

# Tough Medicine in Tough Times:

## New Jersey's Biopharmaceutical and Medical Technology Community

### 2009 Annual Report



**Deloitte Consulting LLP**

June 2009

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# Section 1: President's Message

## 2009 – Tough Medicine in Tough Times



Dear Colleagues:

I'm pleased to present The HealthCare Institute of New Jersey's (HINJ's) 2009 Annual Economic Impact Report.

Like so many other industry sectors, our report reflects the current climate of the state and national economy. While the biopharmaceutical and medical technology community remains New Jersey's premier industry, this year's report serves as a stark reminder that we are not immune to global economic downturns, or to significant changes to the business model which historically has seen our industry develop so many new, innovative treatments and cures for the world's most dreaded

diseases.

While our industry's total economic impact on the state has reached an all-time high at \$29 billion in 2008, our employment numbers have contracted since last year, to 59,948 full-time employees. In the midst of the global recession, this decrease demonstrates that even the most robust industrial engines are not impervious to the larger economic forces and broad policy changes which impact the business community around the world.

Despite these challenges, our industry responded to the deepening economic recession by increasing our global philanthropy efforts. In 2008, our companies' philanthropic programs saw an increase of nearly 10 percent to \$4.5 billion. The vast majority of this large sum came in the form of product donations, illustrating how uninsured patients continue to rely on our industry's patient assistance programs like the national Partnership for Prescription Assistance (PPA) and its New Jersey chapter, Rx4NJ.

New Jersey's biopharmaceutical and medical technology community has faced significant challenges over the past year – some of which are endemic solely to our industry, others of which affect the broader business community as a whole. Although we remain New Jersey's premier industry, we are working hard to prevent any negative developments which might affect our position as the state's economic engine. Our most important mission is to pursue promising medical breakthroughs and discoveries for the enhancement of world health.

Sincerely,

A handwritten signature in black ink, appearing to read "Bob Franks". The signature is fluid and cursive.

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](http://www.hinj.org).

# Section 2: About the 2009 Survey

The HealthCare Institute of New Jersey (“HINJ”) commissioned the first economic impact study of the New Jersey biopharmaceutical 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. This is HINJ’s 13th consecutive economic survey and the sixth performed by Deloitte.

The 2009 survey is compiled from 22 of the leading biopharmaceutical and medical technology companies that comprise HINJ’s membership. The sample group, which was surveyed regarding 2008 calendar year data, includes 19 of the 24 HINJ companies that participated in the previous year’s study and also captures data from new study participants, Abbott Point of Care, GlaxoSmithKline and Osteotech. Prior year results were not adjusted to reflect the removal of the five companies that no longer participate in the HINJ survey. This survey is a compilation of the economic activity of current HINJ member participants.

The data elements presented in this year’s report remain consistent with those in the prior year’s report, readily highlighting the year-to-year fluctuations in a variety of key economic metrics.

In conclusion, the study seeks to identify the various elements of the state of New Jersey’s economy that retain the biopharmaceutical 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 on a consistent basis widely accepted economic multiplier formulas.

# Section 3: New Jersey's Biopharmaceutical and Medical Technology Industry

## Good Corporate Citizens

The economy of New Jersey has long thrived on the concentration of life science businesses in the state. Despite the impact of consolidation and strategic realignments, New Jersey's biopharmaceutical and medical technology industry still remains a leading economic sector within the state.

In 2008, HINJ member companies had an estimated overall economic impact of \$28.7 billion on New Jersey's economy. This amount increased slightly from last year's estimated overall economic impact of \$27.3 billion and provides an indication of relative stability in the industry over the course of the past several years. Direct HINJ member company spending was approximately \$22.4 billion and economic activity resulting from the industry's presence and investment in the state resulted in an additional \$6.3 billion.

### Economic Impact on NJ Spending by HINJ Survey Participants

(amounts in \$ billions)

Activity Area	2008	
	Direct Economic Impact	Total Economic Impact
Payroll * – NJ residents only	\$7.086	\$9.100
Benefits	2.123	2.123
Vendor spending – NJ to NJ	3.820	6.910
Capital spending	1.616	2.773
R&D	7.543	7.543
Charitable donations	0.221	0.221
<b>Estimated \$ Impact</b>	<b>\$22.409</b>	<b>\$28.670</b>

Note: Multiplier effects are only calculated for the following activities and are based on the 2007

IMPLAN model: payroll, vendor spending, and capital spending

\*Direct economic impact includes pretax dollars paid to NJ residents

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

# Section 4: Employment

In 2008, HINJ member companies participating in the survey accounted for nearly 60,000 New Jersey-based jobs. This figure represents a decrease to 59,948 as compared to 61,347 in the prior year.

## HINJ Employment by Function

A significant portion of HINJ member companies' employment (29%) is devoted to research and development, which illustrates the industry's continuing commitment to sustaining its growth by discovering new medicines and devices. Many HINJ member companies maintain their worldwide or US corporate headquarters in the state. As noted in the chart below, approximately 29% of the New Jersey based employees are employed in corporate administration functions, whether it is finance, research, philanthropy or some other role that supports the overall member companies' corporate mission.

Business Function	NJ Employment Share	
	2008	2007
Research	14%	11%
Clinical Development	15%	14%
Corporate Administration	29%	26%
Manufacturing/Quality Control	13%	13%
Sales & Marketing	19%	20%
Others	10%	16%

In addition to the employment numbers noted above, many HINJ member companies rely on contract employees to perform various services and roles, including highly specialized services, to support their operations. Fourteen of the 22 survey respondents reported that in 2008, approximately 14,000 contract employees were providing services to their companies. The number of contract employees providing services has remained consistent year over year.

# Section 5: Payroll

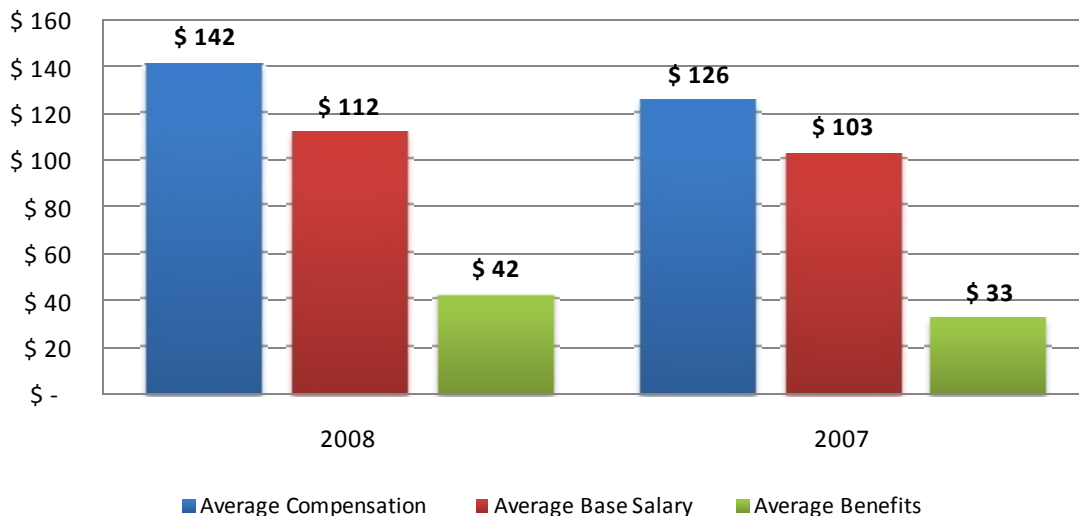
In 2008, New Jersey's economy benefited from the approximately \$8.5 billion aggregate payroll earned by HINJ survey participants for jobs based within the state. Although the proximity attracts many residents from neighboring states such as Pennsylvania or New York, New Jersey state residents held 84% of state-based jobs. Total payroll has increased over the prior year, mostly due to annual market wage increases and compensation payments.

## NJ Payroll for HINJ Survey Participants

2008	2007
\$8.5 billion	\$7.7 billion

In 2008, biopharmaceutical and medical technology industry workers received competitive wages and benefits, commensurate with their educational and skill levels. The average base salary was \$112,297 (an 8.9% increase over 2007) and total compensation for industry employees was approximately \$141,590 (a 12.3% increase over 2007). HINJ member companies continue to provide competitive benefits to employees, paying approximately \$42,000 per employee per year.

### Labor Income & Benefits of NJ Biopharmaceutical & Med Tech Firms (*\$ thousands*)

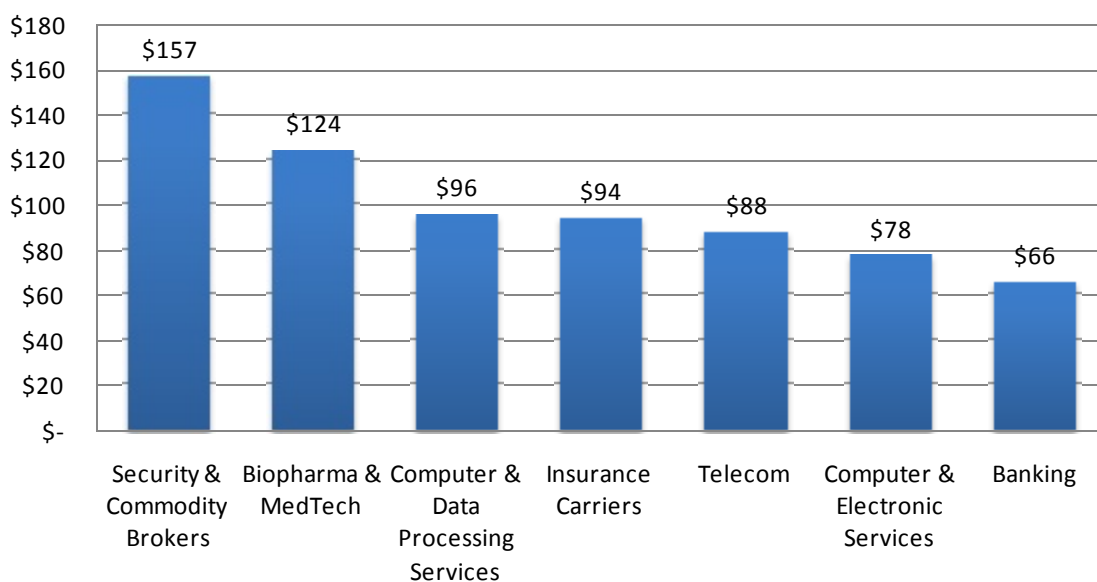


## How Industry Employees Compare to Other Sectors

The following chart illustrates the biopharmaceutical and medical technology industry's position near the top among other major New Jersey employment industries according to the Bureau of Labor Statistics. With average compensation of \$124,000 for all such companies in New Jersey, biopharma/medtech employees benefit from the second highest annual compensation figure among the listed industries. This average compensation figure is commensurate with the high skill and education levels of biopharma/medtech personnel, and is largely consistent with HINJ member companies surveyed.

### Average Compensation - 2007

*(\$ in thousands)*



Workers directly employed by the industry are also active consumers, receiving pre-tax payroll of \$7.1 billion and contributing \$2.0 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 geographically.

(amounts in billions)	2008
NJ-based payroll going to NJ residents <sup>1</sup>	\$7.1
NJ income created from after-tax spending <sup>2</sup>	\$2.0
<b>NJ-based Payroll Impact</b>	<b>\$9.1</b>

<sup>1</sup> Results of surveyed companies indicate that 84% of the NJ workforce's compensation was earned by state residents in 2008.

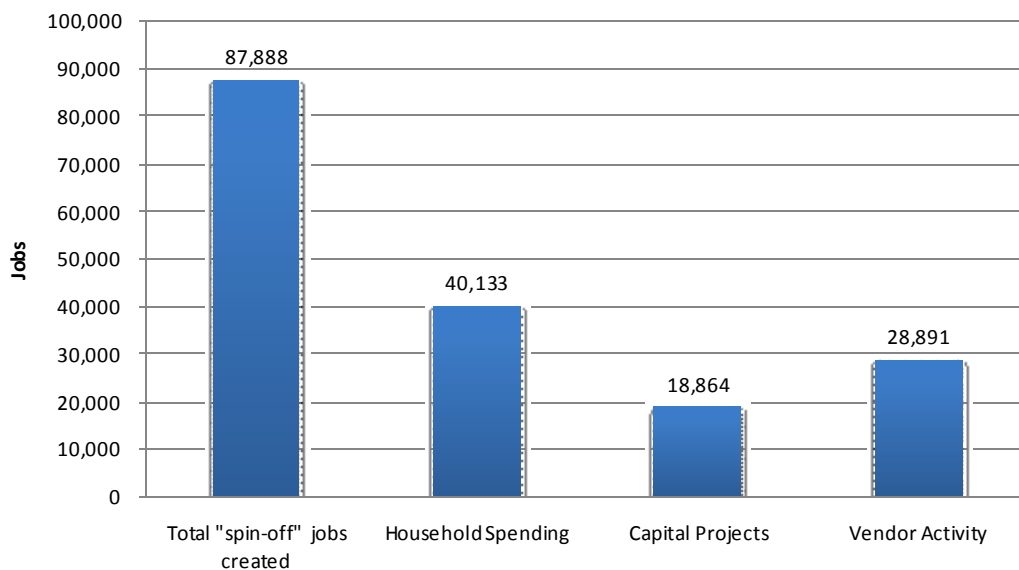
<sup>2</sup> An effective tax rate of 27.2% for 2008 was used to estimate disposable income from the industry's NJ based payroll a Disposable income multiplier is from the 2007 NJ IMPLAN model.

# Section 6: Industry Spending, Spin-off Jobs and Related Impacts

As is evident from the survey results reported herein, the biopharmaceutical and medical technology industry is a significant employer within New Jersey. In addition to the direct impact on employment figures noted previously, the industry continues to have a substantial indirect impact on the development of other employment throughout the state.

In 2008, approximately 88,000 “spin-off” jobs were supported as a result of industry activity. The spending of disposable income by biopharmaceutical and medical technology company employees supports more than 40,000 jobs. The investment by biopharmaceutical and medical technology companies in capital projects supported nearly 19,000 jobs, and purchase of goods and services supported almost 29,000 jobs across many business sectors.

**Other NJ Jobs Tied to Biopharma & Med Tech  
Activities**



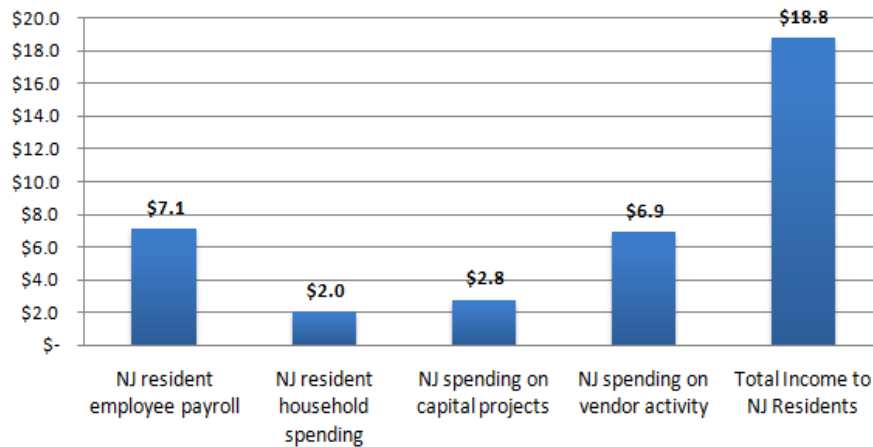
In total, HINJ member companies provided 147,836 jobs throughout New Jersey: 59,948 through direct employment and 87,888 “spin-off” jobs. Said another way, for each HINJ member job, another 1.5 jobs are created in the state economy.

## Payroll Spending

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

For example in 2008, HINJ member company payroll expenses generated \$7.1 billion in income for direct employees who were state residents. In turn, expenditures of disposable income by direct employees resulting from this payroll figure generated \$2.0 billion in income for other state residents who provided consumer goods and services.

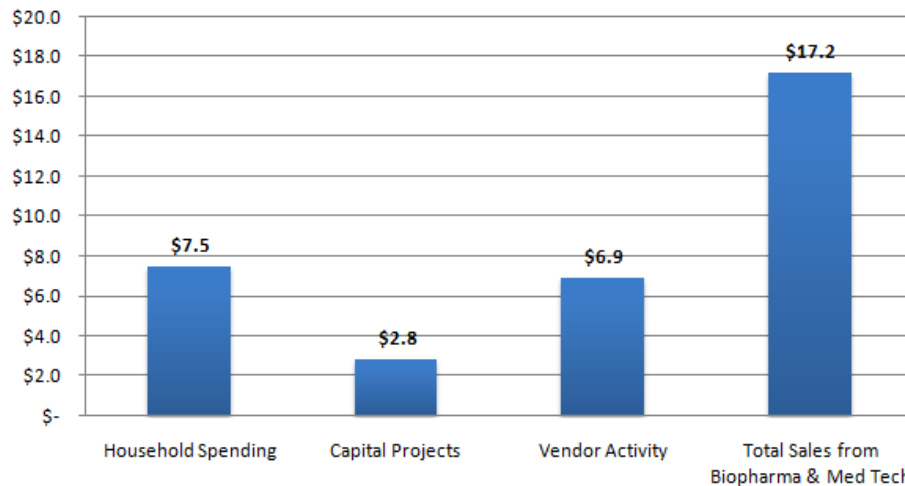
### Income to NJ Residents (in \$ billions)



NOTE: Multipliers are from the 2007 NJ IMPLAN model

These income gains generated significant sales across state-based businesses, also improving the income gains for their employees. It is important to note that the income gains above exclude the impact of HINJ member companies' employees who are residents of border states that commute daily and spend at New Jersey based businesses.

### Sales from NJ Businesses Due to Biopharma & Med Tech (in \$ billions)



NOTE: Multipliers are from the 2007 NJ IMPLAN model

The HINJ member companies' economic impact generated \$17.2 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 New Jersey-based facilities exceeded \$28.9 billion in 2008, of which an estimated \$3.8 billion was spent on vendors located within the state. The

\$3.8 billion spent on New Jersey based vendors resulted in an estimated \$3.1 billion of additional NJ sales, for a total state impact of approximately \$6.9 billion.

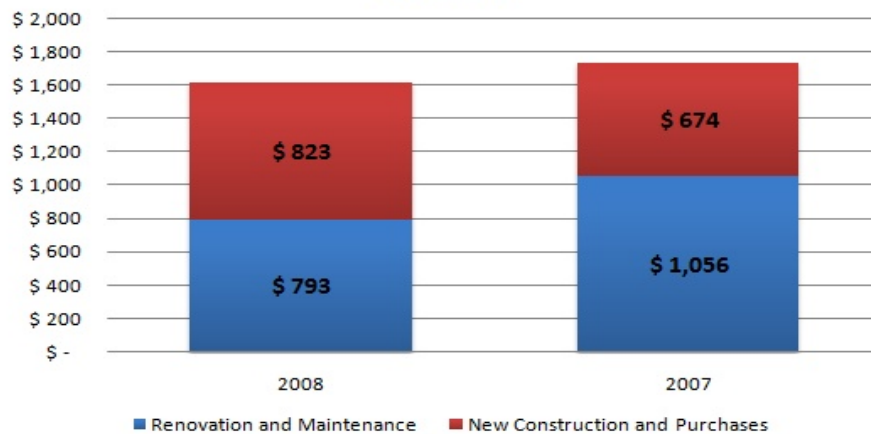
	(in billions)
<b>Vendor-related spending tied to NJ facilities</b>	<b>\$28.9</b>
...portion procured from NJ suppliers	3.8
Additional NJ <u>sales</u> created from biopharma/med tech	3.1 <sup>a</sup>
<b>Total NJ sales created from biopharma/med tech</b>	<b>\$6.9</b>

<sup>a</sup> Multiplier is from the 2007 NJ IMPLAN model

## Capital Projects

Once again, the biopharmaceutical and medical technology industry has shown itself a leader in capital construction investment. Over the next two years, the industry is expected to have aggregate capital construction figures of \$3.2 billion, generating more jobs and facilities in New Jersey. Overall capital expenditures in 2008 were \$1.6 billion, a positive sign of the industry's commitment to the state of New Jersey. This resulted in an estimated \$1.2 billion of additional New Jersey sales, for a total state impact of \$2.8 billion. This capital spending included construction of new facilities (51%), as well as the renovation and maintenance of existing facilities (49%).

**NJ Capital Expenditures by HINJ Members**  
(\$ millions)



	(in billions)
<b>Capital spending tied to NJ facilities</b>	<b>\$1.6</b>
Additional NJ <u>sales</u> created from biopharma/med tech	1.2 <sup>a</sup>
<b>Total NJ sales created from biopharma/med tech</b>	<b>\$2.8</b>

<sup>a</sup> Multiplier is from the 2007 NJ IMPLAN model

# Section 7: Research and Development

## A Robust Pipeline

New Jersey has long distinguished itself as a leader in R&D activity. Research and development is the “life blood” of the industry...an industry focused on saving, improving and enhancing lives.

In 2008, HINJ member companies participating in this year’s survey invested \$7.5 billion in research and development activity in New Jersey, which is a decrease of approximately \$400 million from prior year’s survey. This level of spending evidences the industry’s commitment to research and development, and provides the funding to support the various projects and initiatives being worked on by the 29% of New Jersey based employees devoted to research and development.

Throughout the industry, the future is primed with promise. Within biopharmaceuticals, there are 770 potential products in development and 62 New Drug Applications (“NDAs”) have been submitted.

Products/Studies in Year 2008	Products in Development	Studies/Trials Underway or Planned
Pre-Clinical	101	2,046
Phase I	184	681
Phase II	176	361
Phase III	148	595
Phase IV	99	258
NDAs Submitted	62	54
<b>Total</b>	<b>770</b>	<b>3,995</b>

In the medical technology field, 12 new product applications (“PMAs”) are currently on file with the Food and Drug Administration by HINJ member companies. A total of 66 significant improvements to existing medical devices, known as 510(k)s, were also approved in 2008. Overall, these developments in products and technologies promote the long-term sustainability of the industry.

Medical Technology	2008
PMA	12
510(k)	66
<b>Total</b>	<b>78</b>

# Section 8: Charitable Contributions

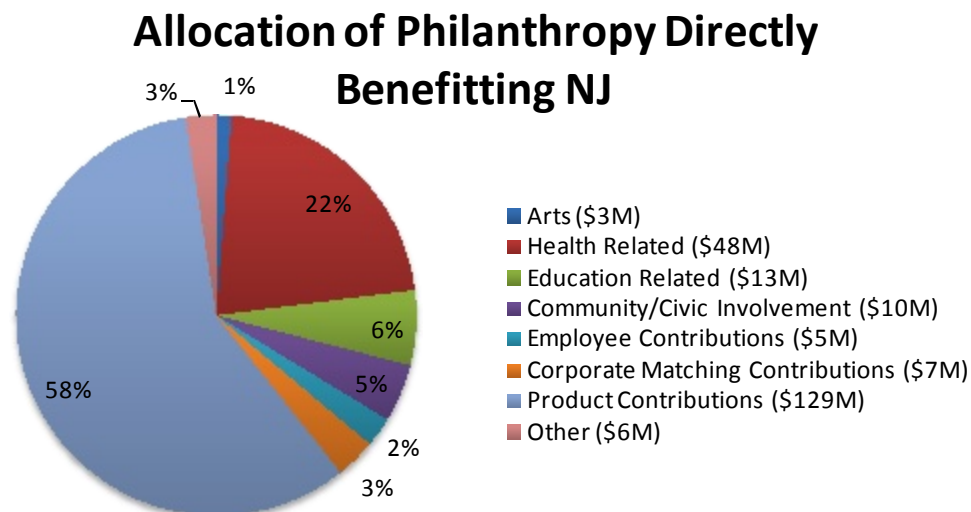
HINJ member companies care about their communities and their commitment to being exemplary corporate citizens is reflected in their extensive efforts to improve access to healthcare, fund unique and innovative education programs, and partner with the arts community through support of both local and global initiatives.

HINJ member companies responding to this year’s survey noted examples of their contributions to various philanthropic activities throughout 2008 which included, but were not limited to, the following organizations and institutions:

• American Heart Association	• Independent College Fund of New Jersey	• Rutgers University
• Association for Children of NJ	• Juvenile Diabetes Research Foundation International	• Teach for America Inc.
• Boys and Girls Club	• Liberty Science Center	• The Nature Conservancy
• Cancer Care, Inc.	• National Resource Center for Hispanic Mental Health	• The Susan G. Komen Breast Cancer Foundation
• Drew University’s Governor’s School	• New Jersey Performing Arts Center	• The Val Skinner Foundation
• Farleigh Dickinson University	• New Jersey Science Education Leadership Association	• United Negro College Fund, Inc.
• Hackensack University Medical Center Foundation	• New Jersey Symphony Orchestra	• United Way
• Hyacinth AIDS Foundation	• Paterson Education Foundation, Inc.	• William Paterson University

In 2008, the estimated total worldwide giving by HINJ member companies was approximately \$4.5 billion, of which an estimated \$221 million directly benefited New Jersey causes. The most significant category of giving in 2008 was product contributions, which worldwide amounted to \$3.7 billion and in NJ amounted to \$129 million.

The following chart illustrates the allocation of the \$221 million directly benefiting NJ is allocated amongst the various categories of giving:



# Section 9: Taxes

The HINJ member companies and their workforces contribute significantly to the tax revenue that provides many state services. For 2008, estimated total state, local, and municipal taxes paid by the HINJ member companies participating in this year's survey were estimated to be \$870 million, up approximately 11% over the prior year figure of \$783 million, and were comprised of the following amounts:

(amounts in \$ millions)	Total State, Local, and Municipal Tax Paid to NJ	
	2008	2007
New Jersey Withholding	\$411.8	\$348.8
Income and Franchise Tax	117.0	114.8
Corporate Business Tax	67.0	83.2
Sales and Use Tax	113.5	54.0
Disability and Unemployment	28.5	52.0
Other	1.0	2.1
<b>New Jersey Local and Municipal Taxes</b>		
Property Taxes	129.2	125.8
Other	0.0	1.3
<b>Other</b>		
Environmental Permits, Fees, and Licenses	2.3	1.2
<b>Total Taxes</b>	<b>\$870.3</b>	<b>\$783.2</b>

Note that taxes paid by HINJ member companies are not included in the overall economic impact figures presented in this report. This exclusion is consistent with prior years' Annual Reports.

# Section 10: Rebates

In addition to the taxes paid by HINJ member companies and their employees, the industry also pays rebates to the state and federal government for medications used by recipients of the prescription programs shown below. Rebates were developed in the federal OBRA '90 legislation as a mechanism that would allow governmental purchasers the same pricing available to large commercial purchasers. For programs sponsored by state government, the rate of these rebates is written into the state budget.

Based on the most recent data available, the entire industry paid the following rebates to the state of New Jersey:

Rebate Type	Dollars
Medicaid	\$162,114,918 <sup>a</sup>
PAAD	15,219,969 <sup>b</sup>
Senior Gold	1,388,326 <sup>c</sup>

a Medicaid rebate dollar amounts represent amounts received for the twelve months ended 12/31/2008, as provided by HINJ.

b PAAD rebate dollar amounts represent amounts received for the twelve months ended 9/30/2008, as provided by HINJ.

c Senior Gold rebate dollar amounts represent amounts received during the twelve months ended 6/30/2008, as provided by HINJ.

The Pharmaceutical Assistance to the Aged and Disabled program ("PAAD") and the Senior Gold program were started in New Jersey in 1975 and 2001, respectively. PAAD was the first ever state-sponsored drug program for seniors in the United States. (Source: HINJ)

Total rebates paid to the state of New Jersey in the current year were approximately \$178.7 million, resulting in an increase of \$30.4 million from the prior year of \$148.3 million.

Note that rebates paid by HINJ member companies are not included in the overall economic impact figures presented in this report. This exclusion is consistent with prior years' Annual Reports.

# Section 11: Members of the HealthCare Institute of New Jersey Participating in the 2009 Survey

• Abbott Point of Care <sup>(1)</sup>	• Hoffmann-La Roche Inc. <sup>(2)</sup>
• Baxter	• Johnson & Johnson
• Bayer	• Merck & Co., Inc.
• Becton, Dickinson and Company	• Novartis Pharmaceuticals
• Bristol-Myers Squibb Company	• Novo Nordisk Pharmaceuticals
• C.R. Bard, Inc.	• Osteotech <sup>(1)</sup>
• Catalent Pharma Solutions	• Pfizer Inc.
• Celgene Corporation	• Sanofi-Aventis Pharmaceuticals
• Daiichi-Sankyo Pharmaceuticals	• Schering-Plough Corporation
• Eisai Inc.	• Stryker Corporation
• GlaxoSmithKline <sup>(1)</sup>	• Wyeth

**(1)** Represents a new participant in the 2009 HINJ Survey. Participants in the 2008 HINJ Survey who are not participating in the 2009 Survey are: Adams Respiratory Therapeutics, Inc., INO Therapeutics, LLC, Lohmann Therapy Systems, Medpointe Inc., and Organon (acquired by Schering-Plough in November 2007).

**(2)** Comprised of two participants: Roche Diagnostics Division and Roche Pharmaceuticals Division

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