provider to the pharmaceutical industry leader."

**Mark Cieplik, Senior Vice President
Dendrite International, Inc.**

Employment

In 2004, HINJ member companies accounted for over 60,000 New Jersey-based jobs. This figure reflects industry consolidation and a level of cutbacks, a result of current economic factors including the effects of patent expirations on earnings growth. However, the pharmaceutical and medical technology industry remains one of the state's largest employers.



HINJ Employment by Function

At least 25% of HINJ member employment is devoted to research and development, a figure relatively unchanged from last year's study. The consistency of this figure illustrates the industry's commitment to sustaining its growth and continuing to save and improve lives.

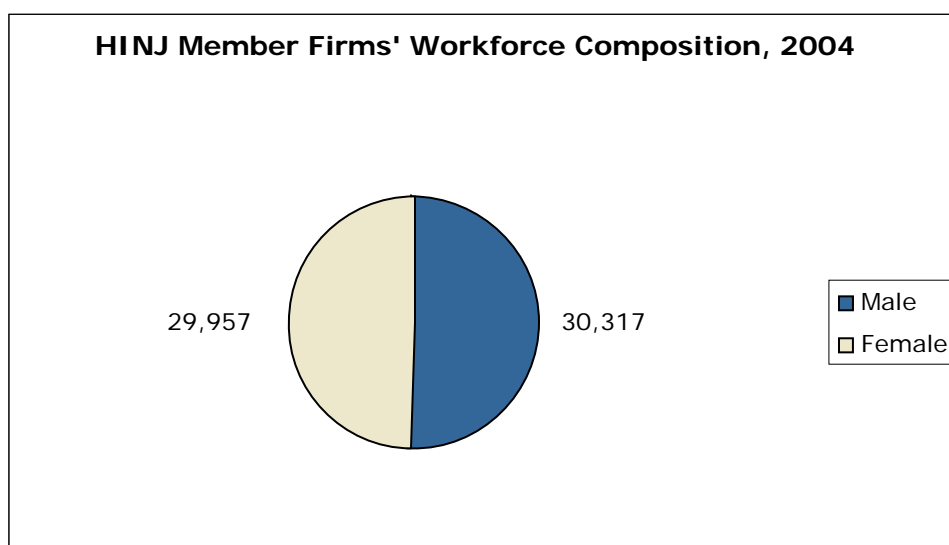
Although the number of positions by job type has remained fairly stable, this year's study shows the largest percentage share change in sales and marketing. This increase reflects efforts by member companies to invest in areas that support current and new business development and further long-term growth.

Business Function	NJ Employment Share	
	2004	2003
Research	15%	11%
Clinical Development	10%	17%
Corporate Administration	25%	21%
Manufacturing/Quality Control	15%	19%
Sales & Marketing	23%	17%
Others	12%	15%

Gender Equity in the Workforce

The pharmaceutical and medical technology industry is often cited as one of the best industries for professional women. The work environment and culture in the industry actively employs and rewards the contributions and strengths of highly-educated women. Working Mother Magazine compiles an annual "100 Best Companies for Working Mothers" and many HINJ member companies frequently rank near the top.

In 2004, almost half of the workforce in New Jersey's pharmaceutical and medical technology industry was comprised of women. This qualified and educated workforce benefits from advancement opportunities presented within such a dynamic industry.



"CoWorx Staffing Services, the new name for Pomerantz, is honored to be the Preferred Vendor of Choice On-Site for Schering-Plough. CoWorx has been providing staff augmentation services to Schering-Plough for the past 15 years. This partnership embodies both companies' strong commitment to quality and integrity and provides Schering-Plough the opportunity to focus more of its resources into its core business of new drug discovery."

**Michael Epstein, CEO and President
CoWorx Staffing Services LLC**

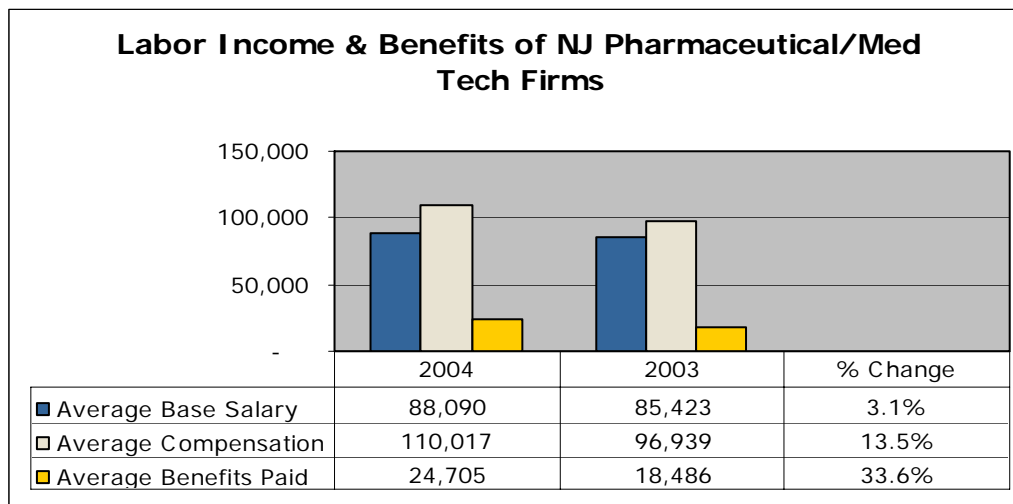
Payroll

In 2004, HINJ members bolstered New Jersey's economy with a payroll of \$6.6 billion for jobs based within the state. Although New Jersey is a "corridor state" where workers easily commute from either Pennsylvania or New York, New Jersey state residents held 79% of state-based jobs. Total payroll has increased despite a net decrease in employment. This results from a change in employee mix, workforce transition (including severance packages, early retirement, and other workforce reduction incentives) and market wage increases.

HINJ Member Firms' NJ Payroll

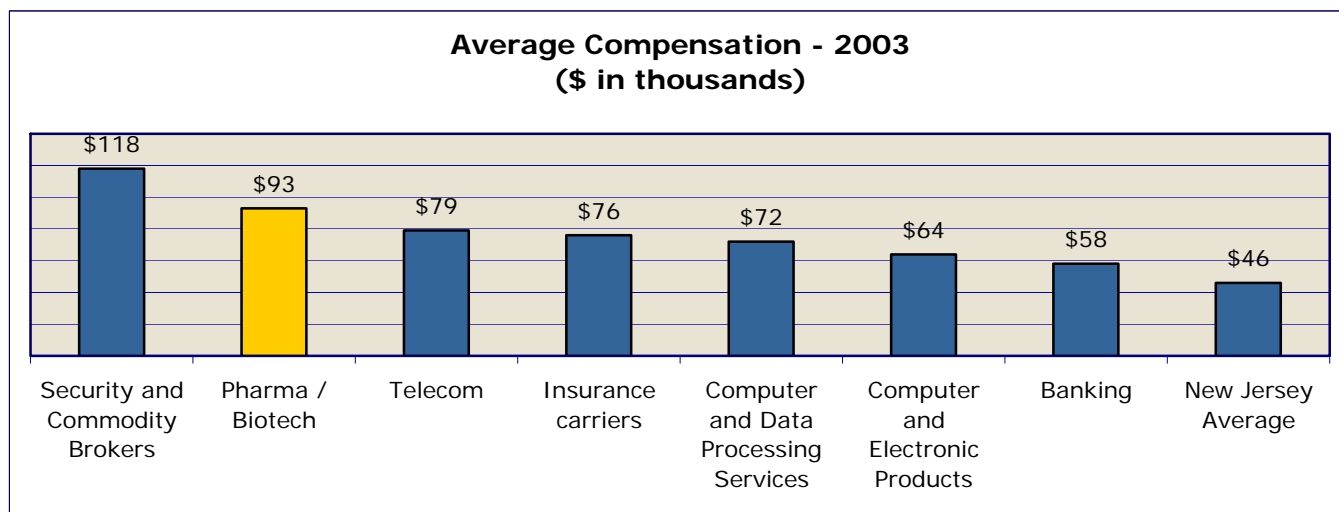
2004	2003
\$6.6 billion	\$6.0 billion

In 2004, pharmaceutical and medical technology industry workers received competitive wages and benefits, commensurate with their educational and skill levels. The average base salary was \$88,090 (a 3.1% increase over 2003) and total compensation for industry employees was approximately \$110,000 (a 13.5% increase over 2003).



How Industry Employees Compare to Other Sectors

The following chart illustrates the pharmaceutical and medical technology industry's position near the top among other major New Jersey employment industries. With average compensation of \$93,000, pharma/biotech employees benefit from the 2nd highest annual compensation figure among the listed industries. This average compensation figure is commensurate with the high skill and education levels of pharma/biotech personnel.



Note: Numbers rounded

Source: Bureau of Labor Statistics

Workers directly employed by the industry are also active consumers, creating spending impacts of \$5.3 billion and contributing \$1.6 billion of additional income to New Jersey's economy. Industry workers represent diverse communities geographically and economically and the spending impacts are also benefiting the entire state.

(amounts in billions)	2004	2003
NJ-based Payroll	\$6.6	\$6.0
...going to NJ residents ¹	\$5.3	\$4.8
<i>NJ income created from after-tax² spending</i>	\$1.6 ^a	\$1.3 ^a

¹ Results of surveyed companies indicate that eighty percent of the NJ workforce's compensation is drawn from the state's residents.

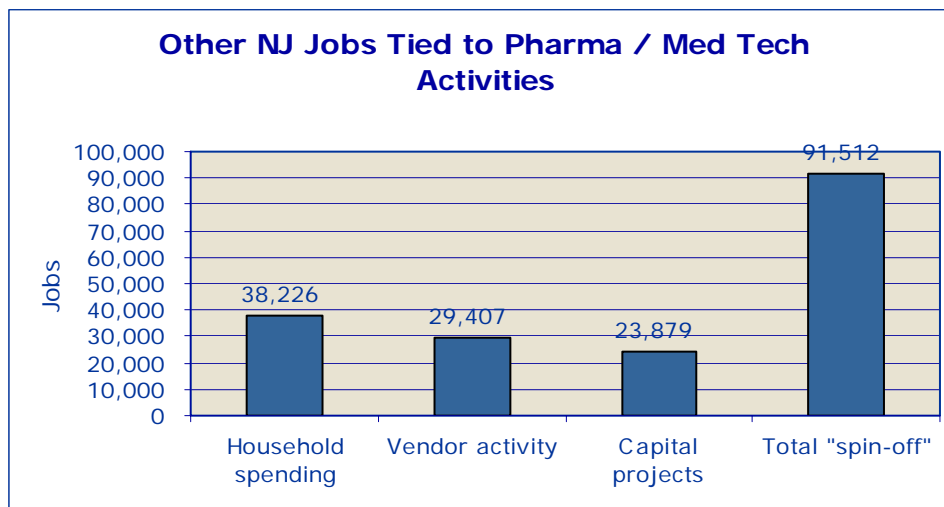
² An effective tax rate of 29.9 percent is used to estimate disposable income from pharma's payroll.

^a Disposable Income multiplier is from the 2001 NJ IMPLAN model.

Industry Spending, Spin-off Jobs and Related Impacts

The pharmaceutical and medical technology industry is a significant employer within New Jersey and contributes to the development of other employment throughout the state.

In 2004, approximately 91,500 "spin-off" jobs were created as a result of industry activity. The spending by pharmaceutical company employees supports more than 38,000 jobs. The purchase by pharmaceutical and medical technology companies of goods and services supported over 29,000 jobs and the procurement of supplies and services, and investment in capital projects supported almost 24,000 jobs across many business sectors.



Note: Multipliers are from the 2001 NJ IMPLAN model

In total, HINJ member companies provided over 151,500 jobs throughout New Jersey: 60,000 through direct employment and 91,500 "spin-off" jobs. Said another way, for each HINJ member job, another 1.5 jobs is created in the state economy.

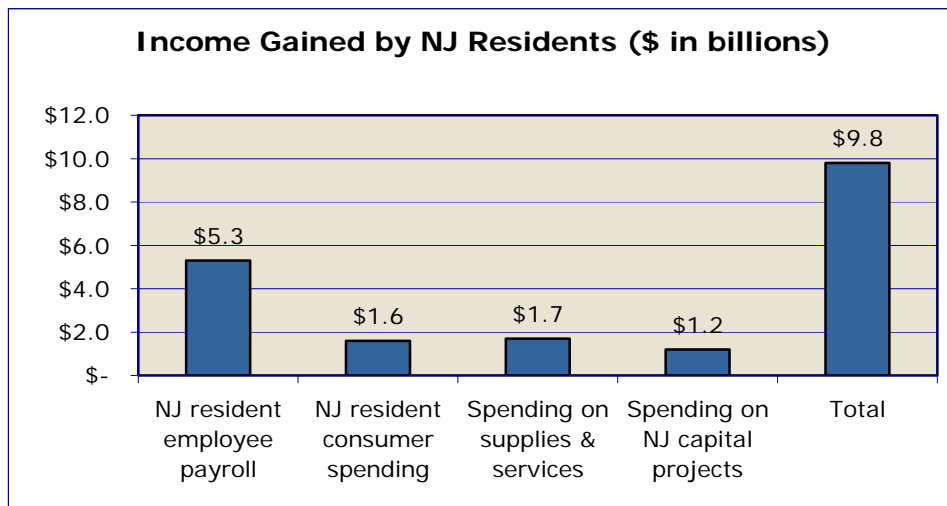
"Stryker has been a longtime and excellent client of our firm. We have had the pleasure of assisting Stryker in protecting its innovations in many areas of its business. Whether working with a Stryker team on a patent due diligence for a potential acquisition or on a patent clearance matter, we take pride in each opportunity that we have to assist Stryker with their intellectual property matters."

Keith Gilman, Partner
Lerner, David, Littenberg, Krumholz & Mentlik, LLP

Payroll Spending

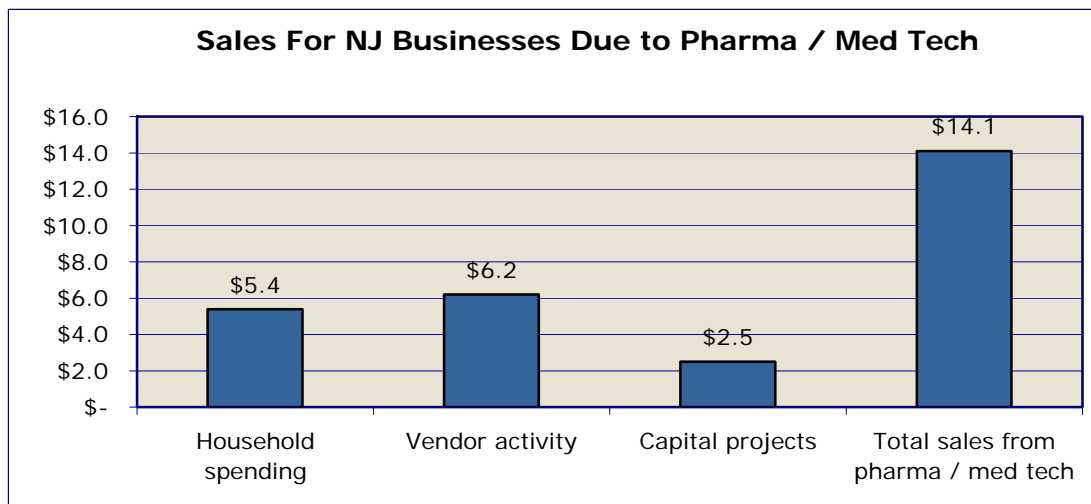
Payroll spending by pharmaceutical and medical technology companies benefited New Jersey residents beyond those directly employed by the industry.

For example, in 2004, HINJ member company payroll expenses generated \$5.3 billion in income for direct employees who were state residents. Expenditures resulting from this payroll figure generated \$1.6 billion in income for other state residents who provided consumer goods and services.



Note: Multipliers are from the 2001 NJ IMPLAN model

Income gains for New Jersey residents translated handsomely into sales for state-based businesses and gains for their employees. This income gain is exclusive of spending in-state by HINJ member employees who are residents of border states that commute daily and contribute to NJ state spending.



Note: Multipliers are from the 2001 NJ IMPLAN model

The HINJ member economic impact generated \$14.1 billion in NJ business sales, representing a tremendous impact on local communities, privately-owned businesses and public corporations.

Vendor-Related Spending

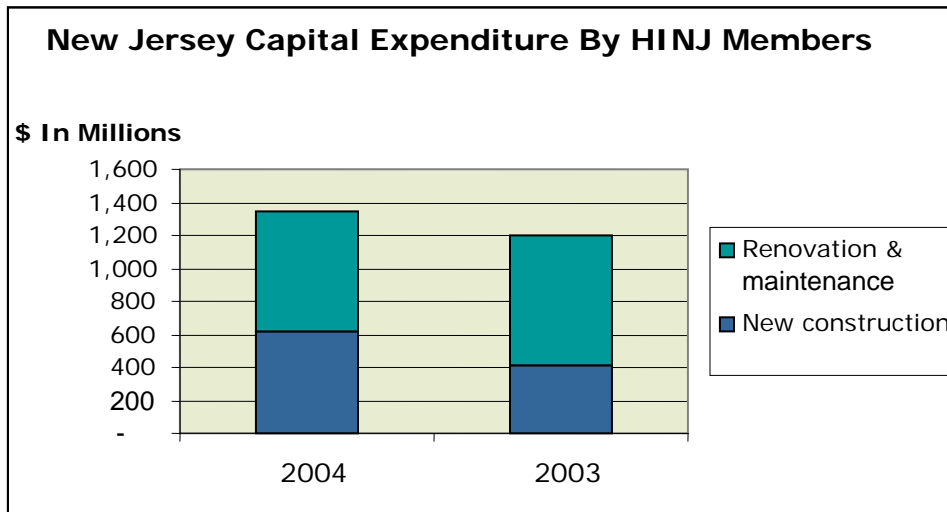
To support their day-to-day operations, HINJ member companies rely on a tremendous number of vendors who provide a wide array of goods and services. Vendor-related spending originating from NJ-based facilities exceeded \$23 billion last year, of which an estimated \$4.3 billion was spent on vendors located within the state. The \$4.3 billion spent on NJ-based vendors resulted in an estimated \$1.9 billion of additional NJ sales, for a total state impact of approximately \$6.2 billion.

	(in billions)
Vendor-related spending tied to NJ facilities	\$23.2
<i>...portion procured from NJ suppliers</i>	4.3
<i>Additional NJ <u>sales</u> created from pharma</i>	1.9 ^a
Total NJ sales created from pharma	6.2

^a Multiplier is from the 2001 NJ IMPLAN model

Capital Projects

For years, the pharmaceutical and medical technology industry was singularly responsible for the state's robust capital construction forecasts. Overall capital expenditures in 2004 were \$1.35 billion, an increase of 12.5% over the prior year. This capital spending included construction of new facilities, as well as the renovation and maintenance of existing facilities. New construction accounted for 46% of industry capital projects.



	(in billions)
Capital spending tied to NJ facilities	\$1.4
<i>Additional NJ <u>sales</u> created from pharma</i>	1.1 ^a
Total NJ sales created from pharma	2.5

^a Multiplier is from the 2001 NJ IMPLAN model

Research and Development

Promise For The Future

Research and development drives the pharmaceutical and medical technology industry. The discovery and production of breakthrough medicines and cutting-edge technologies enables HINJ member companies to do what they do best: extend and improve the quality of life.

In 2004, HINJ member companies invested \$4.7 billion in research and development activity. That figure translates into approximately 25% of the workforce dedicated specifically to research and development.

Throughout the industry, the future is primed with promise. Within pharmaceuticals, there are over 900 products in development and over 100 New Drug Applications (NDAs) have been submitted. As well, currently there are over 3,300 clinical trials planned or underway.

<i>Product/Studies in Year 2004</i>	Products in Development	Studies/Trials Underway or Planned
Pre-Clinical	216	815
Phase I	193	811
Phase II	207	466
Phase III	213	817
Phase IV	95	288
NDAs Submitted	104	168
Total	1,028	3,365

In the medical technology field, two new product applications (PMAs) are currently on file with the FDA by HINJ member companies. A total of 90 significant improvements to existing medical devices, known as 510(k)s, were also approved in 2004. Overall, these developments in products and technologies promote the long-term sustainability of the industry.

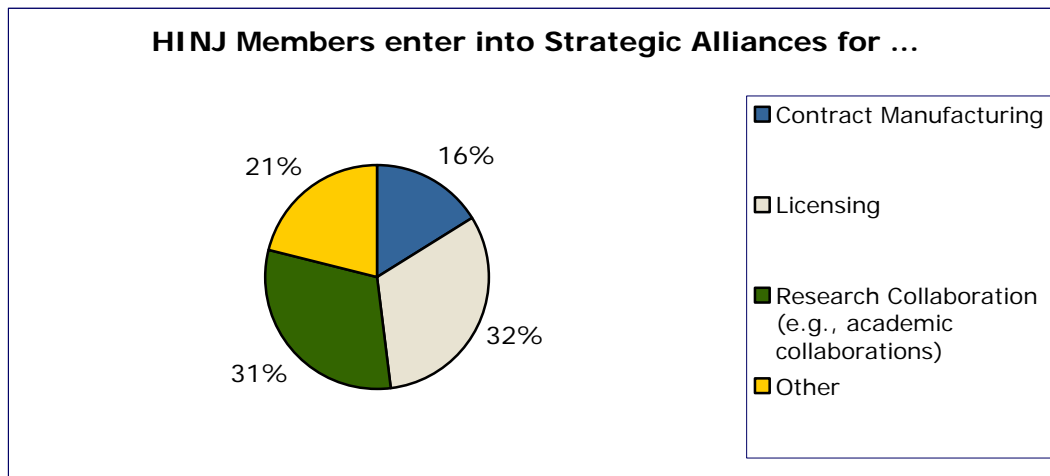
Research and Development

Medical Technology	2004
PMA	2
510K	90
Total	92

R&D Strategic Alliances

The research and development agenda of HINJ member companies works toward continued innovations and breakthroughs. To support and achieve this goal, the industry relies on strategic alliances, partnerships and collaborations with contract manufacturers, academic institutions and other entities.

Developing quality partnerships plays a critical role in the allocation of research and development dollars. In 2004, approximately 15% of the \$4.7 billion research and development dollars was tied to strategic alliances. Of that figure, approximately 17% (\$120 million) of the strategic alliances monies was tied to New Jersey-based institutions and businesses – further underscoring the importance of expanding the state’s life sciences agenda. This trend is expected to continue and the interaction among HINJ members and other companies sets the stage for future generations of HINJ membership and state economic growth.



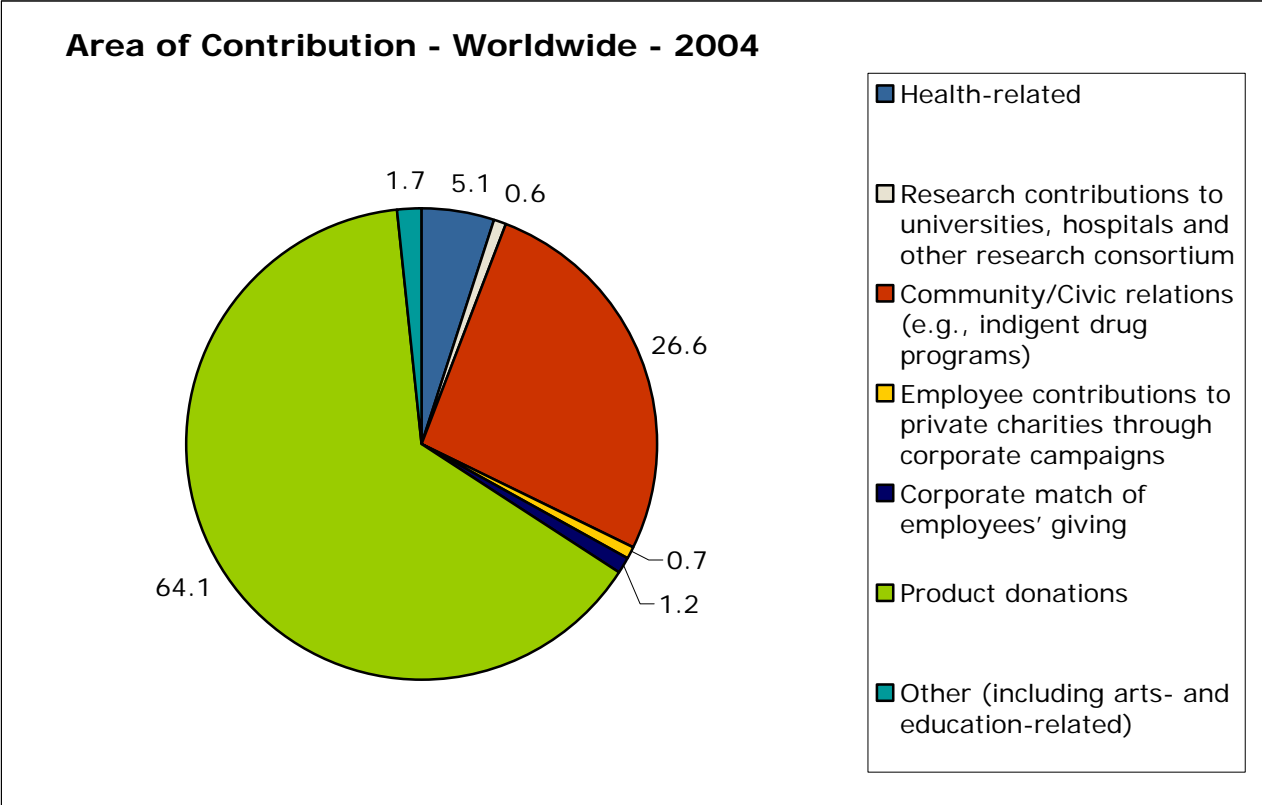
“Wyeth has been an excellent partner and, through their unique value metrics process, we have been able to quantify our value proposition for them while giving them a competitive edge in their marketplace. It has been a great relationship and we look forward to that relationship in the future.”

**Stan Woodland, President and CEO
Compass Inc.**

Charitable Contributions - Global

Whether around the corner or around the globe, HINJ member companies are good corporate citizens and contribute generously to a host of charitable causes.

In 2004, the estimated total worldwide giving by HINJ member companies was over \$2.2 billion. Based on the most recent data available, an estimated \$132.6 million of this amount directly benefited New Jersey causes. The industry's global philanthropy benefits a wide array of organizations and services and occurs in many ways. The following provides a view to how member charitable activities are allocated:



New Jersey: A Healthy Business Environment

HINJ members often cite New Jersey as a pre-eminent location for the global pharmaceutical and medical technology industry, largely due to unique attributes, such as: a skilled, highly educated workforce; access to markets and capital; and a high concentration of life sciences companies throughout the state. As a result, New Jersey provides an environment that encourages innovation and rewards ingenuity, qualities that support the growth and development of the pharmaceutical and medical technology industry.

The state's various incentive programs created a savings of over \$30 million for HINJ member companies in 2004. As a result, these savings were invested in other areas, such as job creation, that further benefited the state. This dynamic partnership between the industry and the state of New Jersey results in benefits to each that further economic vitality.

Impact Of State Incentive Programs

State Program At Work	\$ Savings	Jobs Created In 2004
R&D tax credit	\$ 20,597,853	80
Business employment incentives	1,400,000	599
Sales & use tax	7,210,000	-
Other	1,107,800	-
Total	\$ 30,315,653	679

Existing business incentive programs, quality institutions and employees, and a positive quality of life all add up to a powerful profile for New Jersey. Despite this, HINJ members believe the state could do more in the way of state tax incentives as noted below.

HINJ Member Quality Of Life Assessment In New Jersey

Aspect of New Jersey	Excellent	Very Good	Good	Fair	Poor	Total
Tax incentives	-	2	10	3	3	18
Quality of local colleges/universities	1	6	11	1	-	19
Quality of workforce & accessibility	3	10	4	2	-	19
Availability of desirable space	-	5	11	3	-	19
Quality of life	1	11	6	1	-	19

What Our Tax Dollars Mean To The State

The workforce of HINJ member companies contributes significantly to the tax revenue that provides many state services. For 2004, estimated total state income and sales tax paid by the industry's workers is estimated to be \$617.6 million. This figure contributed to key spending areas within the state of New Jersey, as shown in the chart below.

Income And Sales Taxes Paid By Industry Employees Equals	New Jersey Service Areas	Total FY 2004 Expenditures (Expressed in Millions)
It's 5.3% of	Education, cultural, and intellectual development	\$11,592
7.0% of	Physical and mental health	8,792
12.5% of	Government direction, management, and control	4,958
20.1% of	Economic planning, development, and security	3,075
23.1% of	Public safety and criminal justice	2,675
25.5% of	Transportation programs	2,421
32.4% of	Community development and environmental management	1,908

(Source: New Jersey Department of Treasury, Office of Management and Budget, 2004 Annual Report)

Members of the HealthCare Institute of New Jersey

Altana Pharma
Aventis Pharmaceuticals (now sanofi-aventis pharmaceuticals)
BD
Berlex Laboratories
Bristol-Myers Squibb Company
C.R. Bard, Inc.
Daiichi Pharmaceuticals
Eisai Inc.
GE Healthcare
Hoffmann-La Roche Inc.
INO Therapeutics, LLC (HINJ associate member)
Johnson & Johnson
MedPointe Pharmaceuticals
Merck & Co., Inc.
Mitsubishi Pharma America
Novartis Pharmaceuticals
Novo Nordisk Pharmaceuticals
Organon
Pfizer Inc.
Sankyo Pharma
Schering-Plough Corporation
Stryker Corporation
Wyeth