

**The Institute for Hepatitis and Virus Research
and Pennsylvania Biotechnology Center:
A Pennsylvania success story where economic growth is done the *RITE* way:
*Research, Innovation, Training and Entrepreneurship!***

Executive Summary by Timothy Block
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Introduction

The Pennsylvania Biotechnology Center (PABC) is a non-profit organization, created by the Hepatitis B Foundation in 2006, with a grant received with Delaware Valley College (DVC). It is co-owned by HBF and DVC, and managed by the Hepatitis B Foundation (HBF)'s research organization, the Institute for Hepatitis and Virus Research (also called "Pennsylvania Commonwealth Institute").

PABC is currently home to ~266 people working in 31 start-up drug discovery and biotechnology companies and six research oriented non-profit organizations, generating more than \$20,000,000 per year. This year, with PABC's Synergy Pharmaceuticals raising of more than \$52,000,000, the aggregate funds generated by organizations at PABC will exceed \$70,000,000!!! All of this has been accomplished on the grounds of what was once a warehouse/factory that had lost 146 jobs and was about to be shuttered.

History

The PABC began with a \$7,900,000 Redevelopment Authority Grant to the Hepatitis B Foundation (HBF) and Delaware Valley College (DVC) to build a Biotechnology Center envisioned by the HBF. The idea was to accommodate the HBF's research institute and new company "spin-offs" and "spin-ins", as well as enable growth of the College's biotechnology program. \$400,000 of the funds were used to renovate a college building. Initially, the PABC was to be on the campus of the college. However, in an effort to promote adaptive re-uses of "blight sights", the former DA Lewis & Company print distribution center, which had closed and lost more than 140 jobs, was purchased as the new site.

The 10 acres of beautiful land on the DVC campus that was to be used for the PABC remains, today, a beautiful field of "open space". The balance of the RDA funds was used to purchase and renovate the shuttered DA Lewis building into the world-class, modern, technology center that it is today.

An Innovative Model

Our approach is built around key "thematic" tenants, such as the HBF, its research institute (IHVR), and its non-profit research partner, the Drexel Institute for Biotechnology and Virology Research (DIBVR) of Drexel University College of Medicine.

These organizations create a momentum and innovative environment, as well as generate new technologies that create faculty spin-off companies. These organizations also attract entrepreneurs and other new companies from all over in the world who come to the Center to benefit from the stimulating intellectual and discovery environment, as well as shared intellectual and physical resources.

Training and Re-training

Additionally, we have had active outreach workforce training and re-training initiatives. The leading examples of these formal and informal initiatives are:

“Up and Out” and “Instant CEO” programs to re-start displaced pharmaceutical and biotechnology professionals: Most notably, Biotech and Large Pharma scientists and executives who have been displaced or downsized, come to our Center and are matched with resources that allow them to either join existing programs or spin-out new entrepreneurial start-ups. These programs have been called “Up and Out” and “Instant CEO”.

More than 50 displaced workers have come to the Center in the past few years and either launched companies or re-started their careers. In the process, this has created 30 new companies that have employed more than 100 other people.

Junior Research Fellows, college and high school training: High school students, college students and recent college graduates are each given opportunities to launch their new ideas and careers at the Center through the various training paths we offer. Our students have won national science competitions (Intel, Westinghouse, Davidson) and have gone on to Oxford, Harvard, Drexel, Penn State, Temple, Pitt and many other prestigious universities). More than 100 young trainees have come through these programs since their introduction. For the Junior Research Fellows, 95% have gone on to the career path of their choice. For the College students, *all* have completed their education (to our knowledge).

Discoveries that Matter

IHVR faculty, together with their on-site Drexel colleagues, have been responsible for outstanding discoveries such as:

1. New markers of liver disease and liver cancer such as “Golp2/GP73”, optioned to Abbott and currently sold in China; a urine-based DNA marker which generated a new company
2. Hepatitis C drugs
 - a. Compounds discovered here at the Center were the basis of two start-up companies. They are currently in human trials, and an IHVR scientist’s drug is leading to one of the “cures”!!!
 - b. Hepatitis B drugs have been the basis of two start-up companies
3. Medications for gastrointestinal disorders are currently in phase III human clinical trials!!!

Jobs and Economic Impact

More than 40 new companies have been formed since we opened in 2006, hiring more than 200 people and having a collective valuation of more than \$500 million!!! At least 25 of these companies were the result of helping downsized Large Pharma professionals start new businesses. Two of these companies are now publically traded, and one launched a successful \$52 million round of funding for its new clinical trials, this year alone.

Last year, the IHVR received the Merck Natural Products Collection, making us home to one of the world's great drug discovery treasures. It contains 60% of the all the plant genera as well as microorganisms and fungi from all around the world. This is now being made available to the global scientific community for further research against all disease targets.

All of this, while the Hepatitis B Foundation operates the nation's leading portal of entry for information and outreach about chronic hepatitis B, serving more than 1 million visits to the web site per year, from the Center!

Representatives of each of these success stories will be asked to speak at the briefing.