



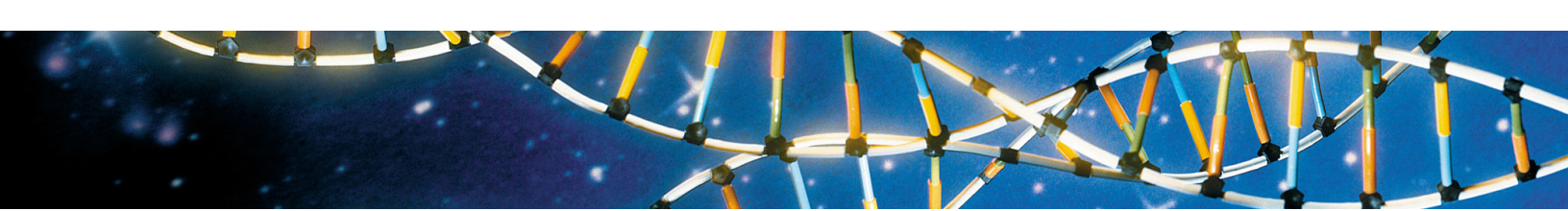
BioNJ Industry Study

Biotech in New Jersey: Dealing with a “New Normal”

July 2010



BioNJ wishes to thank PTC Therapeutics, Inc.
(www.ptcbio.com) for the use of the photograph
on the front cover.



Dear Biotechnology Industry Member,

We are pleased to unveil the results of the BioNJ Study, *Biotech in New Jersey: Dealing with a “New Normal,”* which was conducted with assistance from Ernst & Young. Despite the very difficult economy, the New Jersey biotechnology story continues to be one of growth, but not without some concern for the future given constrained capital resources and reductions to programs in the State budget that support startup and early-stage biotech companies.

Specifically, our key findings are:

- The number of jobs has increased from approximately 10,000 at the end of 2007 to an estimated 15,000 today, reflecting a 50% increase in less than three years. This figure does not include traditional Big Pharma or medical device companies, nor does it account for the thousands of indirect jobs that support and are supported by the industry.
- The number of companies has grown from 238 in 2008 to more than 300 today.
- 51 percent of respondents have operated in New Jersey for 5 years or less.
- 31 percent of respondents have been in business for 5 years or less.
- 78 percent anticipate hiring additional employees in 2010.


We can be proud of the industry’s accomplishments to date and the promise that awaits. We thank the team at Ernst & Young who’ve donated their time to make this study a reality, and the BioNJ Board for its vision in moving this forward and to our members of the community who took the time to respond.

Finally, thank you to those of you who work so hard each and every day to move this cluster forward.

Yours in the BioNJ,

Geert Cauwenbergh, Ph.D.
Executive Chairman, ECI Biotech
Chairman, BioNJ

Debbie Hart
President, BioNJ



Biotech in New Jersey: Dealing with a “New Normal”

Introduction

As we have done in the past, BioNJ and Ernst & Young co-developed and conducted a survey of the New Jersey biotechnology industry for calendar year 2009. The goals of the study were to assess the vitality of the industry in the State of New Jersey and to determine what can be done to improve New Jersey’s position as a life science leader going forward.

The survey’s results, derived from a 20 percent response rate, included reports from early-stage to well established companies that provide a cross section of the industry in New Jersey. The data were benchmarked to previous years to help identify trends within our State and were compared to data observed on a national and global basis as noted in Ernst & Young’s 2010 “Beyond Borders” biotechnology report.

The results coincided with many of the observations identified in the current marketplace by Ernst & Young.

New Jersey Biotechnology and the Worldwide Marketplace

Last year, as the global markets started to crash, many in the industry tried to predict the direct and indirect effects that the change in the capital markets would have on the biotech business model. Despite restructuring efforts by many companies, some predicted that there would be a significant reduction in the number of companies, and that access to capital would likely remain constrained for the foreseeable future. Many in the industry worried about the implications for biotech’s sustainability — that the business model the industry has long thrived on would be starved of one of its key inputs (funding) and companies’ efforts to cull their pipelines would lower the model’s key output (innovation). We wondered whether the recovery, when (or if) it came, would return things to “normal.” Instead, we are noticing the emergence of a “New Normal,” requiring new models for sustainability.

A year later, the dust is settling and the outlines of a New Normal are indeed starting to emerge. In both the general economy and the biotech industry, the worst seems to be over, but things are not reverting to business as usual. And in many ways, the experience of the New Jersey biotech industry so far has mirrored that of the global economy.

While several economies had started to emerge from recession in late 2009 and early 2010 (based on the official yardstick of GDP growth) and global stock market prices are approaching pre-crisis levels, unemployment has remained stubbornly high, particularly in New Jersey. The worst of the credit crisis, however, has successfully been abated, but bank lending standards remain tight. This, coupled with an uncertain market environment, has lowered hiring at small businesses — traditionally a key engine of job creation. Amid talk of a prolonged “jobless recovery,” most economists now expect that high unemployment levels will remain part of the New Normal for some time to come.



The situation for biotech is similarly mixed. On the surface, it would appear that the worst is over. Aggregate funding levels rebounded in 2009 and strategic alliance activity as a whole remains robust, however, when the numbers are looked at closely, we are noticing a wider gap between the “haves” and the “have nots.” Financial performance has been fairly strong — particularly under the circumstances — with remarkable improvement on the bottom lines for companies that have engaged in belt tightening. The market cap of smaller companies, which had taken a beating, has rebounded impressively, making up much of the ground that was ceded in late 2008 and early 2009.

New Jersey and the New Normal

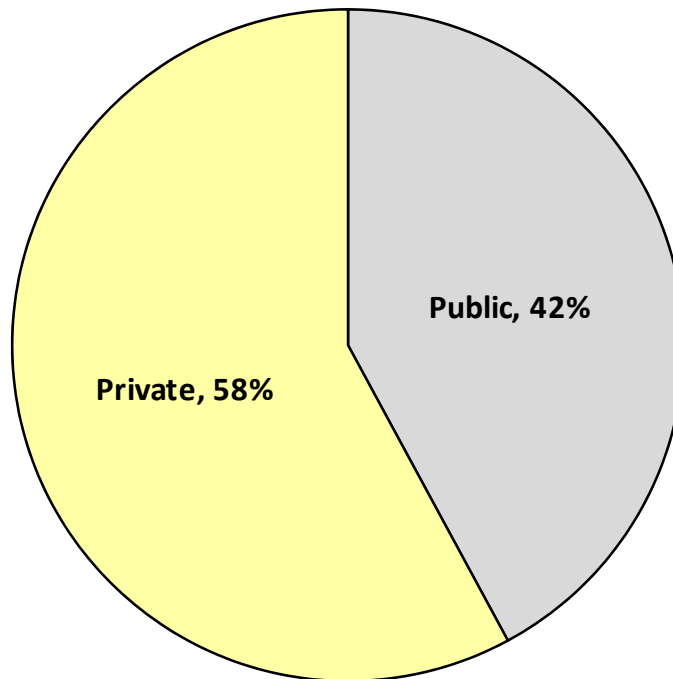
To maintain these positive trends in New Jersey specifically, this survey report discusses some of the steps that need to be taken to maintain New Jersey’s presence as a desirable place in which to start and maintain a biotechnology company in the New Normal. These steps are particularly imperative given the fact that New Jersey needs to retain the talented people who are being shed from large pharmaceutical company jobs during a time when the State is also vying with other states, regions and countries for talent and companies in an ever-increasingly competitive global marketplace.

Specifically, New Jersey needs to: (1) continue to provide economic incentives to attract and retain companies and to help them attract and retain key personnel necessary to breakthrough science research; (2) maintain a strong academic environment for early-stage research; and (3) maintain and build the entrepreneurial spirit needed to bring breakthrough science to commercialization.



A snapshot of the 2009 respondents to the survey

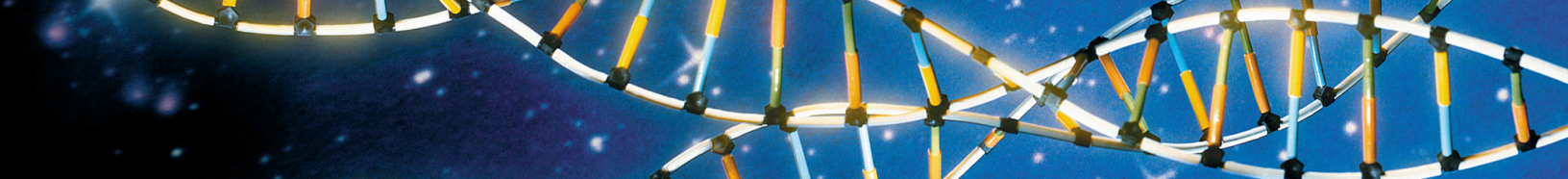
First, there are more than 300 biotechnology companies as of June 12th, 2010 in the State of New Jersey as compared to approximately 80 biotechnology companies a little more than a decade ago. Nearly 20 percent of the companies responded to the survey. A significant number of the respondents to the current year study are from public companies as shown in the graph below.



Despite some M&A activity as well as the disappearance of approximately 10 companies due to lack of funding since the last survey, the overall number of companies continues to increase with new companies forming and locating to New Jersey.

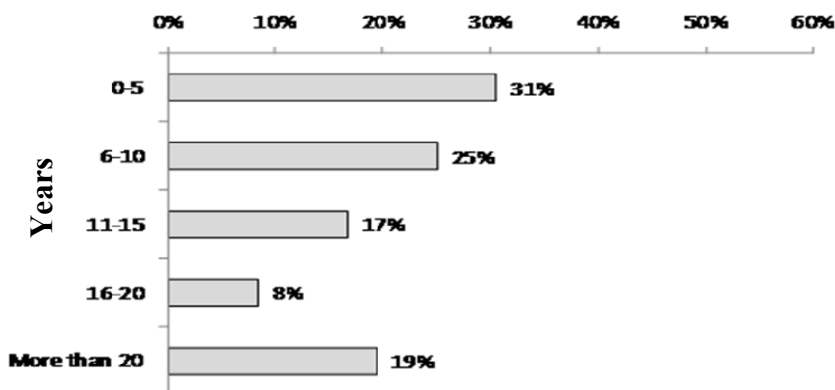
The total number of **public** companies in New Jersey decreased as compared to the prior year as a result of recent mergers and acquisitions. As of December 31, 2009, there were 24 public biotech companies in New Jersey, down from 32 in the previous year. A result of recent mergers and acquisitions, the loss of public companies in New Jersey was slightly higher than the national average (14% decrease), however, ***the addition of private companies more than made up for the decrease.***

Although the industry raised a fair amount of capital in total (as discussed later), the stark reality that many biotech companies face in the New Normal is that funding is harder to find. Venture capitalists have become more discriminating and are investing at later stages, and the IPO markets have largely been closed to new companies seeking to raise funds from public investors.



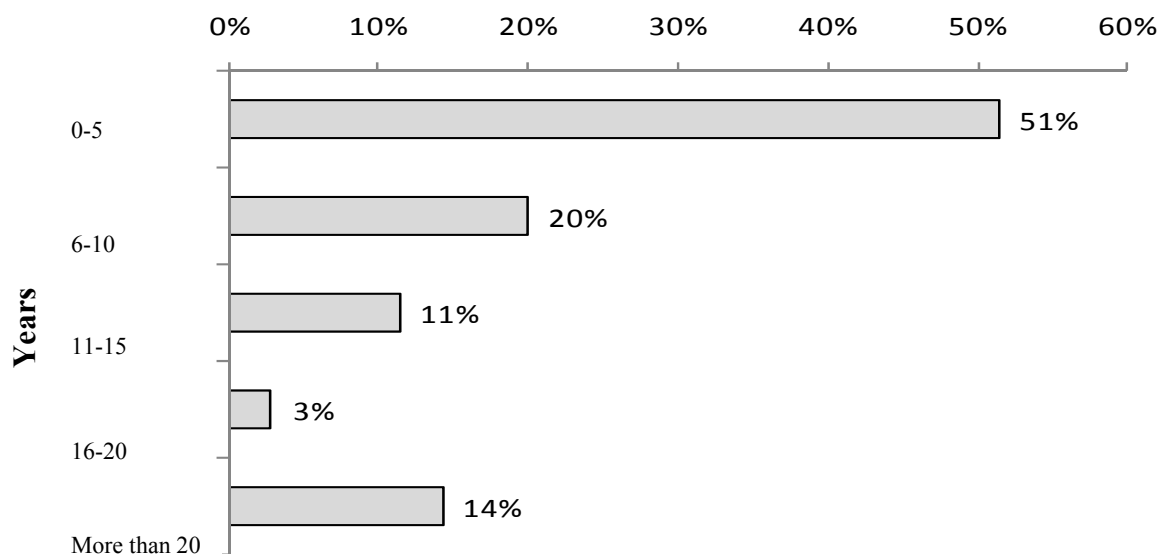
There are companies all along the growth continuum in New Jersey. A significant number of companies are in “startup” mode (i.e., been in business five years or less). However, a significant number of companies have been in business for more than 15 years. This mix of startup and more mature companies bodes well for the future stability and growth of the industry.

Number of years has been in business



Further, 51% of the respondents have been in New Jersey for fewer than five years. Thus, the growth in the number of companies is not only due to the formation of new companies, but also, in part, due to companies relocating to New Jersey.

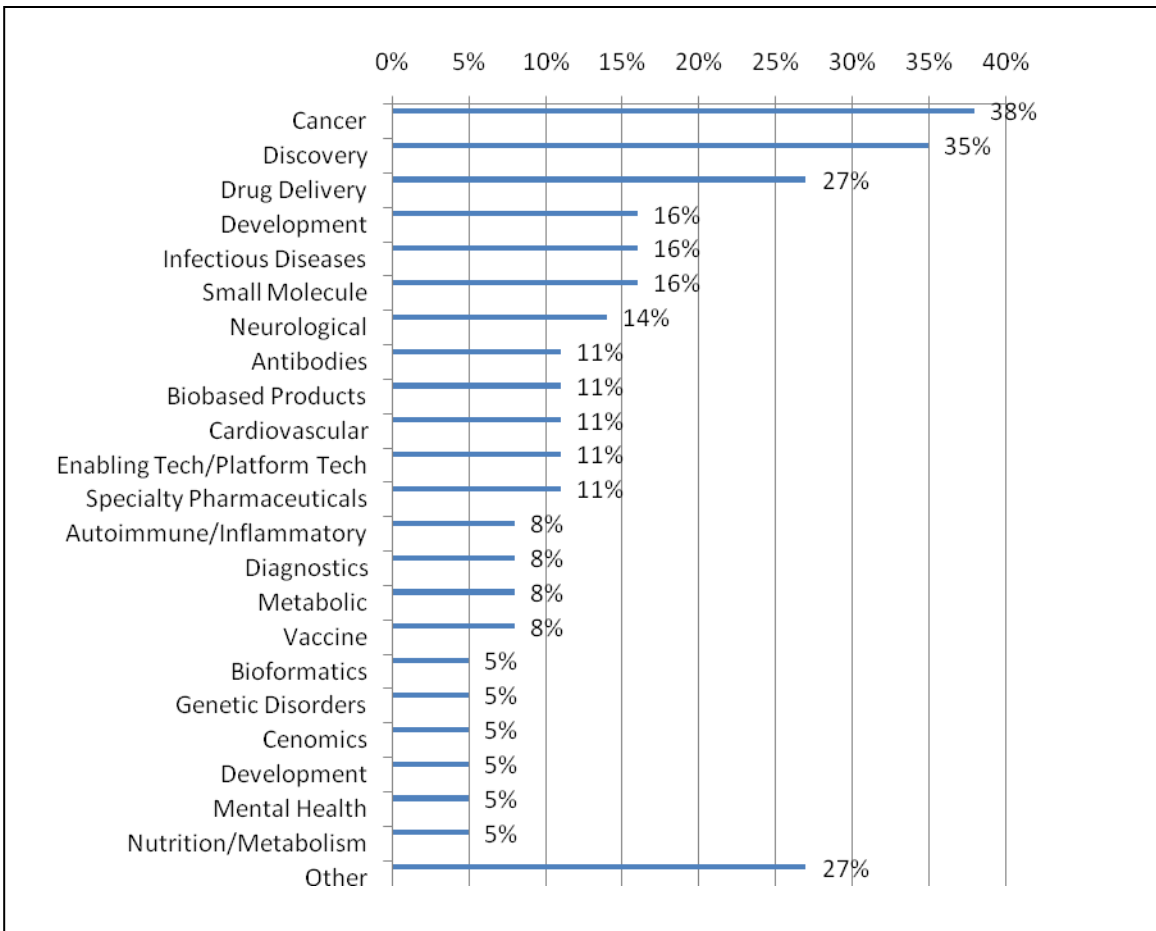
Number of years in business in New Jersey

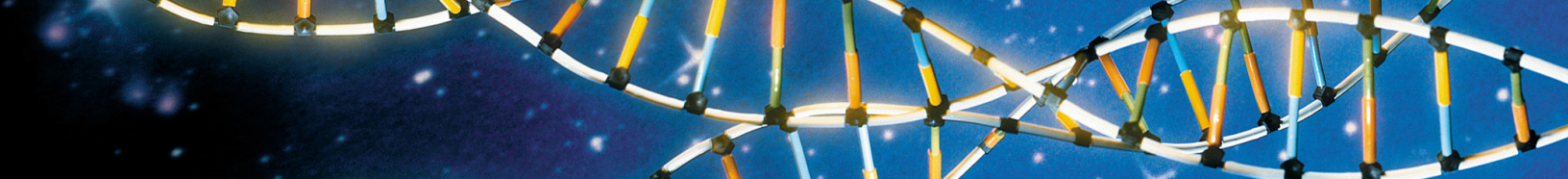




Consistent with prior year findings, New Jersey companies have a broad therapeutic focus. Of the responding companies, 38% were focused on Oncology, the single largest therapeutic focus in the State.

How would you classify your company in terms of the focus of your work?



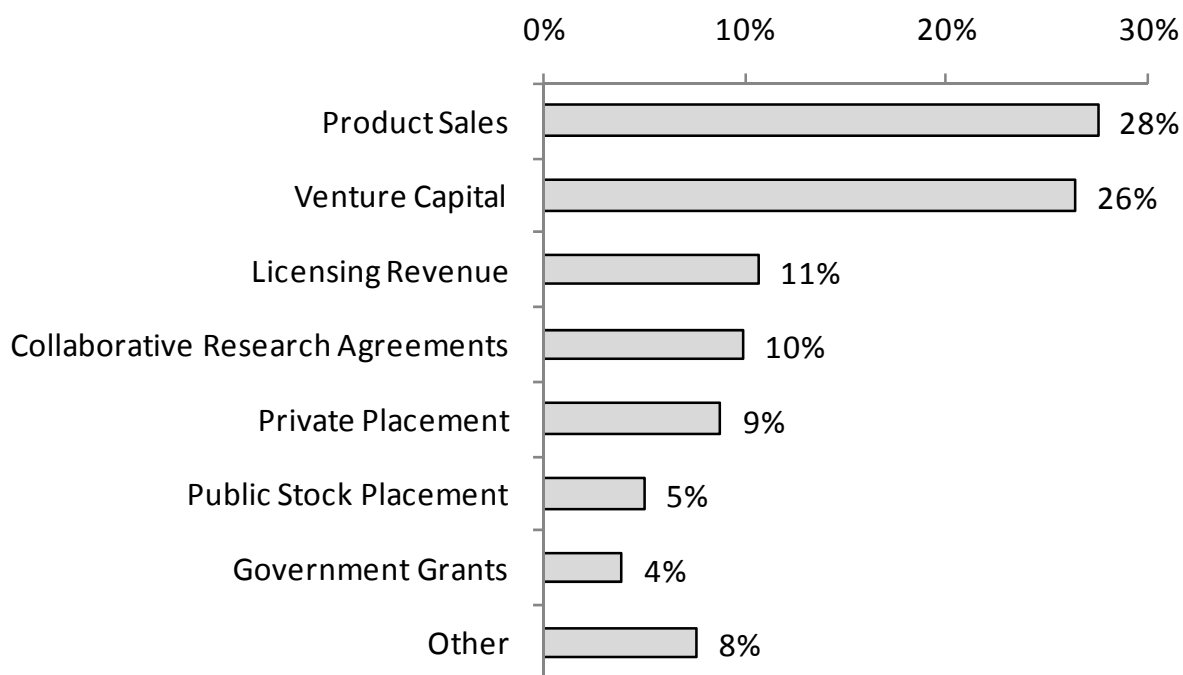


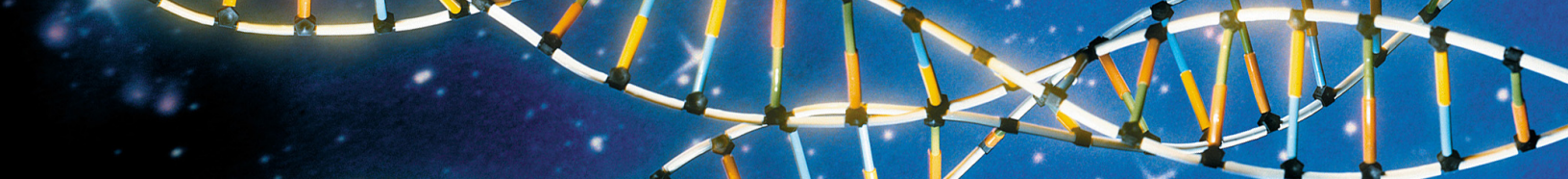
Financing

In the capital-constrained realities of the New Normal, the question is whether biotech companies will be able to access the capital required and whether we will see solutions emerge that will allow firms to go the distance and mature into large organizations with commercialized products, if indeed that continues to be the goal.

Traditionally, biotech companies have relied on three principal sources of funding: venture capital, public investors, and alliances with pharmaceutical companies. For some respondents though, product sales are a part of the mix. Venture capital continues to play a significant role as a funding source for New Jersey-based companies. The second largest funding source for New Jersey-based companies (excluding product sales) is license revenue and collaborative research agreements, typically with large pharmaceutical companies.

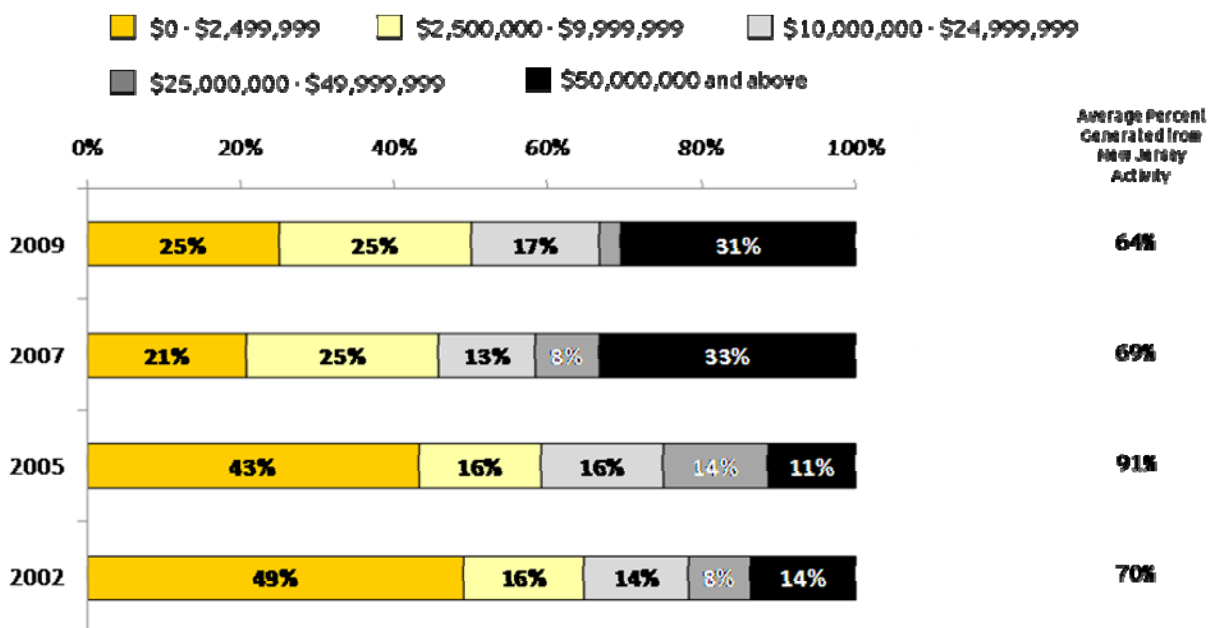
Please indicate the approximate percentage of your company's cash flow derived from each of the following sources over the past year.





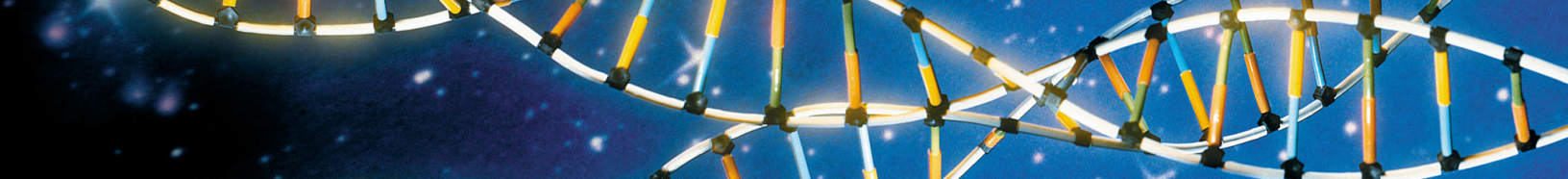
As we look at the survival index (the average amount of cash on hand), the trend of “just in time” financing is becoming more apparent. For both the 2007 and 2009 surveys, approximately one half of the respondents had less than \$10 million of cash on hand as of the end of the year, which based on our data, suggests one year or less of cash available for operations.

Please indicate your company’s combined cash and short-term investments for your most recent fiscal year-end.



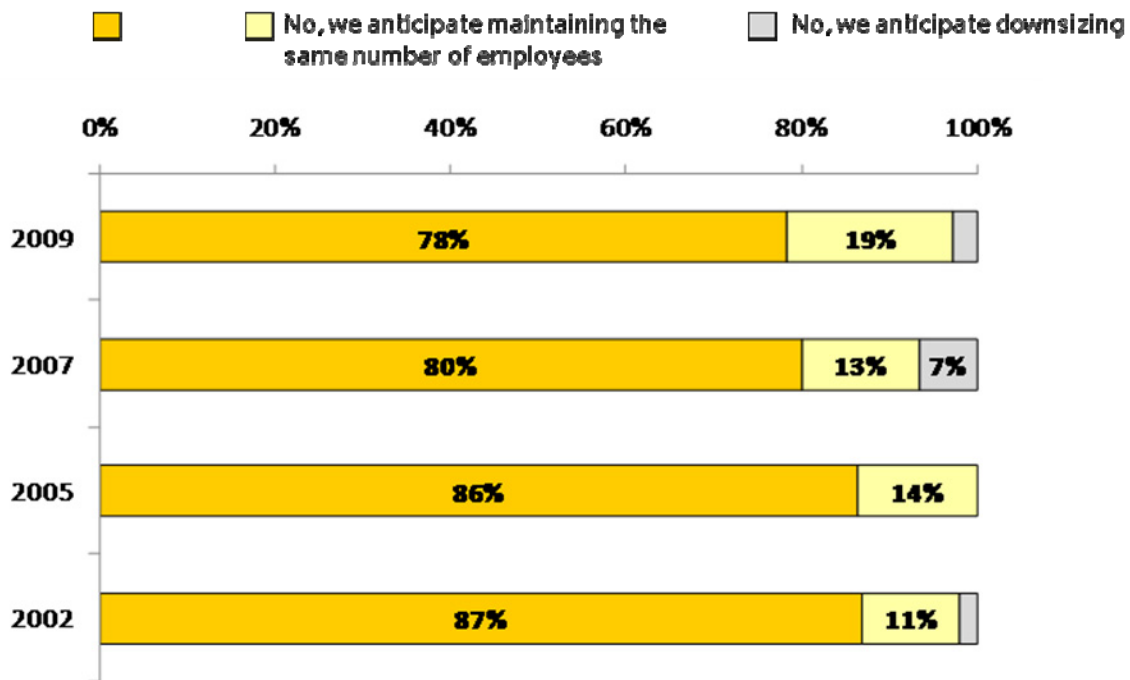
As stated earlier, companies looking to raise money from venture capital face a much higher bar as venture capitalists have become more selective. At a time when exits are scarce, investors have to retain more capital to sustain existing portfolio companies. Also, as the supply of capital from limited partners has diminished, some VCs have not been able to raise the level of funding that they could previously. With fewer dollars chasing every opportunity, company valuations are becoming more muted. To the extent that VCs adopt asset-based funding approaches, we can expect to see a smaller share of total funding allocated to starting new companies.

As noted earlier, the trend of the widening gap between the “haves and have nots” continued during 2009. Those companies with near term commercial opportunity were rewarded with the bulk of the venture capital raised during 2009, while those companies with longer term financing needs and more speculative therapeutic discovery platforms were punished with decreased valuations and dilutive capital raises. The total venture raise in the US was \$5.7 billion, of which, approximately half went to 45 companies. A few New Jersey-based companies were fortunate to raise significant capital during 2009. These companies include Sopherion Therapeutics (\$55 million), Lux Biosciences (\$50 million), PTC Therapeutics (\$50 million), Regado Biosciences (\$40 million), and VaxInnate (\$30 million), among others. The consistent theme among these companies is that they all have later stage drug targets.



Despite a difficult economy, 78% of all respondents plan to hire additional employees over the next 12 months. This was down slightly from previous years.

Do you anticipate hiring additional employees over the next 12 months?



Deals and Alliances

Given the realities of a restricted fundraising environment for biotechnology companies, coupled with the continued need for pharmaceutical companies to fill their pipeline gaps, it was reasonable to expect 2009 to be another strong year on the transaction front.

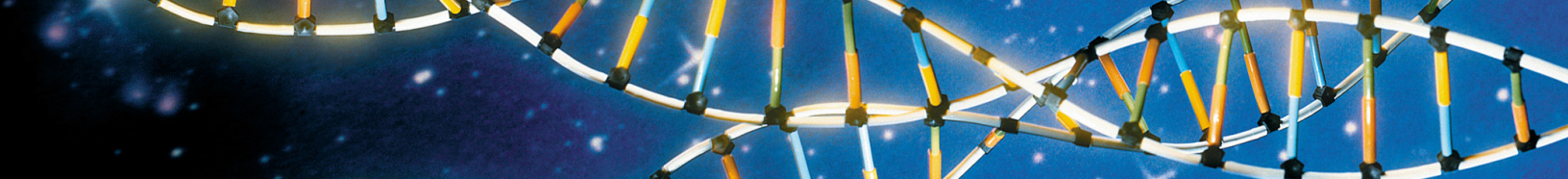
Mergers and acquisitions are healthy for the industry as a whole. First, they provide a necessary exit for the investors in a private company while also providing the incentive and the liquidity for investors to reinvest in the industry. Transactions and alliances are also a way for drug developers to diversify risk when developing drugs.

During 2009, one of New Jersey's most successful biotech companies, Medarex, was sold to Bristol-Myers Squibb for approximately \$2.4 billion in cash. This transaction was one of the largest transactions in the industry during 2009. Notably, data reported from the most recent American Society of Clinical Oncology meeting indicated that the Medarex melanoma drug will likely be approved in 2010.

Alliances and collaborative agreements are also essential to product development and funding as they help to accelerate drug development timelines while substantially reducing the costs of drug development. With biotech companies and their investors reeling to secure financing or find exits in the challenging funding environment, the bargaining power in deals and alliances swung towards buyers in 2008 and remained there in 2009. With this shift came an increase in various forms of "risk sharing" arrangements that gave biotech companies more risk than they would have assumed in years past.

The following table highlights the total number of alliances with our respondents as compared to the prior years.

			Respondents Who Have An Agreement							
			2009		2007		2005		2002	
			Number	Percent	Number	Percent	Number	Percent	Number	Percent
Academic Institutions	In-License Agreements	New Jersey	1	3%	0	0%	4	10%	5	12%
		Out of State	2	7%	2	8%	6	15%	10	24%
	Out-License Agreements	New Jersey	0	0%	0	0%	1	3%	2	5%
		Out of State	0	0%	1	4%	0	0%	1	2%
	Joint Ventures and Collaborative Research Agreements	New Jersey	1	3%	2	8%	8	20%	2	5%
		Out of State	4	14%	4	15%	8	20%	4	10%
Major Pharmaceutical Companies	In-License Agreements	New Jersey	1	3%	1	4%	1	3%	1	2%
		Out of State	4	14%	4	15%	2	5%	4	10%
	Out-License Agreements	New Jersey	2	7%	1	4%	1	3%	4	10%
		Out of State	6	21%	3	12%	1	3%	8	19%
	Joint Ventures and Collaborative Research Agreements	New Jersey	2	7%	0	0%	3	8%	5	12%
		Out of State	6	21%	3	12%	3	8%	8	19%
Other Organizations - including other biotech companies	In-License Agreements	New Jersey	1	3%	1	4%	1	3%	2	5%
		Out of State	8	28%	4	15%	9	23%	8	19%
	Out-License Agreements	New Jersey	1	3%	2	8%	0	0%	0	0%
		Out of State	4	14%	4	15%	1	3%	6	14%
	Joint Ventures and Collaborative Research Agreements	New Jersey	3	10%	3	12%	3	8%	3	7%
		Out of State	8	28%	6	23%	12	30%	16	38%

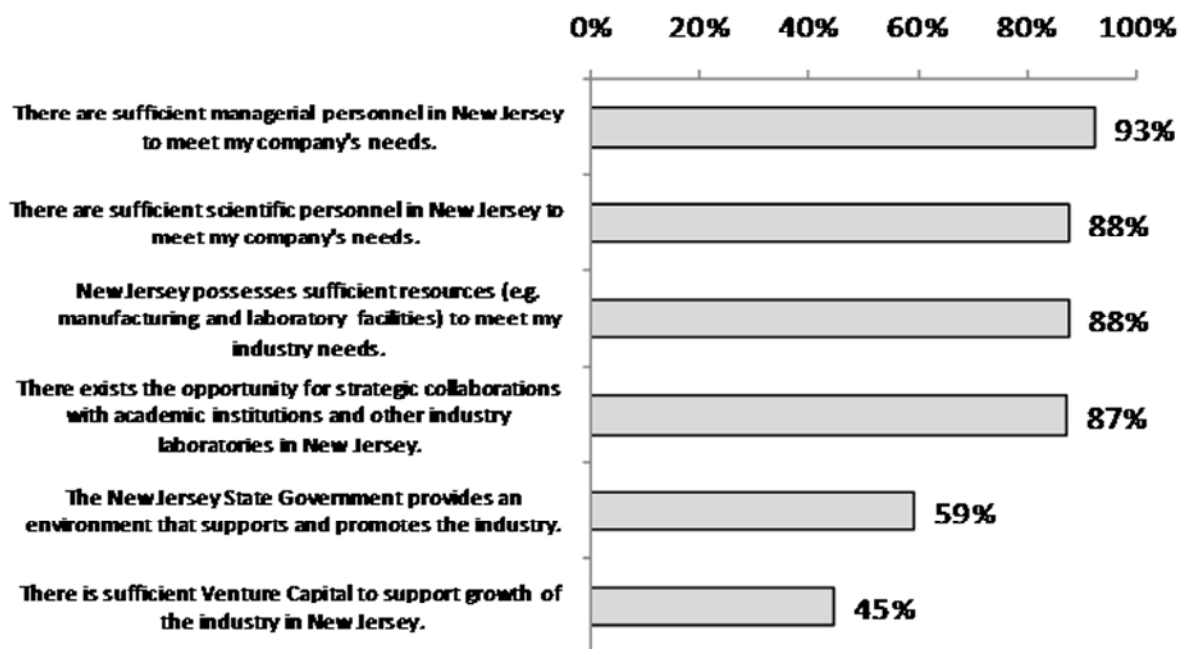


On the mergers and acquisitions front, risk sharing manifested itself in the number of transactions that included milestone payments (sometimes referred to as contingent value rights or CVRs). This was most common in takeouts of some private companies in New Jersey. Biotech buyers also used the CVR structure commonly during 2009, in part to bridge differences in perceived value. For example, The Medicines Company (a New Jersey-based company) used a CVR structure to acquire Targanta Therapeutics of Cambridge, MA.

Why Are Companies Choosing New Jersey?

Respondents highlighted many reasons for locating their companies in New Jersey. As noted in the chart below, 93% of the companies responding to the survey indicated that there are sufficient managerial personnel and 88% believe that there are sufficient scientific personnel to meet their company’s needs in the State. In addition to tremendous infrastructure in the State due to the presence of the Big Pharma companies, 87% of the responding biotech companies believe that there exists the opportunity for strategic collaborations with academic institutions and other industry laboratories in New Jersey. These high percentages are consistent with prior year surveys.

Percentages represent respondents that agreed with the following statements

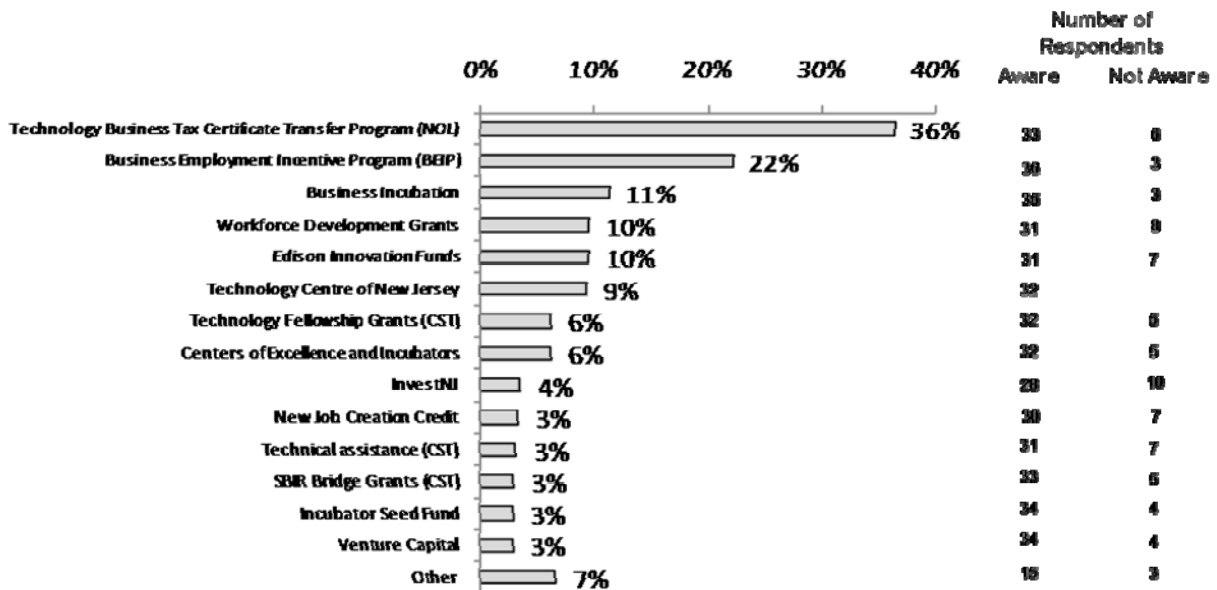





We also observed the frustration of many respondents who report that venture capital funding is difficult to obtain. As discussed, this is indicative of the growing trend between the “haves and the have nots” and is not a New Jersey specific problem; it is prevalent throughout the industry.

As funding options have dwindled in the current financing environment, companies need to be increasingly creative in finding new sources of capital. It is not surprising that state and local economic development initiatives are getting increased attention, since such incentives can help improve cash flow, pay for capital acquisitions and fuel job creation. But the labyrinth of state and local economic development agencies is unfamiliar territory for many biotech companies, which have traditionally focused their attention on conducting research and development and raising money from venture capital and the capital markets. The table below shows the number of State-run programs in which the current year respondents have participated. The Technology Business Tax Certificate Transfer Program continues to be the most widely accessed.

Has your company participated in any of the following programs or projects offered by the State of New Jersey?





Opportunities to Improve New Jersey's Offering

So how can the State of New Jersey do a better job of spurring the growth of biotech companies in New Jersey? The following question was intended to help answer that question: *“Please identify additional programs that New Jersey government could provide, including programs offered by other states that would be useful and would help New Jersey enhance its support of the industry and to be more competitive with other states.”* Some highlights from responses appear below:

- The overwhelmingly most common response was, at a minimum, to continue the funding for key programs such as the Technology Business Tax Certificate Transfer Program at current levels. “All of us in New Jersey understand the significant budget crisis that this State has and we are all braced for cuts, however, we believe that certain programs (like the Technology Business Tax Certificate Transfer Program) should not be reduced because of the significant macro economic development incentives inherent with the programs.”
- There are other jurisdictions (Province of Ontario and California) that have research and development credits that are paid in cash.
- New Jersey should consider instituting an Angel Investment Tax Credit and creating an Angel Fund.
- Grants to pay for interns.
- Lower tax rates to attract and maintain highly skilled employees.
- Massachusetts sponsors an incentive procurement initiative in conjunction with the private sector. It’s called “Creative Business Matchmaking” and is intended to match small business owners with other large companies looking for services. Perhaps New Jersey could sponsor something similar and focus on the major biopharma companies and smaller companies with complimentary needs/capabilities in technologies, drug leads/candidates, research and development interests, etc.
- Others noted that small business could potentially benefit greatly from more effective university/industry collaboration.
- Several respondents noted that the burden of applying for NJ incentive programs is difficult, and streamlining the process may spur increased economic development.



Conclusion

New Jersey's biotechnology industry has continued to grow despite the economy and even though the industry at large has been faced with one of the most significant downturns in its young history. The economic and scientific environment indicates that there are many more bright years ahead for biotechnology in New Jersey and nationwide, but not without some concern for how it will be funded.

With the significant presence of Big Pharma in New Jersey and the wealth of scientific talent available to continue research and development of life science technology, the future in New Jersey is bright, but government needs to provide a business friendly environment that will foster more early stage research and spur innovation that will help save lives in the future and continue economic development.



About BioNJ

With more than 275 member companies, BioNJ is singularly focused on the growth and prosperity of New Jersey's biotechnology cluster.

Founded in 1994 by New Jersey biotechnology industry CEOs, BioNJ serves as the voice of biotechnology companies located in New Jersey, seeks to advance their economic growth and development and works to encourage new and established companies from around the world to locate to New Jersey. BioNJ represents companies engaged in biopharmaceutical, biomedical, bioagricultural and bioremedial endeavors.

For more information, visit the BioNJ Web site at www.BioNJ.org.

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