

Timothy M. Block

Curing Disease from the Ground Up

How to Operate a
Biotechnology Business Incubator



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Dedicated to my wife, Joan and our two children, Peter and Suzanne, and their spouses Christina and Patrick. In memory of my parents, Carl and Joyce.

Preface

If you had little money, but a compelling personal drive to cure a disease that was of little interest to big pharma, there are few options available. What can you do? (i) Find the cure yourself? (ii) Move public policy such that the federal government would fund cure research? (iii) Start your own research foundation and technology center? This book asks that question and provides an example, as unlikely as it sounds, where all three of those options were tried. In providing these explanations, the book describes the regional and national biotechnology business climate that existed during the time the technology center and research programs described in this book occurred. Therefore, one important part of this book is a brief biotechnology rationale for a life sciences incubator as well as, literally, a “how to” manual about starting and operating a biotechnology business incubator.

In short, the book has two goals. It is a personal story about how learning someone close to me had a chronic disease caused my friends and me to start a nonprofit foundation (Hepatitis B Foundation) *and* a research institute (Baruch S. Blumberg Institute) dedicated to finding a cure and helping people affected by hepatitis B worldwide. However, the way that we decided to get these nonprofits funded is its own story. We planned to build a commercially oriented life sciences business incubator called the Pennsylvania Biotechnology Center (PABC). Hence, this is a biotechnology story. Our incubator’s success has drawn attention from business professionals, elected officials, and members of the general public. They have asked about the reasons for its success and its operational details. Therefore, the book is divided into two parts, which should be of interest to the overlapping readerships.

The first part tells the story about why and how I started the PABC. This ties all three organizations together, showing the logic for bundling them, since at first glance they probably seem quite different. However, there is a rationale and quite a bit of complementarity. It was a way to fund the small nonprofit Hepatitis B Foundation (HBF) that we started in 1991 and its nonprofit research organization, the Baruch S. Blumberg Institute (Blumberg Institute), created in 2003. They were noble enterprises but did not attract significant funding. Our solution was to establish the PABC in 2006.

The path to the creation and operation of these organizations is also a journey through personal upsets, disappointments, the engagement of elected government representatives, big pharma VIPs, and, importantly, scientist celebrities, including several Nobel laureates. Many of the individuals involved are well-recognized figures, but many much less so, and they all get call outs because identifying them provides credibility for the story. Our success was also *favorably* affected by both the biotechnology revolution credited with the discovery of life sustaining and saving medicines and, surprisingly, the horrible event of 9/11 in which the entire country was traumatized by terrorist attacks.

Taken together, this stretch of time from the 1980s through 2000s in the USA could be considered the “Golden (if not Gilded) Age” of the biotechnology and molecular genetics revolution. That is, the foundational discovery of the structure and nature of DNA replication was reported by Drs. Watson and Crick in 1953. Molecular cloning was introduced in the 1970s. And by the 1980s and 1990s, the practical use of molecular biology for biotechnology products became apparent and prevalent, with many academic departments of biology and biochemistry rebranding themselves as departments of Molecular Biology. That was a wave we were riding, even though we may not have known it.

This all makes the first part of the book a somewhat personal story, beginning with details about the reasons for starting the PABC. Briefly, the basic idea was to create an environment of research companies that would focus on hepatitis B and liver diseases. My wife, who is Asian American, had been diagnosed with chronic hepatitis B, which can cause liver cancer and is prevalent in Asia. As I was a beginning member of a university faculty, we had little money ourselves to do anything about her illness. The book explains why this was our solution to that challenge. The first part of the book is the “*why we did it.*”

A friend in paraphrasing a famous author said, every good story needs love, adversity, a villain, and a hero, so this book does have a bit of each. The personal story about why we started the PABC, the difficulties we faced, and we can even add a few heroes.

However, the PABC has a story and constituency of its own. It is now one of the most successful life sciences incubators in the USA and has had an impact in the biotechnology business sector, which is quite distinct from the HBF and distant from our original purpose. Chapter 2 discusses how the PABC got there. Startup companies from the PABC have led to pioneering therapies for chronic hepatitis B in clinical trials (our original intention), but also medicines and medical devices in use for other disorders, such as gastrointestinal disease, cancer, and Alzheimer’s disease. This is in addition to creating thousands of jobs and several billion dollars of investor value.

Another surprise: we are located in Doylestown, Pennsylvania, which is distant from the areas of the country usually associated with high tech corridors, but the PABC is still consistently ranked in the top ten US incubators by rating agencies. Therefore, there has been considerable interest in how that came to be and in the actual operational mechanics of our place. Chapter 2 of the book addresses the

biotechnology and entrepreneurial climate that made it possible for the PABC to thrive and how we leveraged this innovation revolution. It's the "*how we did it.*"

Chapter 3 of the book is a detailed description of the PABC and its operations. This is intended as an example of a business incubator and literally provides a Biotechnology Center Operations Manual. When we created the PABC, and even today, there were few such sources of information despite the vast resources of the internet. There are now more than 1,200 business incubators in the USA, perhaps 6000 worldwide, yet there are few, if any, books about them or guidance about how they can function. The hope is that this book can fill a gap. It's a "*how to do it.*"

Taken together, the book contains facts and details about how to run a Biotechnology Incubator, as well as personal stories about why to start and run a biotechnology center. Gathering these facts and remembering these stories involved speaking with and help from several people. Much of the book depends upon my recollection of events and must, therefore, be considered with that qualification. Perhaps that is why I appear to be the "hero" of many of these stories. That said, where statistics about biotechnology incubators are provided, I have tried to be more rigorous, providing citations to support whatever facts I am asserting. However, the scholarly literature and validated research about biotechnology incubators are rather sparse and often depend upon internet-based sources. Fortunately, credible information can be found at sites such as the International Business Innovation Association (InBIA) and the Ewing Marion Kauffman Foundation.

The internet and the scholarly literature were helpful in writing this book, but so were many individuals. I am grateful to my wife, Joan, for her helpful reading of the manuscript. I am not sure if this book will make it to her book club, but she did read the manuscript critically. She has been my partner in our family, career, and in establishing each of the three organizations described in this book. Lou Kassa, my successor as CEO of the three nonprofits, has helped craft and implement the unique business model that the PABC takes. He provided drafts of the PABC business outline described. Konrad Kroszner, PABC Director of Systems and Engineering, and Lorretta Molle, PABC Director of Business Administration, provided helpful information about the Center's infrastructure and policies, which were used in the book. Chari Cohen, DrPH, MPH, and current President of HBF provided inspiration and encouragement for this book as well. I must recognize the very helpful comments of Matteo Prayer, from Manuscripts Press, who was insightful and greatly improved the text readability. Finally, I want to recognize Judith Marchand, Blumberg's Director of Corporate Governance and Legal Affairs, with whom I have worked closely over the past decade, and express gratitude for her patience and careful editing.

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