

METRO BUSINESS ..

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**Drug testing lab
growing in Henrico** E6

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Research scientist Jinlin Shen uses a mass spectrometer at PPD Laboratories in Henrico County. PPD, which has expanded its lab several times, is poised to grow even more.

More than a business, PPD seeing growth at its drug testing complex

Scientist: Henrico lab has had 'a huge impact on public health'

BY JOHN REID BLACKWELL
Richmond Times-Dispatch

The Henrico County operations of Pharmaceutical Product Development LLC reside in a complex of office buildings that are as unassuming as the company's name.

Yet the laboratory on Dabney Road, which has been in operation since 1985 and by 1990 employed only about 40 people, has

since grown to become "one of the largest bioanalytical labs in the world," according to PPD, which has owned the local lab facilities since 1996.

About 1,000 people now work at the company's offices off Staples Mill Road and at its Dabney Road laboratory campus, which operates on the front lines of drug research aimed at fighting various scourges from cancer to heart conditions to infectious diseases.

The development of even one drug to the point where it succeeds in getting FDA approval and becomes widely available can



Nehls

take many years and hundreds of millions of dollars. "We are working in the development process, so we are working on drugs now that you will hear about 10 years from now," said Corey Nehls, vice president of PPD's bio-analytical lab operations.

"It's nice to see them go through the drug development process and reach the market," Nehls said. "What we are trying to achieve is to make people's lives better and to save lives."

About PPD

Founded: 1985

Headquarters: Wilmington, N.C.

Top executive: David Simmons, chairman and CEO

Employees: 22,000 worldwide

Operations: offices in Wilmington and Morrisville, N.C.; in Henrico County; and in other locations around the world.

PPD Laboratories has laboratories in Henrico; Middleton, Wis.; Highland Heights, Ky.; Athlone, Ireland; Shanghai; Brussels; and Singapore.

Website: ppci.com

Pierre Jolicoeur, executive director of vaccine sciences for the company's bio-analytical lab business, said it is more than a business.



Jolicoeur

“PPD has had a huge impact on public health, and we are really proud of that,” he said.

PPD, based in Wilmington, N.C., is a contract research organization, or CRO, meaning it is hired by pharmaceutical companies, universities and government agencies to provide support and research services for the complex process of testing pharmaceuticals.

The PPD laboratory in Henrico supports clinical trials by testing blood samples and other types of tissue samples to help determine how experimental drugs react with the human body and their effectiveness and safety.

PPD has other business units that help monitor clinical trials to make sure they follow scientific protocols, and laboratories that test pharmaceuticals as finished products to make sure they are manufactured correctly.

PPD has expanded its Dabney Road laboratories several times in the past. For instance, in 2017 the company expanded its vaccine sciences lab, adding 17,000 square feet of new lab space.

With the company's announcement last week that it would invest \$63.7 million in the 250,000-square-foot lab, the Dabney Road campus is poised to grow even more.

The company said it will add 30,000 square feet dedicated to chromatography. Work also is scheduled to begin soon on a 4,500-square-foot cell lab. The jobs created by the expansion are expected to range from entry-level lab technicians to doctorate scientists.

“We have different career paths — scientific and people leaders,” Nehls said. “We have Ph.D.s from all over the world — China, Japan, South America, the Middle East.”

The state is providing a package of incentives worth \$1.1 million if the company hits hiring targets. PPD said it plans to use those incentives to support the hiring and training of new laboratory staff.



Founded in 1985 as a one-man consulting firm by Fred Eshelman, a doctor of pharmacy, PPD has since made numerous acquisitions and has grown to employ more than 22,000 people with operations in 46 countries.

Fueling that growth is a long-term

trend of pharmaceutical companies outsourcing some of their clinical testing activities to CROs, in part to reduce costs but also to put more of their own resources into new product development.

“We work with some of the largest pharmaceutical companies in the world, and we have also worked with some of the smallest biotechs,” said Heather Myler, director of the immunochemistry department for the PPD bioanalytical lab.



Myler

In the development of vaccines, for instance, many pharmaceutical companies were once reluctant to outsource testing to contract research organizations, Jolicoeur said.

“Now, we are seeing a change where CROs like PPD have that expertise that allows us to partner with them [pharmaceutical companies] and really support vaccine development through the whole process,” Jolicoeur said.

“They would rather focus on developing those vaccines, and let a CRO, like PPD, do the clinical support,” he said.

The company's growth also has been propelled by advances in biotherapeutics such as gene and cell therapy, which involve the transfer of genetic material or cells to treat disease.

“A lot of our growth is in gene and cell therapy and more complex biologics including bioengineered vaccines,” Myler said.

“Gene and cell therapy is growing at a massive rate right now,” she said. “With it being relatively new within the last five years, it has been doubling year over year.”



PPD is privately owned, having been acquired by affiliates of the investment firms The Carlyle Group and Hellman & Friedman in 2011 for \$3.9 billion. The company does not disclose its sales or profits.



Fikry

Company executives also would not comment about specific clients or the brand names of the pharmaceutical products that PPD has helped to develop or is now testing.

The company has helped support the development of many of the top-selling pharmaceuticals on the market today, said Christopher Fikry, executive vice president of PPD Laboratories, the business unit that manages the operations in Henrico.

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PPD's Dabney Road laboratory campus operates on the front lines of drug research.

The history of PPD

1985: Pharmaceutical Product Development, or PPD, founded in Maryland by Fred Eshelman, a doctor of pharmacy, as a one-person consulting firm.

1986: Eshelman expanded the company's business scope to include development services and relocated its operations to Wilmington, N.C.

1995: PPD expanded into Europe, the Middle East and Africa with an acquisition of Gabbay Group, a United Kingdom-based contract research organization.

1996: PPD sold stock in an initial public offering; it also acquired Applied Bioscience International.

2002: PPD acquired ProPharma, an Asian-based CRO, significantly expanding its footprint in the Asia-Pacific region.

2005: The company's revenue exceeded \$1 billion.

2007-2009: PPD reached 10,000 employees globally and made acquisitions in Russia and China.

2011: PPD was acquired for \$3.9 billion by affiliates of investment firms The Carlyle Group and Hellman & Friedman.

2017: The Carlyle Group and Hellman & Friedman recapitalized PPD and added two new investors, Abu Dhabi Investment Authority and an affiliate of GIC, Singapore's sovereign wealth fund.



The company's growth has been propelled by advances in biotherapeutics.

Labs

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Its research work covers a range of pharmaceuticals from conventional, chemically synthesized drugs typically taken as pills, to various types of vaccines, as well as biologics, which are drugs made from substances found in living things.

One example of the type of work the company does at the Dabney Road campus is its liquid chromatography-mass spectrometry capabilities. In one expansive area of the lab, rows of LC mass spectrometer machines are used to detect the presence of medications in blood samples at less than one-trillionth of a gram.

Nehls compared it with



PPD has helped support the development of many of today's top-selling pharmaceuticals.

detecting a tiny fraction of a grain of salt floating inside a fuel-tanker truck.

"You wouldn't think you could measure something like that, but we are doing it with our technology," he said.

That level of sensitivity is important because a major push in pharmaceu-

tical research is to develop targeted therapies that can attack a disease at lower levels of dosages, with fewer side effects.

"They are trying to minimize exposure, but still do the job," Nehls said.

Each of the liquid chromatography-mass spectrometry systems costs

about \$400,000, and there are more than 50 in the company's lab.

PPD's investment in that type of technology is one reason the company is seeing growth, Fikry noted.

"It is more efficient for the pharmaceutical companies," he said. "Rather than everyone having a room like this, we can have a couple hundred of these machines running,

and the staff to run them day and night, and that spreads the cost out across the pharma industry as opposed to everybody having their own."

Part of the company's new investment at the Dabney Road campus is in new space for LC mass spectrometry. That will help the labs do more work in the analysis of complex molecules such as antibody-drug conjugates, which are biopharmaceuticals designed to target and kill cancer cells without harming healthy cells.

"What we are really good at is the stuff that is challenging to do — the highly sensitive stuff, and the very, very small stuff that is in the body," Nehls said. "That is why we are the best in the world at what we do, at this site, for a lot of different drugs."

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History of the Henrico lab

1985: The laboratory was established as Cal Lab East, an East Coast division of California Analytical Laboratory.

1986: Cal Lab East merged with several other laboratories to form Enseco Inc. and then changed its name to Pharmaceutical Sciences Laboratory.

1990: Pharmaco Dynamics Research purchased PSL and changed the name to Pharmaco Analytical Laboratory.

1992: Pharmaco Dynamics Research merged with Applied Bioscience International and changed the name to Pharmaco.

1996: Pharmaceutical Product Development LLC, or PPD, acquired Pharmaco, including the Henrico lab, and the lab business was named PPD Pharmaco Inc.

1999: PPD Pharmaco's name was changed to PPD Development and now operates as PPD Laboratories.

2019: Moved its local administrative staff during the summer into a 36,000-square-foot office at One Holland Place on Staples Mill Road across from the Libbie Mill-Midtown development. PPD announced a \$63.7 million expansion of its Henrico laboratory and the addition of 200 jobs.



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MARKET INSIGHT

KEY RATES

	Rate	1 day ago	1 wk ago
Prime Lending	5.00	5.25	5.25
Discount Rate	2.50	2.75	2.75
Fed Funds	1.75-2.00	2.00-2.25	2.00-2.25

TREASURIES

	Rate	1 day ago	1 wk ago
1 Month T-bill	1.92	1.93	2.00
3 Month T-bill	1.90	1.93	1.96
6 Month T-bill	1.90	1.91	1.91
2 Year T-note	1.69	1.72	1.79
10 Year T-note	1.75	1.77	1.90
30 Year T-bond	2.20	2.21	2.37

CONSUMER RATES

Virginia averages	Rate	1 mo ago	6 mos ago
\$10,000-min money market account	0.40	0.36	0.37
6-month CD	0.98	0.92	0.87
2-year CD	1.39	1.48	1.62
60-mo. new car loan	4.07	4.03	4.15
\$30K home equity	6.08	5.93	6.18

Mortgages	Rate	1 mo ago	6 mos ago
30-year fixed	3.71	3.73	4.15
15-year fixed	3.17	3.10	3.47
1-year ARM	3.96	3.81	3.93

Source: Bankrate.com

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