PITTMED

PUBLISHER
Arthur S. Levine, MD

EDITOR IN CHIEF
Erica Lloyd

ART DIRECTOR
Elena Gialamas Cerri

SENIOR EDITOR
Joe Miksch

ASSOCIATE EDITOR
Elaine Vitone

CONTRIBUTING EDITOR
Chuck Staresinic

PRODUCTION MANAGER
Chuck Dinsmore

STAFF CONTRIBUTORS
Megan Kopke, Maureen Passmore

OBITUARIES CONTRIBUTOR
Macy Levine, MD '43

CIRCULATION MANAGER
Crystal Kubic

EDITORIAL ADVISORS
Michelle Broido, PhD
Nancy Davidson, MD
Paula Davis, MA
Susan Dunmire, MD '85, Res '88
Joan Harvey, MD
Steven Kanter, MD
David Kupfer, MD
Joan Lakoski, PhD
Margaret Larkins-Pettigrew, MD '94, Res '98
Joshua Levenson, Class of '11
David Lewis, MD
Margaret C. McDonald, PhD, MFA
G. Sarah Napoe, Class '12
Laura Niedernhofer, MD, PhD
David Perlmutter, MD
Steven Shapiro, MD
Peter Strick, PhD
Bennett Van Houten, PhD
Simon Watkins, PhD
Marshall Webster, MD, Res '70
Julius Youngner, ScD

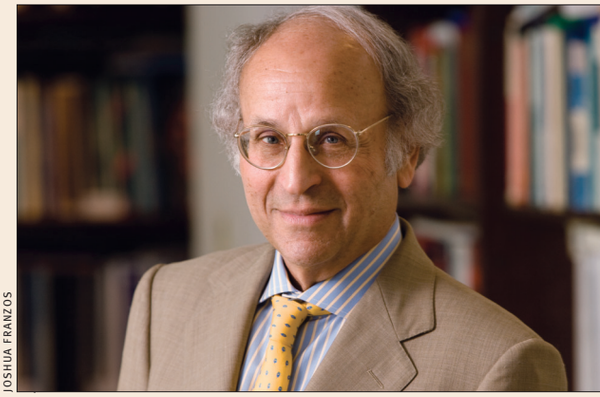
OFFICE OF PUBLIC AFFAIRS
Robert Hill
John D. Harvith, JD

University of Pittsburgh

Pitt Med is published by the Office of the Dean and Senior Vice Chancellor for the Health Sciences in cooperation with the alumni and public affairs offices. It is produced quarterly for alumni, students, staff, faculty, and friends of the School of Medicine. PR 6015

The University of Pittsburgh is an affirmative action, equal opportunity institution. © 2011, University of Pittsburgh

Men are not prisoners of fate, but only prisoners of their own minds.
—Franklin D. Roosevelt


JOSHUA FRANZOS

In his travels to Suriname as a medical student in the 1950s, Baruch Blumberg asked himself the question, *Why do some people get sick but not others?* He eventually became chief of geographic medicine and genetics for the National Institutes of Health, allowing him to explore medicine across peoples.

Blumberg hypothesized that the blood of people who'd received numerous transfusions, like hemophiliacs, would generate antibodies they hadn't inherited. He thought it would be interesting to see whether hemophiliac blood would generate an antibody response to the antigens of people from other geographies. His travels, motivated in part by his interest in the diseases seen in diverse cultures, took him around the globe, often to remote areas. In Australia, he found an intriguing anomaly. An antigen in the blood of an Aboriginal person reacted with antibodies from a New York hemophiliac. Blumberg identified the Aboriginal antigen, which he called the Australian antigen. After several years of research by Blumberg and others, we came to understand that the antigen, prevalent throughout Asia and Africa, is a marker of hepatitis B infection. Blumberg's fundamental investigations into the cultural concomitants of health ultimately led to safer blood banks (which now test for the antigen in potential donors) and to the development of a vaccine for hepatitis B, protecting millions from the disease (and also liver cancer, which may be linked to chronic hepatitis B infection). This little story illustrates compellingly how "chance favors the prepared mind" and how basic discoveries often lead unexpectedly to expansive applications in medicine and commerce.

This is how medicine evolves. Before a significant new therapeutic exists, there must be an advance in fundamental understanding, and many medicines have the most unlikely origins. Consider biophysicist Barnett Rosenberg's investigations into how a strong electric current might influence *E. coli* cell division. When he placed a platinum electrode into his bacterial broth because his usual copper electrode was out of stock, the cells stopped dividing. By adding platinum to the mix, Rosenberg had accidently synthesized Peyrone's salt, also known as cisplatin. From this chance detour would come the astonishingly successful use of cisplatin to treat testicular cancer, curing Lance Armstrong of his widely metastatic disease. This blockbuster drug originated with someone who'd never sought to develop a chemotherapy.

I hope we don't have fewer such stories to share in the future, but support for basic science is threatened, thereby threatening its almost certain—albeit often late—implications for health and commerce. In real dollars, NIH funding has declined to where it was in 2002. As our legislators take on a daunting debt crisis, we are likely to face more such cuts. Yet this work often translates to invaluable treatments, and these, in turn, spur innovations that strengthen our economy and often rein in medical costs, thereby relieving our debt.

Vannevar Bush, FDR's science advisor, once opined that the relation of applied to basic science is like that of a monk's distillery supporting his pure religion. Enlightened corporations reinvest the commercial fruits of a basic discovery or invention back into basic science, and we must encourage them to do so as federal funds decline.

Arthur S. Levine, MD
Senior Vice Chancellor for the Health Sciences
Dean, School of Medicine