

## Philip K. Russell Named to New HHS Office of Public Health Preparedness

*HHS Sec. Thompson Taps Philip Russell and D.A. Henderson to Coordinate Public Health Emergency Response*

Department of Health and Human Services Secretary Tommy G. Thompson in November appointed retired Maj. Gen. Philip K. Russell, MD, founding president of the Sabin Vaccine Institute, as special advisor on vaccine development and production. Russell is an expert on virology who was commander of the U.S. Army Medical Research and Development Command.

Russell is serving in the newly created Office of Public Health Preparedness, which is directed by renowned global immunization program administrator Donald A. Henderson, MD, and is coordinating a national response to public health emergencies. At the announcement, Secretary Thompson said, "Since arriving here nine months ago, we have moved aggressively to strengthen the department's bioterrorism preparedness and response. This is part

of our ongoing effort to bring in America's most talented experts in bioterrorism as well as strengthen our responsiveness. We're working hard every day to build our capabilities even stronger."

The deadly anthrax mailings last fall exposed the country's vulnerability to biological terrorism and spurred demand for technologies and medicines that could be used to combat such attacks. Russell's appointment as special advisor on vaccine production and development represents the effort by federal health officials to strengthen and align resources and expertise to defend the country against bioterrorism threats. Included in the government's planning is an initiative to produce adequate smallpox vaccine to immunize the nation, as a preparedness defense against such

a bioterrorist attack. The government also is seeking a full range of tools to defend against bioterrorism, including sensors to detect biological and chemical weapons, vaccines to provide immunity against disease agents, tests to diagnose victims, and medicines to treat the infected.

The Bush administration's fiscal 2003 budget proposal sets aside \$5.9 billion to combat bioterrorism, a 319 percent increase from the \$1.4 billion in the 2002 budget. It includes \$2.4 billion for research and development of vaccines, diagnostic tests, therapies and other technologies; \$1.2 billion to increase the capacity of state and local health agencies to respond to bioterrorist attacks; and \$851 million to upgrade the federal government's ability to respond to such attacks.

*Continued on page 15*



Pictured from left at the Department of Health and Human Services are Office of Public Health Preparedness appointees Philip Russell, MD, and D.A. Henderson, MD.  
*Photo by Deborah Demasse*

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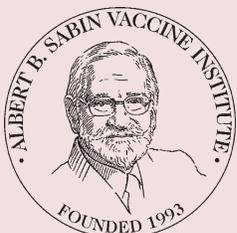
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**VIEW  
POINT**

## Did Contagion Help Fuel the Conflict in Afghanistan?

*The Relationship Between Armed Conflict and Serious Infectious Diseases*

With the defeat of the Taliban regime in Afghanistan, Hamid Karzai, leader of the interim Afghan government, faces the daunting task of not only stabilizing a country still under siege and with a damaged infrastructure, but also of remedying an appalling health crisis. Afghanistan has the dubious distinction of being the only non-African nation to be on the list of the 15 countries with the highest child death rate from infection in the world. Its childhood and infant mortality rates are comparable to or even exceed the disease-ridden, poverty-stricken and war-torn African disaster nations of Angola, Sierra Leone, Rwanda, and Somalia.

The vast majority of deaths in these devastated countries can be ascribed to infectious pathogens that strike children with underlying malnutrition. In Afghanistan, as in these stricken African nations, children do not receive their routine vaccinations. As a result, infections such as measles, neonatal tetanus, pertussis and polio are still major childhood killers in these countries. Outbreaks caused by measles, the single leading killer of children worldwide, now occur regularly in Afghanistan. Afghanistan is one of only eight countries in the world where polio is still found.

The situation facing Afghanistan represents an unfortunate and poignant model of the link between epidemic infectious diseases and international security. A cross-disciplinary analysis suggests that infections may predispose a nation to become engaged in an armed conflict. Since 1990, we found that nations such as Afghanistan and Angola, which suffer from the world's highest rates of lethal childhood infectious diseases such as measles, tetanus, and pertussis, face almost 20 times the risk of becoming engaged in either civil war or international conflict than nations with a low prevalence of these infections (*EMBO Reports* [European Molecular Biology Organization], October 2001).

There are plausible explanations as to why infectious disease might promote conflict. In their January 2000 report, *Contagion and Conflict, Health as a Global Security Challenge*, the Chemical and Biological Arms Control Institute together with the CSIS International Security Program identified several key factors leading to national instability as a consequence of infectious diseases. This report, together with a recent Central Intelligence Agency Report, *The Global Infectious Disease Threat and Its Implications for the United States*, makes a strong case for placing tropical and other infectious diseases on the map as significant global security threats.

This then leads to an obvious question of whether vaccinating against these infections might promote stability and reduce the likelihood for conflict. The observation that many of the world's Islamic nations also suffer from the highest mortality rates from childhood infections, suggests that vaccines possibly might have an indirect role in mediating conflict resolution. Vaccine diplomacy could be come an important theme in our nation's nascent efforts at promoting foreign relations with Pakistan and Afghanistan. Possibly one day, vaccines may have a role in helping to restore relations with Iran and Iraq, and even future "axis of evil" nation states.

Recognition that Afghanistan is a disease-stricken region that more closely resembles war-torn Angola than it does other Asian nations might serve as a useful foreign policy paradigm.

—by Peter J. Hotez, MD, PhD, FAAP

Peter J. Hotez, MD, PhD, is professor and chair of microbiology and tropical medicine at The George Washington University, and senior fellow of the Sabin Vaccine Institute. He also is visiting professor, Institute of Parasitic Diseases, of the Chinese Academy of Preventive Medicine.

## The Institute's Mission Takes on Greater Significance, Especially Since September 11

*A Message from the Chairman*

This country is still recovering from the terrorism and bioterrorism inflicted upon us this past fall. We have seen, in response, remarkable humanitarianism and collective mobilization to secure our country from further acts of terror and bioterrorism.

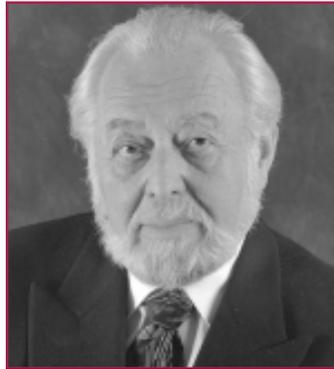
As the world has been changing around us, a series of vivid life-changing memories from my own past has been cast

in a new light, evoking a sense of the importance of our history as a nation and the way that each individual has a role to play in our country's recovery.

The first event that came to mind was the bombing of Pearl Harbor. I heard that shocking news on my way to chemistry lab when I was a junior at Cornell. The attack on Pearl Harbor astounded me because it involved a sneak attack—not unlike the tactic used in September. President Roosevelt called December 7 *a date which will live in infamy* and, until September 11, I don't think we ever imagined being struck again by an attack on such a scale.

The next defining event in my life was an extraordinary trip I took during the final years of my service in the U.S. Army aboard the *SS Taos Victory* in 1945-46. I had the unbelievable experience of delivering 5,000 French Foreign Legion Troops to Saigon, Vietnam. This period would later reveal itself to be a precursor to the Vietnam War two decades later, but the mission I was on remained unknown for at least the next two years.

Three months later, in March of 1946, I found myself walking the streets of Hiroshima, just six months after the United States dropped the atomic bomb. The trip was part of my tour of the Far East to save democracy. It was the most unbelievable and awful experience of my life—seeing the destruction in Hiroshima. No one could be left untouched by the experience of walking those streets—seeing the children, seeing the destruction, seeing the twisted buildings.



H.R. Shepherd, Chairman

This brings me back to the sobering experience of September 11. While awaiting results of a pre-operative spinal surgery exam, my physician broke the news that two planes had just crashed into the World Trade Center towers. He then rushed to report to Einstein Medical Center in New York City, to do what he could for the victims.

So, when I thought I had seen the worst, it was a shock to be confronted by the senseless loss of life and security on our soil. Then, just as the nation seemed to be reckoning with the disasters in New York and Washington, we were further traumatized this past fall by the spate of anthrax attacks. Such events create an indelible image on our individual and collective impression of history.

Under these circumstances, the work of the Sabin Vaccine Institute takes on even greater significance. The Institute has continually addressed the need for vaccine development to counter the effects of existing diseases. It also has supported increased vaccine production to protect us from biological agents that could fall into the hands of terrorists. My message to the valued supporters, subscribers and constituents of the Sabin Vaccine Institute is that your continued support of our programs will be met with our equal determination to work toward disease prevention through vaccines.

Our fall colloquium at Cold Spring Harbor explored technology access for making vaccines for the developing world, our spring colloquium at Walker's Cay continued dialogue about vaccines for cancer and immunotherapy, we conducted a program review of the Hookworm Vaccine Initiative in January, and during May, we'll toast a Sabin Gold Medal awardee, Stanley Plotkin, in Baltimore, and recipients of the Institute's lifetime achievement award and humanitarian award at our annual dinner in New York City.

These are some of the activities of the Sabin Vaccine Institute that exemplify the efforts your support makes possible. Along with the eradication of smallpox and the great strides made against polio, the Institute's programs are hallmarks of my historical survey of the past three-quarters of a century.

Sincerely,

Chairman

Sabin Vaccine Institute

### Notable Quote—

*Disease has long been the deadliest enemy of mankind. Infectious diseases make no distinctions among people and recognize no borders. We have fought the causes and consequences of disease throughout history and must continue to do so with every available means. All civilized nations reject as intolerable the use of disease and biological weapons as instruments of war and terror.*

—President George W. Bush, November 1, 2001

**Would you like to read the *Sabin Vaccine Report* online? Our newsletter is available in a PDF format on our website, [www.sabin.org](http://www.sabin.org).**

## Russell and Osterholm Contribute to Dialogue at Alliance for Health Forum

### Capitol Hill Audience Hears Straight Talk on Bioterrorism

Sabin Board of Trustees members Michael Osterholm, PhD, and Philip Russell, MD, provided briefing remarks at a November forum on Potential Bioterrorism Threats, Existing Public Health Capabilities, and New Approaches to Preventing Harm. The Capitol Hill briefing was organized by the Al-

liance for Health Reform and was moderated by Sen. Jay Rockefeller and Sen. Bill Frist, who are respectively chair and vice chair of the Alliance. Other members of the panel included Laurie Garrett, science writer for *Newsday* and author of *The Coming Plague*, and Margaret Hamburg, vice president for biological programs at the Nuclear Threat Initiative.

The new attention being focused on bioterrorism has a chilling effect, but according to Osterholm, "We can live with fear or *in* fear." Faced with the stark reality of bioterrorism, he admonished that government needs to make public health a high priority and that, faced with the knowledge of the ease and stealth of bioterrorism acts, every building should be protected.

According to Russell, the country's preparedness against

bioterrorism contrasts with our readiness and swift victory in Desert Storm. "We are in the midst of a steep learning curve," he said. "We have a truly great research capability, including the National Institutes of Health, the armed forces, and manufacturing, but the federal government has not been successful in acquiring vaccines for defense." He cited the need for a new cell-culture vaccine for smallpox and better diagnostics for the disease, for a second-generation anthrax vaccine effective in just two doses, for a new plague vaccine and diagnostic and treatment expertise, as well as for acquisition of vaccine supply to defend against botulism, tularemia, hemorrhagic fever, and encephalitis.

The clear message of the briefing was that the nation as a

whole, and individual communities, must be prepared to defend against bioterrorism threats, prevent them if possible, and be prepared for effective responses.



Philip Russell, MD, addresses Capitol Hill audience convened by the Alliance for Health Reform on bioterrorism defense.

Photo by Bob Peavy

*"We can live with fear or in fear."*

—Osterholm

## Russell and Shepherd Address Young Presidents

### Vaccines Grab the Attention of Entrepreneur Group

Attendees at the Young Presidents' Organization Health and Technology Day, this past January in Norwalk, Connecticut, received a primer on vaccines and their role in combatting disease and bioterrorism.

H.R. Shepherd, Sabin Vaccine Institute chairman, led a session on vaccines and Philip Russell, MD, SVI senior advisor to the chairman and special advisor on vaccine development and production at the U.S. Health and Human Services Office of Public Health Preparedness, delivered keynote remarks.

Shepherd's presentation drew upon the experiences of the Sabin Vaccine Institute and his involvement in the

Institute's research initiatives and advocacy efforts over the past nine years. He narrated a colorful and effective slide presentation and made the case for opportunities and initiatives that will hasten new developments in vaccine research.

Russell's keynote address focused on the role vaccines play in defense against bioterror, including efforts currently underway at the federal level to strengthen our security with investment in vaccines.

A range of additional presenters included academic and medical leaders, as well as senior executives in the biomedical, pharmaceutical, and financial industries.

## Vaccines Stage "Comeback"

—TIME

The following SVI letter to the editor applauded TIME for an article on developments in the vaccine field.

### A Hopeful Sign

Your article "Vaccines Stage A Comeback" [*Staying Healthy*, Jan. 21] summed it up perfectly: "Vaccines are the great prevention success story of modern medicine." Rather than a fading technology, vaccines are a present wonder and, with new biotechnology developments, will help conquer a wider range of infectious diseases. A recent renewal of interest in the benefits of vaccines is a hopeful sign that researchers who are continuing to investigate the potential of new vaccines will receive public support and the investment needed to fuel their work and inspire even greater developments.

## Human Hookworm Vaccine Initiative Conducts Program Review

*Vaccine Experts from Around the Nation Provide Scientific Sounding Board for Hookworm Vaccine Progress Report*

The Sabin Vaccine Institute's Human Hookworm Vaccine Initiative (HHVI) convened a review meeting on January 22 in Rockville, Maryland. The 40 attendees represented the Sabin Vaccine Institute, The George Washington University (GW), where the hookworm vaccine research is being conducted, and collaborators from a number of external organizations.

Since receiving an \$18 million award from the Bill & Melinda Gates

Foundation in the spring of 2000, the Sabin Vaccine Institute has administered the grant supporting hookworm vaccine research led by Peter J. Hotez, MD, PhD, professor and chair, Department of Microbiology and Tropical Medicine at The George Washington University. Hookworm infection is one of the most prevalent infections of humans—more than one billion individuals harbor hookworms in their intestines. Some tropical clinical investigators rank hookworm as the second most significant parasitic infection of humans, next to malaria. Within developing economies, hookworm is a leading cause of anemia and malnutrition.

The HHVI program review provided an opportunity to assess the status of the research project to date and to plan for the coming months of activity. Philip K. Russell, MD, Sabin Vaccine Institute senior advisor, chaired the meeting and called for an open and frank discussion among the participants. "It's time to bring folks together to look at the experience over the last year on antigen discovery and to receive scientific criticism of our progress where appropriate and a frank discussion on strategic decisions that will have to be made over the next weeks and months."

Hotez began his presentation with a description of the global burden of hookworm infection and a rationale for a hookworm vaccine. In providing a technical description of the nature of

hookworm infection, Hotez provided a compelling case for a vaccine. The infective stage of the parasite is the larvae, which pass through the skin, and are carried by the circulatory system to the heart, then to the lungs, and are then coughed up and swallowed. They dwell in the small intestine and over a period of weeks or months and become adult blood-feeding hookworms. The only

effective method to treat hookworm is anthelmintic chemotherapies.

Yet, infestation typically recurs within months of such treatments.

A brief overview of the HHVI and its collaborators, many of whom were in attendance, was presented by Paul J. Vilk, RPh, RAC, vice president, Sabin Vaccine Institute Program Management and Regulatory Affairs.

Hotez and members of his research team provided data on the antigen discovery component of the vaccine research being conducted at GW. Reviewers were asked to consider the strategy for choosing the best antigen candidate for the vaccine. In addition, they were asked to offer thoughts on aspects of developing the leading candidate and getting it into clinical trials in a reasonable timeframe.

Process development strategies, manufacturing plans, and ultimate clinical trials were discussed during a lively interchange interspersed with questions and debate.

The HHVI team at The George Washington University is led by Hotez and includes Ray Loomis; James Ashcom, PhD; Zhan Bin, MD; Jeffrey Bethony, PhD; John Hawdon, PhD; Kashi Ghosh, PhD; Alex Loukas, PhD; Maria Elena Bottazzi, PhD; Idong Essiet; J.J. Feng; and Bernard Zook, DVM.

External attendees, who provided welcomed dis-

ussion and viewpoints for the Program Review included Ashley Birkett, PhD, Apovia, Inc.; Jane Halpern, PhD, Intellivax, Inc.; Walt Brandt, PhD, Filip Dubovsky, MD, and Gina Rabinovich, MD, of the Malaria Vaccine Initiative of the Program for Appropriate Technology in Health; David Knox, PhD, Moredun Research Institute; Lee Hall, MD, National Institute for Allergy and Infectious Disease, National Institutes of Health; Lorenzo Savioli, MD, World Health Organization; Ken Eckels, PhD, and Evelina Angov, PhD, of the Walter Reed Army Institute for Research; and Michael Meagher, PhD, University of Nebraska–Lincoln.

A word of appreciation for the work being carried out by the HHVI team and the support of collaborators at the meeting was conveyed by Sabin Vaccine Institute Chairman H.R. Shepherd, who said, "What you're doing is very important. But to me one of the most important things is how it happened, how you got all these diverse people together. It's really a tribute to all the members of the team." Shepherd put into perspective the evolution of the HHVI, from its roots in Peter Hotez' parasitology research, through its recognition by Philip Russell as an important vaccine research project, and to its being funded by the Gates Foundation. "This has been one of the greatest things I've experienced," Shepherd said.

### NEWS FROM THE BENCH



Peter Hotez, MD, PhD, describes progress to date in identifying candidate antigens for developing a human hookworm vaccine.

## Sabin Vaccine Institute Convenes 8th Colloquium at Cold Spring Harbor

### *Making Vaccines for the Developing World: Access to and Deployment of New Technologies*

The Sabin Vaccine Institute conducted its eighth colloquium on vaccine policy at the Cold Spring Harbor Conference Center on Long Island this past October. “Making Vaccines for the Developing World: Access to and Development of New Technologies” provided 40 scientific and public health leaders with the opportunity to explore improvements in cooperation on vaccine discovery, manufacturing, and delivery.

“An interesting mixture of organizations is attempting to propel the development—and in the end, the utilization—of new vaccines for the benefit of the entire world,” said Philip Russell, MD, Sabin Vaccine Institute senior advisor. “It’s a mixture of efforts all around the common theme of getting the next generation of vaccines into use in the world.” Russell chaired the colloquium, which was organized by Melinda Moree, PhD, and Regina Rabinovich, MD, of the Program for Appropriate Technology in Medicine, Malaria Vaccine Initiative, and Lance Gordon, PhD, CEO of VaxGen.

The next generation of vaccines will depend upon highly specialized technologies, each with important intellectual property considerations. The colloquium explored ways that researchers building vaccines for international public health initiatives can benefit from the great resources available in the private sector. Participants considered mechanisms for joint initiatives, potential reservoirs of technical knowhow, and novel approaches to transfer technology from the industrial sector to the public health sector, while protecting the intellectual property of developers.

The three-day meeting, set at one of the East Coast’s premiere scientific conference centers, featured a free flow of discussion based on the experiences of participants representing academic institutions, federal laboratories, non-profit research entities, and industry organizations. Five vaccine research



**Making Vaccines for the Developing World: Access to and Deployment of New Technologies CSH 2001**  
Participants are pictured, front row, from left: Melinda Moree, Lance Gordon, Regina Rabinovich, Philip K. Russell, Carol Nacy, Jerald C. Sadoff, Margaret Liu, Hannah Kettler, Peter Hotez, Edward Neiss, Sharon Hammer, Denis Panicali, Veronica Korn, Phyllis B. Moses, Noreen O’Connell. Back row, from left: Sarah Glass, Donald S. Burke, Richard Insel, Terry A. Young, Gordon Perkin, Mark Miller, Rich Mahoney, Brooke Mahoney, Don L. Douglas, Christian Shrivel, Walter Lee. Not Pictured: Margaret Hammerschlag, Mike Levine, Lewis Miller.

projects receiving support from the Bill & Melinda Gates Foundation were represented at the meeting.

While representing separate initiatives, the participants at the meeting share a common perspective on the challenges facing vaccine developers. Making vaccines, says Rabinovich, requires “a lot of hard work—they are not under a rock waiting to be discovered.” She added that the public health community operates differently than industrial manufacturers, yet recognizes market realities. “We have a public health mission. That doesn’t mean there is not a need or concern for how to maintain a credible market, or that there isn’t a market for these vaccines—but it’s a different kind of market.” Participant Carol Nacy, of the Sequella Global Tuberculosis Foundation, explained that for non-profit entities to acquire access to vaccine technologies, the for-profit companies that own the technology must see a return on investment.

Assessing, evaluating, and utilizing many new vaccine technologies for use in the developing world can best be done by the large corporate manufacturers, indicated Russell. A consortium of vaccine manufacturers in conjunction

with public sector vaccine research and development efforts could be very effective in solving common problems that all or most companies face and are especially important to vaccine programs in the developing world.

According to Donald Burke, MD, director of the Center for Immunization Research at Johns Hopkins University, non-profit vaccine developers share cross-cutting vaccine research and development problems. These include evaluation of novel routes and vaccine delivery technologies that do not use syringes and needles; identification and certification of pilot production facilities for platform technologies; assessment of vaccine preservatives and stabilizers; selection and quality assurance of clinical vaccine trial sites in developing countries; and creation of contractual mechanisms to protect intellectual property while assuring long-term access in poor countries.

Peter Hotez, Chair of the Microbiology and Tropical Medicine Department at George Washington University and Principal Scientist on the Hookworm Vaccine Initiative for the Sabin Institute

*Continued on page 16*

## Stanley Plotkin to Receive Sabin Gold Medal at May Ceremony

### *Rubella Vaccine Inventor to Receive Recognition*

The Sabin Vaccine Institute will award the 2002 Sabin Gold Medal to Stanley A. Plotkin, MD, medical and scientific advisor for Aventis Pasteur. The medal is awarded annually and recognizes exemplary leadership in the field of vaccinology. The Sabin Gold Medal will be presented to Dr. Plotkin at a ceremony at on May 7th at the Wyndham Baltimore Inner Harbor Hotel. The event will be held in conjunction with the 5th Annual Conference on Vaccine Research, a meeting of several hundred of Dr. Plotkin's fellow scientists that is co-organized by the Institute.



Stanley Plotkin, MD  
2002 Sabin Gold Medalist

Dr. Plotkin developed the rubella vaccine now in use, and has worked extensively on a range of other vaccines, including polio, rabies, varicella and cytomegalovirus. He is a renowned expert in virology. "Stanley Plotkin is an extraordinary figure in the field of vaccinology and truly epitomizes the dedication that reflects Albert Sabin's goal to conquer disease with vaccines and immunization," said H.R. Shepherd, chairman of the Sabin Vaccine Institute. "The Institute is proud to extend this honor to a scientist and humanitarian of Dr. Plotkin's stature."

Dr. Plotkin joined Aventis Pasteur, one of the world's largest vaccine companies, in 1990 when the company was known as Pasteur Mérieux Connaught. He attained the title of emeritus professor from his prior faculty membership at the University of Pennsylvania. There, he was professor of pediatrics and microbiology and professor at the Wistar Institute, a medical research institute honored for the discovery of vaccines, genetic, and molecular therapies. He served concurrently as director of infectious disease and senior physician at the Children's Hospital of Philadelphia. For

two years, he was associate chairman of the Department of Pediatrics at the University of Pennsylvania.

Dr. Plotkin's career included internship at Cleveland Metropolitan General Hospital, residency in pediatrics at the Children's Hospital of Philadelphia and the Hospital for Sick Children in London and three years in the Epidemic Intelligence Service of the Centers for Disease Control of the U.S. Public Health Service. In 1957, he investigated the last known outbreak of inhalation anthrax in the United States prior to the events of 2001, and helped demonstrate the efficacy of the current anthrax vaccine.

More than 500 of Dr. Plotkin's articles have been published and he has edited several books including *Vaccines*, now the standard textbook in the field. He was chairman of the Infectious Diseases Committee and the AIDS Task Force of the American Academy of Pediatrics, liaison member of the Advisory Committee on Immunization Practices, and chairman of the Microbiology and Infectious Diseases Research Committee of the National Institutes of Health. His contributions have been recognized with the Bruce Medal in Preventive Medicine of the American College of Physicians, the Distinguished Physician Award of the Pediatric Infectious Diseases Society and the Clinical Virology Award of the Pan American Society for Clinical Virology.



## Hotez and Goldstein Part of GW Collaboration in Panama

### *SVI Colleagues at GW Find Role in Tropical Diseases Institute Collaboration*

Sabin Vaccine Institute scientific leaders Peter J. Hotez, MD, PhD, and Allan Goldstein, PhD, visited Panama last fall as part of a delegation from The George Washington University collaborating with the Panamanian government on a Center for the Study of Tropical Diseases and Genomic Studies in Santiago de Veraguas, Panama. Hotez is chairman of the GW Department of Microbiology and Tropical Medicine; Goldstein is chairman of the GW Department of Biochemistry and Molecular Biology.

The delegation met with Panamanian President Mireya Moscoso Rodriguez and signed a memorandum of understanding regarding collaboration on the center to be dedicated to investigating the major diseases of the Central American and Caribbean region.



Panamanian President Mireya Moscoso Rodriguez announces medical research and education collaboration with GW delegation, including, Peter Hotez, MD, PhD, and Allan Goldstein, PhD.

"Together we will investigate the major diseases of the region and identify a means to apply the new biotechnology to this region," Hotez said. Goldstein added that the agreement will also result in providing new opportunities for students of Panama to continue their medical and scientific studies and for GW students, professors and physicians to visit Santiago to "continue the development of this new and important institute and medical center."

## Report of a Conference on TB Vaccines, Montreal, November 7-9, 2001

*Special to the Sabin Vaccine Report, by Lewellys F. Barker, MD, MPH, Chief Medical Officer, Sequella Global TB Foundation*

More than 60 scientists convened this past fall at the Tuberculosis (TB) Vaccine 2001 Conference in Montreal. The meeting was devoted to scientific issues in developing a better TB vaccine and was hosted at McGill University. Carol Nacy, president, Sequella Global Tuberculosis Foundation (SGTBF), welcomed the attendees to a diverse program, which ranged from basic immunology to reports on new lab tools and field studies, and of several experimental vaccines being developed as part of the SGTBF TB Vaccine Collaboration, an effort supported by the Bill & Melinda Gates Foundation.

### Immunology Symposium

An Immunology Symposium on "Detecting Vaccine Take and Efficacy" kicked off the conference. Robert North, Trudeau Institute (TI), discussed characteristic features of immunity to TB in the mouse model. The immune response, with or without prior vaccination, inhibits MTB multiplication after three weeks, followed by stationary infection, but progressive lung pathology and disease. He identified delay in the secondary response after challenge in vaccinated animals as a problem in only partially controlling infection, likening this to TB-susceptible humans who make good T-cell responses but fail to resolve TB infection and progress to disease.

Holden Maecker, Becton-Dickinson, described elegant cytokine flow cytometry techniques for measuring T-cell responses in chronic infections, and David Woodland, TI, discussed studies of influenza immunity where the number of memory T cells in the lung appeared to be important for protection against challenge. Susan Swain provided evidence that memory T cells originate from surviving effector T cells and addressed the question of what regulates persistence of immune memory; removal of antigen stimulation of effector cells appears important. Mark Jenkins, TI, presented the concluding report of the symposium on the location

of antigen-specific T cells after antigen stimulation. He recommended that more attention be paid to effector-memory T cells in sites such as lung, GI tract, and salivary glands rather than in lymph nodes and spleen.

### Sessions

Sessions covered progress on clinical trials and related studies in the Western Cape region of South Africa. Greg Hussey, University of Cape Town, and Larry Geiter, SGTBF, are principal investigators of a large, multi-year study started in March 2001, comparing the safety and efficacy of BCG vaccine given to infants by either the percutaneous or intradermal route. There are already more than 2,000 enrollments in the study. Their collaborators at the Rockefeller University are developing methods to detect immune responses to infant TB vaccination to seek correlations with protection. Reports of further collaborative work with South African colleagues covered field epidemiology, molecular epidemiology, and genetic epidemiology, all of which explore a better understanding of TB in the region in preparation for trials of new TB vaccines to better control this serious public health problem.

In a session on experimental TB vaccines, Lew Barker, SGTBF, explained the foundation's process for reviewing vaccine candidates and selecting those appropriate for advancing towards initial human studies. Marcus Horwitz, UCLA, described progress towards Phase I human testing of his recombinant BCG (rBCG30) experimental vaccine, which overexpresses one of the important extracellular proteins of MTB and protects guinea pigs significantly better against challenge than its parent BCG strain. Barry Bloom, Harvard University, and William Jacobs, Albert Einstein College of Medicine, reported two innovative approaches to developing safe, live attenuated MTB experimental

vaccines that will deliver antigens missing in BCG. Anne DeGroot, EpiVax, Inc., is applying bioinformatics technology to identify MTB T-cell epitopes from the TB genome, and Martina Riegl, Intercell, Inc., is using the DeGroot findings to advance a combination of MTB epitopes and a T-cell adjuvant towards initial human testing of a chemically defined synthetic vaccine. Douglas Lowrie, Genomyc, Ltd., related an update of his work on a DNA-heat shock protein vaccine for use as an immunomodulator for preventing relapse and improving therapy of TB. Daniel Hoft, St. Louis University, reported his clinical and lab studies of BCG vaccine in healthy adult humans, a prototype for initial studies of new TB vaccines.

Rany Condos, NYU, opened the final conference session with a report of her studies of the human immune response in the lungs of TB patients done on cells in bronchoalveolar lavage fluid. William Bishai, Johns Hopkins, then discussed use of the Lurie rabbit model to study experimental TB vaccines against the early stages of TB when granulomas are first formed in the lungs, and Boris Nikonenko, Sequella, Inc, talked about characteristics of the I/St mouse model, which mimic both exceptional susceptibility and exceptional resistance to TB. John McKinney, Rockefeller University demonstrated use of molecular beacons to determine how MTB bacteria respond to their host in both animal and human tissues. He found striking differences in mycobacterial gene expression responses between MTB in mouse lungs and human lungs, raising questions about the mouse as a model for TB infection. David Sherman, Washington University, shed further light on MTB latency with his studies of interaction between MTB metabolic state and genetic control mechanisms. Understanding the latent stage of TB in humans remains elusive but of high importance in attempting to come up with improved TB vaccines.

## Sabin Vaccine Institute Salutes

The *Sabin Vaccine Report* continues this regular column in our newsletter to salute individuals and organizations whose innovation and dedication in promoting public health through immunization are worthy of a special mention.

### Betty Bumpers, Co-founder, Every Child By Two

Betty Bumpers has dedicated her life to issues affecting children's health. When she became the first lady of Arkansas in 1970, the state had one of the lowest immunization rates in the country. Bumpers spearheaded a system for childhood vaccinations that became a national model, and Arkansas achieved one of the highest immunization rates in the country at the time.

After her husband's election to the U.S. Senate in 1974, Bumpers continued her work on immunization with the Centers for Disease Control and Prevention and Rosalynn Carter, whose husband was then governor of Georgia. Upon Jimmy Carter's election

as president in 1976, Bumpers and Rosalynn Carter, led the federal government's first comprehensive childhood immunization initiative in 1977, which was based on the successful state program in Arkansas. The efforts of Mrs. Bumpers and Mrs. Carter also led to nationwide laws, requiring certain vaccinations before entry into school. As a result of these laws, more than 95 percent of American children are immunized by the time they go to school.

In response to the 1989-1991 measles epidemic that

resulted in 55,000 reported cases and 150 deaths, Carter and Bumpers founded Every Child By Two in 1991. For the past nine years, the organization has worked to ensure that all children in America are immunized on schedule, from birth to age two, and that immunization delivery is institutionalized nationwide. In recent years, Betty Bumpers also has worked on the global campaign to eradicate polio.



Betty Bumpers

### District of Columbia Department of Health, Education Work to Immunize School Children

January 25, 2002 was the culmination of a city-wide push in the nation's capital to reach out to students in the public schools who were not fully immunized or lacked complete immunization records. The Washington, D.C. Department of Health provided a wide variety of opportunities for students and their parents to bring up to date the immunizations and immunization records prior to the well-publicized compliance date. Not the least of these efforts were 24-hour immunization clinics, along with publicized schedules for more than 25 immunization clinics, including mobil health units. Immunizations were provided free at the sites.

The problem of unimmunized children and children whose records were not up to date in the District was brought to the attention of the public a full year prior to the recent campaign. The public school system learned that

40,000 of the 68,500 students were not in compliance with immunization standards. Following efforts to inform parents, 29,000 students remained out of compliance as of October 2001. A special task force voted in November

to impose the January 25 deadline. The last weeks of the effort were called Operation Final Push.

The success of the campaign was hard won, but as of January 30, just 2,800 students remained non-compliant.

### Volunteerism Alive at the Sabin Vaccine Institute

Volunteers have provided valuable contributions to the Sabin Vaccine Institute in recent months. The Institute extends its appreciation to the following individuals who gave of their time:

**Robyn M. Frank-Smith**, Stamford, Connecticut, helped update the Institute's mailing list, with contacts and addresses of scientific magazines and newspapers.

**George B. Holland**, Danbury, Connecticut, helped fine-tune the Institute's library database, making it user friendly for locating files, magazines, and books.

**Carolyn L. Kiel**, Pleasantville, New York, entered library files into the Institute's database.

**Border Crossing**, an interdistrict High School program from Norwalk, New Canaan, Wilton, Weston, Westport and Darien, Connecticut, dispatched students who helped organize the Institute's photo archives.

**BOOK  
REVIEW**

## Epidemics and History: Disease, Power and Imperialism

—by Sheldon Watts

[Hardback: ISBN 0-300-07015-2; Paperback: ISBN 0-300-08087-5]

*Epidemics and History: Disease, Power and Imperialism* by Sheldon Watts (New Haven: Yale University Press, 1997) is required reading for anyone aspiring to understand the history of infectious diseases. The footnotes alone, with their citation of the latest articles and books on epidemic diseases, make the book a worthy purchase. Dr. Watts writes in a simple and clear style, making the book accessible to both experts and lay readers alike.

The chief strength of the book is that it looks at the history of epidemic diseases from the non-Western-world perspective. It takes fairly familiar material—the history of syphilis, leprosy, smallpox, cholera—and puts it in a radically different light, forcing the reader to confront some unpalatable truths about the role of the West, including Western science and medicine, in aggravating rather than alleviating infectious disease in the developing world.

Traditionally, the Western image of epidemic diseases is shaped by the belief that such life-threatening ailments come from somewhere in the underdeveloped tropics and endanger the lives of civilized folk in Europe and America. Our history books focus primarily on the havoc wrought in the West by such diseases, and put the suffering of people in other regions into the background. Death from infectious disease is seen as the normal state in foreign climes, unlike the situation closer to home. For example, the Black Death that devastated medieval Europe also decimated the populations of Asia and the Middle East. The larger picture is not normally dealt with except as background material for the “main event,” which takes place in Europe. Watts takes a much broader

view and includes, for example, a fascinating discussion of the effects of the plague in Egypt over a few-hundred-year period. The plague in Egypt was not a short-term disaster, but an endless burden for which neither the culture nor government could find an adequate solution.

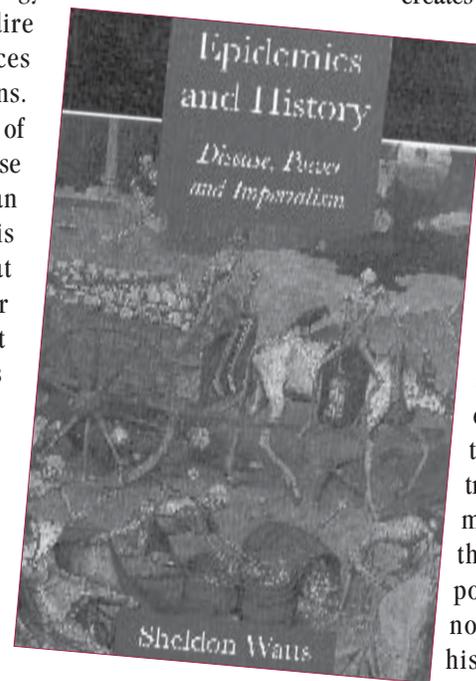
Watts forces us to realize that diseases originating “out there” were the result not so much of the “natural” disease environment, but of the outcome of Western intervention in the ecology of those regions, with dire unintended consequences for the native populations. The most striking example of this phenomenon is the case of the so-called “Indian Plague,” cholera. It is generally assumed that cholera was a massive killer in the Indian subcontinent before the Europeans colonized South Asia. The worldwide cholera pandemics in the early 19th century are usually seen as a blight that resulted from increased interaction between Europe and Asia—commerce and colonization having brought “their problem” to the West. However, Watts emphasizes there is no evidence that large-scale cholera epidemics existed in India before the early 19th century. Rather, cholera appears to have been fairly localized in areas around the Bay of Bengal. It didn’t spread from its home environment to the rest of the subcontinent until the British radically changed the social, economic, and ecological situation there. In other words, it wasn’t “their disease” that was transported to the defenseless West, but rather a limited local disease whose spread throughout India was facilitated by British activity.

Of the many British innovations that Watts sees as causing the spread of cholera throughout India, the two most striking interventions were the building of a railroad network, which made it possible for infected people to travel throughout the country while incubating the disease, and the creation of a system of large-scale irrigation canals, which made no allowance for the drainage of waste water, nor for the fact that the canals were used as privies by local residents. The irrigation works helped to spread cholera far and wide. As a result, Watts takes the standard image of cholera, which envisions a horrid Asian plague that is spread to “innocent” Europeans who got in the way of someone else’s health problem, and replaces it with a vision of a blundering British Empire that creates havoc in India, and

then helps spread the newly emergent disease throughout the world.

A major theme of Watts’s book is the European role in propagating new and deadly epidemic diseases that make the tropical environment more dangerous for the native populations. This is not the way that histories of disease have traditionally

looked at East-West interactions. The book is filled with instances where Western intervention in African or Asian societies helped create environments favorable to disease transmission, a situation far more malign than what existed prior to the appearance of Westerners on the scene. According to Watts, the destructive effects of Western intervention on people’s health are not exhausted in the spread of localized diseases throughout the newly created colonies. Independent of the West’s role in amplifying disease transmission was its part in creating a cultural vision of the disease and



*The Sabin Report seeks to enrich the current dialog on vaccine research and policy with article and review contributions. Opinions expressed in the articles are those of the authors and do not necessarily represent the position of the Institute.*

*Continued on page 11*

## BOOK REVIEW

*Continued from page 10*

its victims that further degraded native populations. Watts argues that for each major epidemic disease there is an intellectual “construct” that the Europeans devised that magnified the harms to indigenous people independently of the biological effects of the diseases themselves. The most striking example of this is the “social construct” of leprosy. As bad as the physical destruction that the bacterium *Mycobacterium leprae* causes in its victims, the socially constructed image of the “leper” that Europeans carried throughout the world, was often more merciless and degrading. In many cultures, those who suffer from leprosy are accepted as full members of society. They move freely, marry, have children and carry on their normal lives. In the West, the erroneous identification of Hansen’s Disease with the biblical disease called leprosy, created a moral and emotional stigma leading to large-scale discrimination and segregation of the afflicted. Wherever Europeans went in the Third World they tried to “educate” the natives to see leprosy through the emotional and moral haze that European Christians confused with modern science. Wherever these Western ideas took root, the lives of people afflicted with the disease were made infinitely worse, since they were transformed in social pariahs and forcefully separated from their communities.

Forcing the reader to confront a world in which the West caused more health problems than it solved is the major contribution of the book, and the chief reason for recommending it. Most of the material that the book is based upon is not original to the author, but rather a synthesis of the vast new research carried out in recent years. Watts brings it all together to paint a much broader canvass than any other historian has yet done.

The author’s strength is to look at East-West interactions in a critical light and expose the many distortions that European and American ethnocentrism introduces into historical writing. His weakness is to romanticize the victims of Euro/American expansion, and to exaggerate the culpability of the West as a

cause of Third World problems. His tendency to resort to snide anti-Western comments, simplistic class and cultural conflict models, and exaggerations of Western guilt is a real liability, and at times undermines the author’s own credibility.

It is difficult at points to continue reading the book because of Watts’s seeming inability to credit almost any Westerner with an altruistic or humane motivation about epidemic diseases. Creating such straw men does nothing to help his argument. The fact that “tropical medicine” was developed in order to make the tropics safe for white men to colonize, not for the benefit of the suffering native population, speaks for itself. That new scientific discoveries were used to protect colonists, while natives were left to fend for themselves, or to degrade the condition of the indigenous people—for example in segregating whites away from African children who were stigmatized as the carriers of malaria infection—is horrible enough without exaggerating the situation. But Watts tends to look for the worst, most self-serving reasons for white medical and scientific activities. He usually emphasizes the most racist, or dismissive comments by European medical and political spokesmen and leaves little or no space for the possibility of a humanitarian concern coexisting with self-interest.

His image of the West doesn’t seem compatible with real people and their complexities. In the same vein, his native populations often seem like cardboard characters—but this time, unconvincingly benign ones—except when they are corrupted by Westerner influences.

What is especially frustrating in the book is the author’s tendency to make moral judgments and to do so even in cases where the participants lacked adequate knowledge or means to carry out desirable actions. Watts on more than one occasion says that Western scientists or policy makers “should have known” some factual piece of information that in fact they didn’t know at the time. In other instances, he contends that they “chose” one scientific position over another simply because it was to their advantage. For example, according to Watts, despite Robert Koch’s work on cholera that showed the disease was a microbe spread by water, the

British authorities in India adopted the anti-infectious paradigm of Max von Pettenkofer. The Pettenkofer model allowed the authorities to ignore the need for sanitary reform and saved them the expense of protecting the native population. This kind of reductionist argument that sees ideas as simple reflections of economic and social positions is not convincing. Nevertheless, the contention that intellectual ideas about disease are a direct cover for elite self-interest is a constant theme of the book.

An equal problem is Watts’s tendency to morally condemn people for acts of omission in cases where the lack of action seems tragic but inevitable. For example, the author talks about two sanitary officers in India in the late 19th century who “adopted the then revolutionary idea that it was possible to design preventive programs to improve the overall health of India.” Such an idea was dismissed by the British authorities because they contended that the problem went beyond the government’s resources. The implication in the book is that these human sanitary officers were right and the government acted immorally and irresponsibly. But it begs the question of whether the government actually had the resources to do what was recommended in the late 19th century. Does the Indian government have such resources even today? One must assume that Watts thinks the answer is yes in both cases. If capitalists ignored the need to make a profit, colonial governments saw their mission as providing as much aid from the home country as poor colonies needed, and the modern Indian government put welfare above supporting its military establishment or serving other powerful political interests. However, in such a situation, history becomes just an excuse for self-righteousness. The only fair question is what was possible given the actual constraints of real men in real societies. It seems reasonable to make judgments where genuine opportunities existed and were ignored. But for Watts to sneer at a British official who had the audacity to say that no capitalist would invest money in a project that would not produce a profit provides the reader with no insights about what could have realistically been done to help the poor given the constraints of a capitalist imperial society.

*Continued on page 12*

## 2002 SVI Cancer Vaccines & Immunotherapy Colloquium Returns to Walker's Cay

*March Colloquium Draws More Than 30 Participants, Including Leading Cancer Vaccine Scientists*

The Fourth Annual Sabin Vaccine Institute Colloquium on Cancer Vaccines and Immunotherapy at Walker's Cay was convened this past March in the Bahamas. Each year the colloquium assembles prominent scientists in a "think-tank" environment for creative and open exchange of ideas to determine how to effectively translate recent advances in molecular biology, genomics, and immunology into effective cancer vaccines.

This year's colloquium was organized by Allan Goldstein, PhD, SVI board member and chairman of biochemistry and molecular biology at The George Washington University. Co-chairs of the meeting were Malcolm S. Mitchell, MD, professor of medicine, immunology and microbiology at the Hudson-Webber Cancer Research Center, Karmanos Cancer Institute; and Martin Kast, PhD, professor of microbiology, immunology and pharmacology and interim director, Oncology Institute, Cardinal Bernardin Cancer Center, Loyola University.

This year's meeting centered around five areas of discussion: 1. the tumor's defense against the immune response, 2. involvement of HLA-class II molecules in tumor rejection, 3. strategies for immunization, 4. co-stimulatory molecules, and 5. tumor antigens. Several important papers on these topics presented innovative research directions that forecast future breakthroughs in therapeutic cancer vaccines.

Though the island setting affords a respite from the typical day in the lab or work setting, the meeting's agenda was jam packed. Each day of the colloquium, up to 10 speakers presented papers, and participants delved into the cross-cutting presentations during discussion periods. The design of the sessions provided for cross-cutting dialog which hopefully will stimulate the rapid translation of the most promising cancer vaccine approaches into clinical testing. The Institute's goal for the program is to provide a seed for innovative strategies and solutions in one of the most exciting and promising research

movements in cancer today.

President Nixon inaugurated Cancer Control Month in 1969 from Walker's Cay, leading to a declaration of war on cancer. The colloquium is hosted by Robert Abplanalp, President Nixon's friend and confidant, as well as by the Sabin Vaccine Institute. The colloquium's pleasant venue affords participants the opportunity to return from the meeting with fishing tales and renewed motivation to pursue immunological discovery.

As in year's past, a proceedings document will be compiled in the months following this year's meeting.

### BOOK REVIEW

*Continued from page 11*

In a similar vein, Watts's contention that the imperial powers helped create more virulent disease environments by building railroads, canals, irrigation systems, and generally unifying heretofore isolated areas, is an extremely important point. But the implicit and explicit blame that goes with that observation, ignores the fact that such disease environments were bound to be created by someone—native or foreigner—at some point in time, unless the Third World were to be frozen in time. Of course, it is probable that Watts would just dismiss homegrown government unifiers that further the emergence of new diseases as corrupted

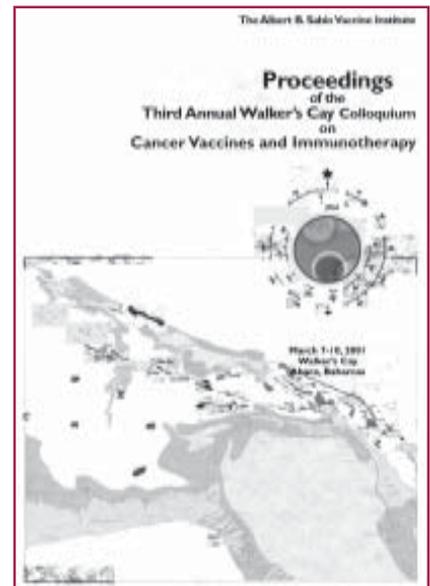
Western-clones, thus putting the blame back on those he is most comfortable judging. All evil comes from "outside"—a mirror image of the West's ethnocentrism.

Unfortunately, perhaps Watts's biases and judgmentalism are the unavoidable price that is paid for the insights that the author's critical perception produces. He sees the world from the perspective of the "other" and you inevitably get the distortions as well as the benefits that flow from this. However, it would be a pity if the major contribution that Watts makes to our understanding of the history of epidemic disease were lost because only people who enjoy Euro-American bashing bother to read it.

—by *William Muraskin, PhD*

*William Muraskin, PhD, is a Sabin fellow and professor of urban studies, Queens College, New York.*

### Proceedings of 2001 Colloquium Published



The proceedings of the 2001 Sabin Vaccine Institute Colloquium at Walker's Cay is published. Limited copies are available from the Institute upon request; a fee for postage and handling is required. The 80-page document is an edited commentary encapsulating the presentations and discussion generated the 2001 meeting.

## “Albert” Computes Roadmap Toward Global Polio Eradication

*Computer at CDC Named for Albert B. Sabin to be Instrumental in Tracing Genetic Sequencing of Polio Virus*

A powerful computer nicknamed “Albert,” in honor of Dr. Albert B. Sabin, is performing calculations that will assist researchers at the Centers for Disease Control and Prevention (CDC) in their polio eradication efforts. Dr. Sabin’s oral polio vaccine (OPV) is the foremost “weapon” in the battle to eradicate polio. The Albert computer resides at a specialized polio reference laboratory at the CDC where the genetic fingerprints of the polio virus are being sequenced to identify remaining reservoirs of the virus in the developing world. Albert performs the calculations necessary to reconstruct the chains of poliovirus transmission. The computer houses the sequences of thousands of polioviruses found throughout the world; in effect, the genetic and virological history of global eradication.

The CDC’s work is part of a larger polio eradication campaign launched by the World Health Assembly, the governing body of the World Health Organization (WHO), in May 1988. Global eradication of polio involved both halting the disease and eradicating the virus that causes it—poliovirus. The year 2005 is the current date for this monumental achievement, which can be likened to the 1977 eradication of smallpox.

Now almost 15 years later, the Global Polio Eradication Initiative, which is spearheading the effort, is still working hard in a race to reach the last victim of polio. Along with the WHO and CDC, other partners cooperating in the global effort include Rotary International and the United Nations International Children’s Emergency Fund. The coalition also includes national governments; private foundations such as United Nations Foundation, and the Bill & Melinda Gates Foundation; the World Bank; donor governments in Australia, Belgium, Canada, Denmark, Finland, Germany, Italy, Japan, United Kingdom and the United States; and corporate partners such as Aventis

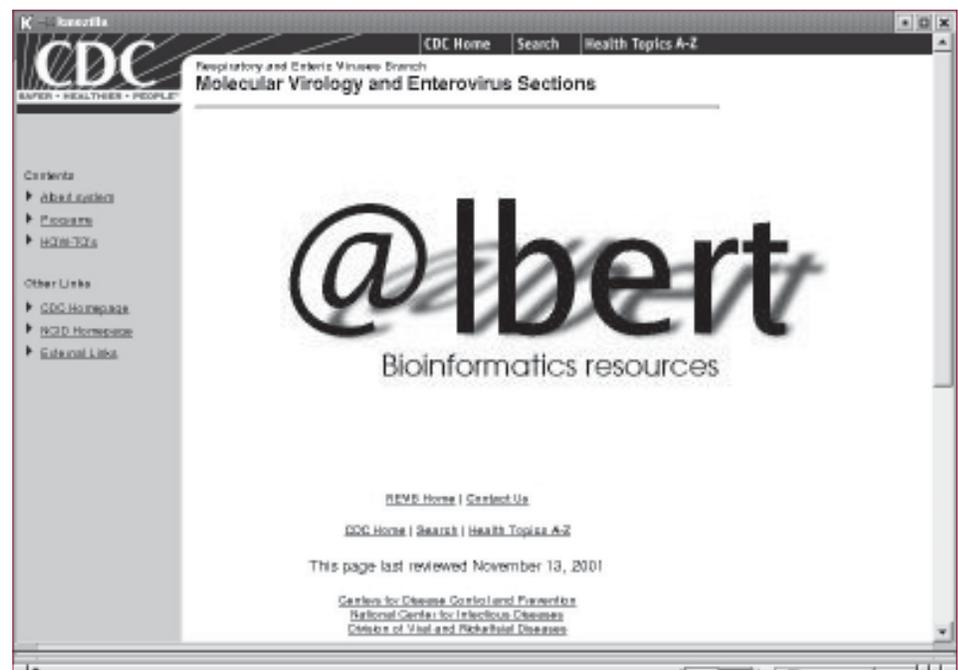
Pasteur and De Beers. Volunteers in developing countries also play an important part; ten million participated in mass immunization campaigns last year, according to WHO.

In addition to funding large supplies of oral polio vaccine, the CDC provides a wide range of technical expertise and laboratory support for the polio eradication initiative. This includes support for disease surveillance at global, regional, and national levels; investigating outbreaks of polio; assistance in the development and monitoring of the polio laboratory network; problem-solving through epidemiological, operational, and laboratory research; and funding for short-term and long-term technical support in key countries.

Polio is one of only a limited number of diseases (others include measles and guinea worm disease) that can be eradicated. Polio can be eradicated because the virus only affects humans; there is no animal reservoir; an effective, inexpensive vaccine exists (OPV); immunity is lifelong; and the virus can only survive for a very short time in the

environment. Polio eradication is based on the strategy and premise that poliovirus will die out if its human host is destroyed through immunization. The strategy is similar to that used for smallpox eradication in 1977; smallpox is the only disease so far to have been eradicated. Other diseases can be controlled through immunization, but not eradicated. For example, tetanus and the bacterium that causes the disease, *Clostridium tetani*, is widespread in the environment and can survive independently from its human host.

The Albert computer is the CDC’s unique contribution to the global eradication effort, due to its cutting-edge virological surveillance capacity. This functionality is used to identify the strain of poliovirus involved and pinpoint its exact geographical origin. Poliovirus can travel quickly and cover long distances. An indigenous virus found in an area or country is one that may have circulated in that area for a long time or may have recently been imported. Determining whether the virus is indigenous or imported is necessary in deciding the most appropriate immunization strategy.



The web portal for the “Albert” computer system, which is being used at the CDC in their participation in the Global Polio Eradication Initiative.

## INSTITUTE NEWS

### Institute Names New Board of Trustees Members

*Mary Ann Chaffee and Nancy Hargrave Elected at Fall Meeting*

*The Sabin Vaccine Institute Board of Trustees voted at its fall meeting to appoint two new board members, legislative advisor Mary Ann Chaffee and development expert Nancy Gardner Hargrave.*

#### **Mary Ann Chaffee**

Mary Ann Chaffee is legislative director and principal policy advisor to U.S. Senator Zell Miller. In a federal public service career spanning 20 years, she has worked on bills pertaining to Medicare, Medicaid, prescription drug benefits, biomedical research, preventive health services, and vaccines. She previously was policy advisor to former Senator Dale Bumpers, when she formulated the Senator's agenda for such issues as government purchase and pricing of pediatric vaccines, childhood immunization, and global polio eradication. She holds a Master in Public Administration degree from Harvard University's John F. Kennedy School of Government. There she received Harvard's Women's Leadership Fellowship. She also earned a Master of Science degree from Case Western Reserve University, and a Bachelor of Arts from Ohio State University.

#### **Nancy Gardner Hargrave**

Nancy Gardner Hargrave is an independent development consultant who provides capital campaign planning and management, major gifts, and foundation and corporate relations fundraising services primarily to non-profit scientific and health organizations. Her clients have included the Carnegie Institution of Washington, the United States Institute of Peace, the National Youth Science Foundation, and the Sabin Vaccine Institute. She formerly served for 18 years with the National Academy of Sciences, departing in 1999 as



Members of the Sabin Vaccine Institute Board of Trustees gathered for the Fall 2001 meeting are, from left, seated: Philip Russell, MD, Nancy Hargrave, Heloisa Sabin, Carol Ruth Shepherd, and H.R. Shepherd (chairman); standing: Lewis Miller, Michael Whitham, Allan Goldstein, PhD, Michael Osterholm, PhD, MPH, and Mary Ann Chaffee.

Director of Development. There, she raised private funds to benefit the Academy and its operating arm, the National Research Council. She is credited with leading a \$36 million endowment campaign, directing the Academy Industry Program, and organizing The Presidents' Circle, a support group of the National Academies of Sciences and Engineering and the Institute of Medicine. She holds a Master of Arts from Indiana University

and a Bachelor of Arts from Ohio Wesleyan University.

Chairman of the Board H.R. Shepherd called the appointments of Chaffee and Hargrave "a welcomed addition of talent

*Continued on page 15.*

The "Plague Doctor" (a.k.a. David Bedell, executive assistant to the chairman) makes a Halloween appearance at the SVI Board Meeting in Washington. The costume is modelled after that worn by doctors during plague epidemics, composed of a mask resembling a bird's beak and the cassock, both precautions in order to avoid contagion while visiting the ill.



## SVI Board Welcomes New Members

Board Member Michael Osterholm  
Offers Bioterrorism Insights  
*Continued from page 14.*

and energy” to the board. “Mary Ann Chaffee offers valuable insight about how policy is being made on the Hill and Nancy Hargrave has her finger on the pulse of the philanthropic community. The Sabin Vaccine Institute stands to gain important guidance from each of these new members and I appreciate their dedication of time and service toward the advancement of vaccine policy and science.”

The Board Members’ dinner featured a timely speech on national bioterrorism threats, presented by fellow board member and bioterrorism expert Michael T. Osterholm, PhD, MPH, director of the Center for Infectious Disease Research & Policy at the University of Minnesota Academic Health Center. Dr. Osterholm is author of *Living Terrors*, which exposes the potential of biological infectious disease agents as threats to the nation’s public health.

Also serving on the Board of Trustees are Co-chairman William R. Berkley, founder, chairman, and CEO, W.R. Berkeley Corp.; Heloisa Sabin, SVI co-founder; Maj. Gen. Philip K. Russell, MD, founding SVI president and senior advisor to the chairman, special advisor on vaccine production and development for U.S. Health and Human Services’ Office of Public Health Preparedness; Allan L. Goldstein, PhD, chairman of the Department of Biochemistry and Molecular Biology at The George Washington University; Jane C. I. Hirsh, director, Sea Chain LLC; Lewis A. Miller, president, Intermedica; Edward S. Neiss, MD, PhD, vice-chairman and CEO, Almedica International; Carol Ruth Shepherd, artist and photographer; Michael E. Whitham, Esq., Whitham, Curtis & Christofferson, PC; and Lawrence J. Wilker, PhD president and CEO, ShowOnDemand, Inc.

### *Save the Date!*

**Thursday, May 30, 2002**

**The Albert B. Sabin Vaccine Institute’s 2002 Awards Celebration**



### *Honoring*

**Jean-Pierre Garnier, Ph.D.**

Chief Executive Officer  
GlaxoSmithKline

**Humanitarian Award**

**Hon. Richard C. Holbrooke**

Former United States Permanent  
Representative to the United Nations

**Lifetime Achievement Award**

*The Pierre Hotel, New York City*

*6:30 PM Reception - 7:30 PM Awards Presentation*

*For more information call (203) 972-7907*

## Philip Russell Named to HHS Vaccine Post

*continued from page 1*

In addition to his role as board member and senior advisor to the chairman of the Sabin Vaccine Institute, Dr. Russell is professor emeritus at Johns Hopkins School of Hygiene and Public Health, Department of International Health. He is the author of over 100 publications on infectious diseases.

Russell is board certified in internal medicine and retired in 1990 from the U.S. Army as major general after a career in infectious disease research. His military assignments included director, Walter Reed Army Institute of Research, and overseas tours in Pakistan, Thailand and Vietnam. He received the Legion of Merit and Distinguished Service Medal.

Russell is past president of the American Society of Tropical Medicine and Hygiene and a fellow of the Infectious Disease Society of America. He served as special adviser to the International Children’s Vaccine Initiative and now serves on the board of directors of the International AIDS Vaccine Initiative. He is a member of the Strategic Advisory Committee of the Bill & Melinda Gates Children’s Vaccine Program and a consultant to the Bill & Melinda Gates Foundation.

According to Sabin Vaccine Institute Chairman H.R. Shepherd, “Philip Russell is an outstanding scientist who has been responsible for our success as an Institute. The government couldn’t be better served for the expertise the country needs at this time.”

## Vaccine Technology

*CSH Colloquium Considers Access  
from page 6*

and the Gates Foundation suggested that a useful model for organizing ongoing discussion on the topic is the Great Neglected Diseases (GND) Network established in the 1980s. With annual meetings, the network drew together the major scientists working in each of the GND laboratories in the U.S. Through scientific presentations, each member of the GND group was able to keep up with the most up-to-date technologies as they might apply to tropical infectious diseases. He suggested that the major recipients of Gates Foundation philanthropy would also benefit from the establishment of a similar network meeting, but one devoted to vaccine technologies.

A recommendation was made that the Sabin Vaccine Institute convene workshops focused on specific vaccine development programs for the developing world, barriers to progress, and solutions and best practices for moving them forward. As with any good dialogue, the colloquium at Cold Spring Harbor provoked a number of new questions that will feed an ongoing dialog for future forums of this kind.

This fall meeting was the eighth colloquium on vaccine policy hosted by the Sabin Vaccine Institute since 1994. Previous colloquia focused on topics such as planning for the next generation of vaccines, vaccine development and delivery in the era of managed care, the AIDS Vaccine Initiative, translational research, vaccines for developing economies, and social venture capital for neglected vaccines. Proceedings of the previous two colloquia are currently in circulation and available by contacting the Sabin Vaccine Institute. Likewise, a proceedings document is being compiled for release within the coming months.

Support for the meeting was provided by the Bill & Melinda Gates Foundation, which funds several vaccine initiatives, including the Hookworm Vaccine Initiative of the Sabin Vaccine Institute.

## SABIN CALENDAR

### APRIL 2002

April 14-20, 2002

NATIONAL INFANT IMMUNIZATION WEEK  
*Calling attention to the importance of proper immunization for infants and toddlers. Communities throughout the United States offer expanded clinic hours, distributing information, hold immunization fairs, and create new partnerships with businesses and community groups.*

April 29-May 2, 2002

36TH ANNUAL IMMUNIZATION CONFERENCE  
Contact: Suzanne Johnson-DeLeon  
E-mail: [msjl@cdc.gov](mailto:msjl@cdc.gov)  
[www.cdc.gov/nip/nic](http://www.cdc.gov/nip/nic)  
*Denver, Colorado*

### MAY 2002

May 6-8, 2002

5TH ANNUAL CONFERENCE  
ON VACCINE RESEARCH  
Email: [vaccine@nfid.org](mailto:vaccine@nfid.org)  
[www.nfid.org/conferences/vaccine02](http://www.nfid.org/conferences/vaccine02)  
*Baltimore, Maryland*

May 13-16, 2002

PHACILITATE VACCINE FORUM SPRING 2002  
INTEGRATED STRATEGIES FOR VACCINE  
RESEARCH, DEVELOPMENT AND SUPPLY  
Email: [david@phacilitate.co.uk](mailto:david@phacilitate.co.uk)  
*Paris, France*

May 28-31, 2002

29TH ANNUAL GLOBAL  
HEALTH COUNCIL'S CONFERENCE:  
GLOBAL HEALTH IN TIMES OF CRISIS  
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[www.fond-merieux.org/enseignement/ADVAC3a.html](http://www.fond-merieux.org/enseignement/ADVAC3a.html)  
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Email: [kurstak@sympatico.ca](mailto:kurstak@sympatico.ca)  
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