

SVI Supporters Gather to Celebrate 2006 Sabin Award Winners

2006 Sabin Awards are Highlight of June 28 New York City Gala

The Sabin Vaccine Institute recognized excellence in biotechnology, medical research, and medical reporting at its annual fundraising gala on June 28, 2006 at the University Club in New York City. The event, themed “Celebrating Hope for a Healthier World,” honored Garo H. Armen, PhD, Ruth Arnon, PhD and G. Timothy Johnson, MD, with humanitarian, scientific excellence, and health media awards, respectively.

H.R. Shepherd, SVI chairman, praised this year’s recipients as innovators in their fields. “In each case, these extraordinary individuals didn’t settle for high achievement in just one area, but they broadened their horizons and multiplied their effect. They each found new ways to further medical science, reaching out to help a greater cross-section of humanity.”

This year’s recipient of the Sabin Humanitarian Award, Garo Armen, is chairman and chief executive officer of Antigenics, a biotechnology company he co-founded in 1994. Antigenics is pursuing development of treatments for cancers, infectious dis-

eases and auto immune disorders. Armen is also the founder and chairman of the Children of Armenia Fund, a charitable organization dedicated to the positive development of the children and youth of Armenia. In accepting the award, Armen spoke of the future promise of cancer vaccines. Antigenics is one of 40 companies and more than 20 affiliated institutions engaged with SVI in the work of the Institute’s Cancer Vaccine Consortium.

Professor Ruth Arnon is an immunologist with the Weizmann Institute of Science in Israel and received the Sabin Scientific Excellence Award. Formerly vice-president of the Weizmann Institute, Arnon has made significant contributions to the fields of vaccine development and cancer research and to the study of parasitic diseases. She also co-developed Copaxone®, a drug for the treatment of multiple sclerosis. Arnon joined the staff of the Weizmann Institute in 1960. She is a member of the Israel Academy of Sciences, and served as its vice president since 2004. During

her introduction at the Awards Celebration, Philip K. Russell, MD, SVI founding president and board member, described Arnon’s wealth of scientific contributions, including hundreds of publications. In her acceptance speech, she recalled her friendship with Heloisa Sabin and with the late Albert Sabin, who served as president of the Weizmann Institute. Along the years she served as a member of the board of trustees of many organizations including the Sabin Vaccine Institute and the International Vaccine Institute (IVI) in Seoul. Arnon is also the scientific advisor to the president of the State of Israel.

Receiving the 2006 Sabin Health Media Award, Timothy Johnson is one of the nation’s leading medical communicators of health care information. As

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Garo Armen, PhD



Ruth Arnon, PhD



Timothy Johnson, MD

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A Message from the SVI Chairman

H.R. Shepherd Reflects on Advice of Scientist Statesmen

1996 was declared "The Year of the Vaccine" by the Task Force for Child Survival and Development. That year, the Sabin Vaccine Institute celebrated its first Sabin Awards celebration in Beverly Hills, California, and has continued the tradition to the present.

I would like in this newsletter message to revive from the first awards celebration the quotable wisdom of three extraordinary human beings who preceded us. These three luminaries happened to share the same first name, and to a large extent they shared the same humanitarian outlook on life.

Upon receiving the Nobel Prize in 1952, Albert Schweitzer reminded us: "You don't live in a world alone." How true this is, and our responsibility to the global community becomes more urgently apparent each year, as the world becomes smaller and smaller, and diseases halfway around the planet can affect us in a matter of days.

Another Albert, Albert Einstein, once said: "Concern for man himself and his fate must always form the chief interest of all our technical endeavors...in order that the creations of our mind shall be a blessing...to mankind."

And third, our own beloved Albert Sabin advised us: "Live every day as if it were your last. Live every day as if you would live forever." We would do well to remember this advice as we go about our work, keeping in mind the urgency of our mission and the future legacy of our actions.

The Sabin Vaccine Institute has accomplished much since that first awards celebration, but there is much still to accomplish. In May, some of us had the honor during our Sabin Gold Medal ceremony of hearing the profoundly moving speech by the co-founder of the Task Force for Child Survival and Development, Dr. William H. Foege. Upon receiving the 2006 Sabin Gold Medal, he took the occasion to make a forecast about the future of public health. He predicted that in the next 25 years, the biggest health problems of the developing world will yield. With the advent of new vaccines against cervical cancer and rotavirus, and medical technologies to control malaria and other scourges, there is truly hope for a healthier world and we are privileged to have resources and opportunity to work for a healthier tomorrow.



SVI Chairman H.R. Shepherd and his wife and fellow SVI board member Carol Ruth Shepherd were recently inducted into the Einstein Society of the National Academies. Einstein Society members are presented with a replica of the original maquette of the Einstein Monument that sits on the front lawn of the National Academies Headquarters on Constitution Avenue in Washington, DC. Pictured, from left, are William A. Wulf, president of the National Academy of Engineering, Mrs. Shepherd holding the replica, Mr. Shepherd, Ralph J. Cicerone, president of the National Academy of Sciences, and Harvey V. Fineberg, president of the Institute of Medicine.
(Photo courtesy NAS)

Scientists Cite Vaccines' Potential to Break Poverty Cycle

Genomics and Innovative Partnerships are Key to Vaccine Development

In “The antipoverty vaccines,” an article published in Volume 24, Issue Numbers 31-32 of the Elsevier journal *Vaccine*, Peter Hotez, MD, PhD, and Meghan T. Ferris, MD, explain how a group of parasitic and bacterial illnesses are not only caused by poverty, but also perpetuate it. The impact of neglected tropical diseases on child and adolescent development, maternal and prenatal conditions, and worker productivity holds populations in a persistent state of underdevelopment. The article describes the effects and the scope of 13 neglected tropical diseases and the status of clinical trials for vaccines for three of these diseases: hookworm, leishmaniasis, and schistosomiasis. The article is published online and was issued in print July 26.

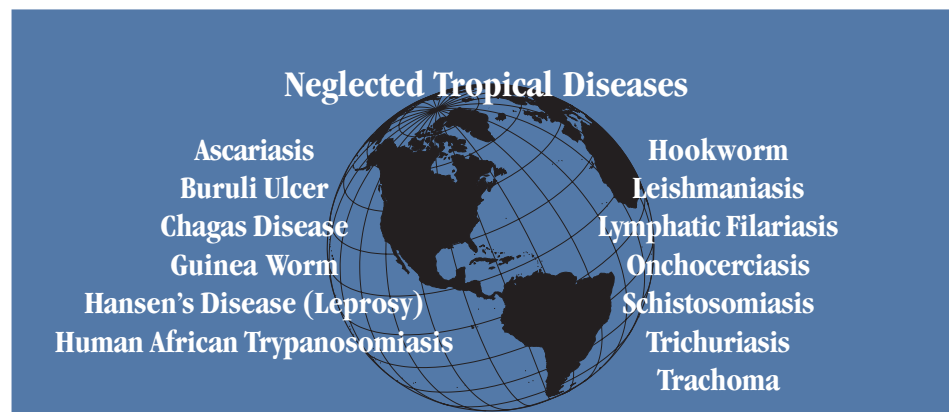
Hotez and Ferris contend that, due to new advances in bioinformatics, there is a possibility of development of new vaccines for most of the other neglected tropical diseases described in the article: amebiasis, Buruli ulcer, Chagas disease, Chlamydia infections, leprosy, leptospirosis, syphilis and other treponematoses. In fact, the article explains that scientists have more information “in terms of genomic and proteomic database” for most of the other infections being discussed than for hookworm or schistosomiasis, for which human clinical trials are already underway.

At this time, the largest barriers to vaccine development are not scientific, as “our technical ability to produce neglected disease vaccines has outpaced the social and political will needed to translate scientific discoveries into products.” Public-private partnerships, advanced market commitments, and other innovative strategies will be required to achieve and sustain funding for vaccines for these “orphan” diseases, or diseases whose vaccine holds little financial incentive for potential manufacturers. The way forward also will include partnerships with innovative developing countries.

Peter Hotez is principal scientist for the Sabin Vaccine Institute (SVI) and professor and chair of microbiology, immunology and tropical medicine at The George Washington University. He is principal investigator for the SVI Hu-

man Hookworm Vaccine Initiative, which has developed a first-generation hookworm vaccine comprised of a recombinant protein that is proceeding to clinical testing. Meghan Ferris is a medical resident at the State University of New York at Stony Brook.

The human hookworm vaccine is an example of a technology created to address a critical global health problem and developed through a public-private partnership. Hookworms cause one of the world’s most prevalent infections, afflicting an estimated 576 million people in the developing nations of the Tropics. Through funding from the Bill & Melinda Gates Foundation, the Sabin Vaccine Institute’s Human Hookworm Vaccine Initiative is taking on a huge global problem that would otherwise not garner the attention it deserves.



New Tools Revitalize Options for Control of Neglected Tropical Diseases

Peter J. Hotez, MD, PhD Presents Invited Lecture on Neglected Diseases in United Kingdom

Peter J. Hotez, MD, PhD lectured this past May 2nd in Liverpool, United Kingdom, to advance a view on global health that gives long-neglected diseases long-overdue attention. He delivered the Leverhulme Lecture at the Liverpool School of Tropical Medicine on “The Neglected Tropical Diseases: New Tools and New Promise for their Control.” In addition, he received the Leverhulme Medal. The prestigious lecture series began in 1999 and attracts lecturers of inter-

national distinction to address school faculty, students and United Kingdom health advisors.

Hotez has researched, written and lectured extensively on issues related to neglected disease control. His recent commentary on the topic with noted economist Jeffrey Sachs appeared in the March 2006 issue of *Science* and a collection of articles with colleagues is available in the online public access journal *Public Library of Science*, www.plos.org. His writings introduce

a new focus on global health efforts that would take stock of the impact of a group of diseases that get less attention than malaria, tuberculosis, and HIV/AIDS—otherwise known as “the big three.” He and his colleagues are hoping a new focus will bring international focus on those who suffer from some of the diseases that have been around since biblical times and have still not achieved the profile of some diseases of which the world’s public health leaders are more aware.

SVI and PAHO Renew Project Targeting Rubella and Congenital Rubella Syndrome (CRS)

Goal of SVI-sponsored Project is Rubella and CRS Elimination in the Americas

The Sabin Vaccine Institute (SVI) and the Pan American Health Organization (PAHO) renewed their agreement for a second year of partnership on elimination of rubella and congenital rubella syndrome (CRS) in the Americas. A signing ceremony on April 14, 2006 marked the renewal of the agreement. "The renewal agreement signed today reinforces SVI's commitment to contributing to rubella elimination and the importance of the Institute's association with the public health programs of PAHO," says *Ciro de Quadros*, president and CEO of the Institute.

Rubella virus causes a fever and rash sometimes referred to as "German measles," and is often considered a mild illness in children and adults. The consequences if contracted by a woman in the early stages of her pregnancy, however, can be devastating. It can result in miscarriage, stillbirth, and serious birth defects such as deafness, blindness, and congenital heart problems. The effects are known as congenital rubella syndrome, or CRS.

The Rubella and CRS elimination project emphasizes adult vaccination and supplemental immunization activities. The project began in 2005 with a focus



Seated are *Ciro de Quadros*, MD, MPH, SVI president and CEO, and *Mirta Roses Periago*, MD, PAHO director. Standing, from left, are *Jon Andrus*, MD, PAHO's chief, Immunization Unit; *Professor Peter J. Hotez*, MD, PhD, chair, SVI Scientific Advisory Council; and *Gina Tambini*, MD, PAHO's Manager of Family and Community Health.

on the countries of the English-speaking Caribbean, Costa Rica, Ecuador, El Salvador, Honduras, and Venezuela. During 2006, the focus will be on Bolivia, Dominican Republic, Guatemala, Argentina, Mexico, Peru, and Venezuela.

PAHO adopted a resolution in 2003

to eliminate rubella and CRS in the Americas by 2010. The project is aimed at speeding the progress towards this goal and will serve as a pilot program in rubella and CRS elimination that could be adopted and applied in other regions of the world.

Nation's Immunization Programs Lauded

The US Capitol was the scene on June 5th for a congressional education session attended by more than 30 legislative staff members who heard science-based presentations on the safety of the nation's immunization programs. Organized by Every Child by Two (ECBT), the session was moderated by *Mrs. Betty Bumpers*, who co-founded ECBT with *Mrs. Rosalyn Carter*, and who serves as the organization's vice president. *Dr. Peter Hotez*, SVI's principal scientist, offered the perspective of a pediatrician, vaccine researcher, and father of an autistic child. He called for more funding for autism research and amplified services for parents of autistic children. The session also featured *Melinda Wharton*, MD, deputy director, CDC's National Center for Immunization and Respiratory Diseases; *Amy Pisani*, ECBT executive director; and *Paul Offit*, MD, Children's Hospital of Philadelphia.



At the US Capitol are, from left, *Peter Hotez*, MD, PhD, SVI principal scientist; *Mrs. Betty Bumpers*, co-founder and vice president, Every Child By Two (ECBT); *Amy Pisani*, ECBT executive director; and *Paul Offit*, MD, the Children's Hospital of Philadelphia.

**BOOK
CORNER**

Report Explores Sustainability of Vaccine Programs for Developing Countries

Vaccination programs offer countries in the developing world the opportunity to fast-forward economic progress along with combating infectious disease, eradicating extreme poverty, reducing child mortality, and improving maternal health. The Sabin Vaccine Institute has just published the proceedings of a gathering of world experts in health policy and vaccine financing that addresses key factors impacting developing-country immunization efforts.

The title of the book, "Introduction and Sustainable Use of Vaccines in Developing Countries," takes its name from the 2005 Sabin Vaccine Policy Colloquium, convened in October 2005 at the Cold Spring Harbor Laboratory in New York. It engaged 35 leaders in public health, government, and industry for two days to collectively tackle one of the world's most pressing global health challenges: finding the ways and means to scale-up global childhood vaccination, and achieving immunization for all as a basic condition for health and development.

"This document delves deeply into the mechanisms that make immunization programs possible, yet challenging, from global economics to limits of scientific discovery," said **Ciro de Quadros, MD,**

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With New Vaccines, World Health Leaders Anticipate Decline in Rotavirus Rates, Hospitalizations and Deaths

World health experts meeting in Lisbon, Portugal on June 12 and 13 expressed optimism about vaccines to prevent many of the 1,400 daily rotavirus deaths currently occurring around the world. "Surveillance networks are giving us the data we need so that we can use rotavirus vaccine globally," Roger Glass, MD, PhD told a gathering of researchers who study the killer disease.

Glass, one of the scientific conveners of the 7th International Rotavirus Symposium, has led a team at the US Centers for Disease Control and Prevention (CDC) that has analyzed the grave impact of rotavirus on the world's children and is working to gather epidemiologic data to encourage safe and effective treatments and vaccines. Two newly promoted vaccines and others in development present the potential to shift the focus from child death and illness rates to numbers of lives saved.

"We would like to make rotavirus vaccines available to all children in the next five years," Glass said. "The challenge is to see if the vaccines work in children in the poorest countries of Africa and Asia."

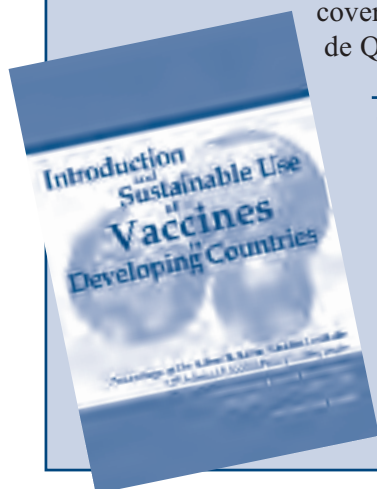
Rotavirus is the most common cause of severe, dehydrating diarrhea, and 85% of deaths from rotavirus occur in low-income countries. By the age of five, almost every child in both developed and developing countries is affected.

Conveners of the symposium were the World Health Organization (WHO), the Albert B. Sabin Vaccine Institute, and the US Centers for Disease Control and Prevention. The current annual death toll from rotavirus on a global scale is between 450,000 and 650,000, said Glass. The CDC reports 600,000 deaths annually from its interpretation of the data. About one in 40 children with rotavirus gastroenteritis will require hospitalization for intravenous fluids. Therefore, though it is a potential killer, for some children with better access to health services, the worst is evaded.

Despite its wide prevalence, rotavirus is not well known by name, even by some in the public health research area. According to SVI's Dr. **Ciro de Quadros,** "It is good that people know about the disease, especially now that vaccines can be introduced to prevent rotavirus."



From left, **Ciro de Quadros,** Sabin Vaccine Institute; **Dean Jamison,** University of California, San Francisco; and **Roger Glass,** Fogarty International Center, National Institutes of Health; convene the 7th International Rotavirus Symposium in Lisbon, Portugal.



William H Foege, MD, MPH Named 2006 Sabin Gold Medal Recipient

Champion of Global Immunization Honored at Annual Ceremony in Baltimore, Maryland

The Sabin Vaccine Institute awarded the 2006 Sabin Gold Medal to global health expert and epidemiologist William H. Foege, MD, MPH at a ceremony on May 9, 2006 in Baltimore, Maryland. Foege has for more than 30 years been a champion of immunization programs for children around the world and was co-founder and executive director of the Atlanta-based Task Force for Child Survival and Development.

According to H.R. Shepherd, SVI chairman, "Bill Foege has made an extraordinary impact on the world's health. He is eminently deserving of the Sabin Gold Medal, having deployed vaccines to their maximum effectiveness to reduce the burden of infectious diseases on the world's children, families and communities."

Foege is the 14th recipient of the Sabin Gold Medal, awarded annually by SVI to recognize accomplishments of those who make vaccine discoveries or employ vaccines to combat vaccine-preventable diseases. The medal commemorates the legacy of the late Dr.

Sabin, who in addition to discovering the oral polio vaccine, worked tirelessly during his lifetime to see it and other vaccines utilized globally.

In a speech that considered the roles played by researchers like Albert Sabin and public health workers who convey vaccines to people around the world, Foege said, "We are all part of a movement that I see as 'scientists without borders,' or 'health workers without borders,' indeed 'people without borders.'"

Speaking in tribute of Foege, Freeman A. Hrabowski, III, president of the University of Maryland, Baltimore County, said, "He has used his eyes to look into the face of suffering over and over, and to live among those who have suffered – touching them in so many ways on so many levels." He added, "Throughout his lifetime of reflection and action, he has learned and taught lessons that continue to inspire us. And for that inspiration, and [his] vision, all of us – most especially the children of the world – are better."



William H. Foege, MD, MPH is congratulated by Patty Stonesifer, Bill & Melinda Gates Foundation chief executive officer.

Foege worked in the successful campaign to eradicate smallpox in the 1970s. He championed child survival and development, injury prevention, population, preventive medicine, and public health leadership, particularly in the developing world. He is a strong proponent of disease eradication and control, and has taken an active role in the eradication of Guinea worm, polio, measles, and the elimination of river blindness. His many publications and lectures have broadened public awareness of these issues and brought them to the forefront of domestic and international health policies.

Foege attended Pacific Lutheran University. He received a medical degree from the University of Washington, and a master's in public health from Harvard University. He held key posts at the CDC Smallpox Eradication Program, the US Centers for Disease Control, the Task Force for Child Survival, the Carter Center, Emory University and the Bill & Melinda Gates Foundation. Foege remains active at Emory University as Emeritus Presidential Distinguished Professor of International Health and as a Gates Fellow at the Gates Foundation.



William H. Foege, recipient of the 2006 Sabin Gold Medal, is greeted with applause by, from left, Ciro de Quadros, president, *a.i.*, Sabin Vaccine Institute; H.R. Shepherd, chairman, SVI; Freeman A. Hrabowski, III, University of Maryland, Baltimore County; and, at right, Heloisa Sabin, widow of Albert B. Sabin, the late vaccinologist in whose name the medal is given.

2006 Sabin Award Recipients Warmly Received at Annual Dinner

Colleague of Albert Sabin, Arnon, Among Honorees

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medical editor for ABC News, Johnson provides on-air medical analysis for “World News Tonight”, “Nightline” and “20/20.” He has provided commentary on medical problems and answers for viewers of ABC News’ “Good Morning

America.” Johnson took the opportunity of his acceptance speech to replay a June 23, 2005 broadcast of an interview on ABC News. The interview followed the publication in *Rolling Stone* of an article by Robert F. Kennedy, Jr. that raised questions about the safety of childhood immunizations. Johnson de-

fended the public health achievements of immunization programs, pointing to the benefits of vaccination and his gratefulness that his own grandchildren have been immunized.

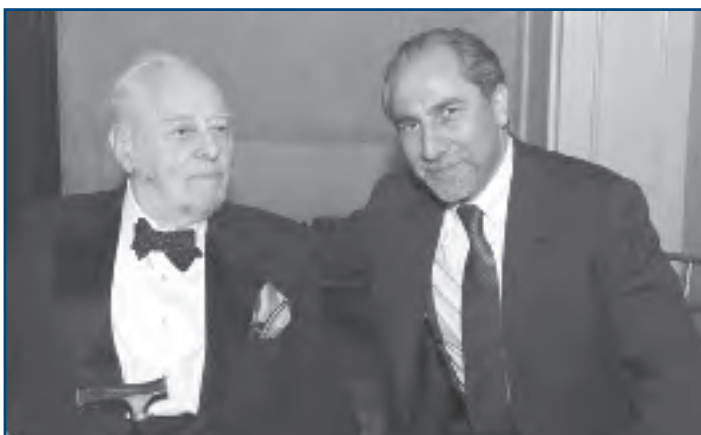
Johnson is on the faculty at Harvard Medical School and is on the staff of Massachusetts General Hospital.



Philip K. Russell, MD, presenting the Sabin Award to Ruth Arnon, PhD.



Timothy Johnson, MD, with Master of Ceremonies Peter Hotez, MD, PhD.



H.R. Shepherd presented Garo Armen, PhD with the Sabin Humanitarian Award.

Acceptance Remarks Delivered by Ruth Arnon, PhD at 2006 Sabin Awards Dinner

I am greatly honored and privileged to receive the Sabin Vaccine Institute Award. I have felt connected with this Institute for a very long time. First and foremost, I knew Professor Sabin and admired his work for many years. Later I came to know him a little better when he became the president of the Weizmann institute and we worked together. During this period I met Heloisa, when she arrived to Rehovot as his new wife. She is a wonderful and charming lady and we became quite friendly. I really love her, and I am very sorry that she is not with us this evening.

When the Sabin Vaccine Foundation was established, I had the privilege of serving on the first Scientific Advisory Board and was thus involved in its initial activities. Although quite a few years have passed since the end of my term on this Board, I try to keep abreast of the news from the Sabin Vaccine Institute and to follow closely their achievements.

Vaccine development is still a very important issue in public health. Until several decades ago infectious diseases were killer number one. Thanks to the availability of vaccines and global vaccination policies, many of those diseases are being eradicated, including polio, thanks to the Sabin vaccine. The major killers now are heart diseases and cancer. I therefore applaud the Sabin Vaccine Institute for embarking on the important task of fighting cancer, and for its efforts to push forward towards the development of cancer vaccines. This is at present one of the most critical targets of vaccine development.

I would like to thank again the Board of Trustees of the Sabin Vaccine Institute and particularly the Chairman, Professor Herman Shepherd, for bestowing upon me this great honor. I will always cherish this award in my heart.

US Postage Stamp Commemorates Albert Sabin's Vaccine Discoveries

SVI Joins Rotary International and UN Foundation in Celebration of the Albert Sabin Postage Stamp

The US Postal Service issued a postage stamp featuring a woodcut rendering of Albert B. Sabin, MD. The stamp is recognition of Dr. Sabin's legacy of lifesaving work as a virologist and discoverer of the oral polio vaccine.

The 87-cent *Albert Sabin* definitive stamp was issued in a pressure-sensitive adhesive pane of 20 stamps on March 8, 2006 and it is on sale nationwide. On the same day, the Postal Service released a 63-cent stamp honoring another polio vaccine pioneer, Jonas Salk, MD, whose vaccine was licensed in 1955.

According to H.R. Shepherd, DSc, chairman of the Sabin Vaccine Institute, "Albert Sabin had an amazing scientific gift that he shared with the world through vaccine discoveries. The postage stamp depicting him is an extraordinary tribute and is a reminder of how his life and legacy have distinction in the United States and around the globe. The Albert Sabin Institute is committed to continuing the legacy of this great American."

The Sabin postage stamp, one in the Distinguished Americans series, recognizes Sabin's successful efforts to develop a polio vaccine, which made him one of the most esteemed scientists in the world. Dr. Sabin received numerous recognitions in his lifetime, including the National Medal of Science (1970) and the Presidential Medal of Freedom (1986), and was featured on a stamp issued in Brazil.

The US Postal Service's release of the Albert Sabin postage stamp was celebrated at a reception in Washington, DC, in April. Jointly hosted by the Sabin Vaccine Institute, Rotary International, and the United Nations Foundation, the event drew colleagues and admirers of the late vaccinologist.

Artist Mark Summers created the portrait on the stamp, using as a reference a photograph of Sabin taken in 1982. The artist, who also created art for previous issuances in this series, employed

a scratchboard technique distinguished by a dense network of etched horizontal lines.

Albert Bruce Sabin was born on August 26, 1906, in Bialystok, Poland (then part of Russia). He immigrated with his family to the United States in 1921 and 10 years later received a medical degree from New York University. From 1931 through 1933, Sabin trained in internal medicine, pathology, and surgery at Bellevue Hospital. He conducted research at the Lister Institute of Preventive Medicine in England in 1934 and then returned to New York to join the staff of the Rockefeller Institute for Medical Research (now Rockefeller University). He devoted himself to polio research, seeking a way to prevent the disabling and sometimes fatal disease caused by the poliovirus. "A scientist," Sabin once said, "cannot rest while knowledge which might reduce suffering rests on the shelf."

In 1939, Sabin moved to Ohio to continue his research on polio and other vi-

ruses, beginning what would become a three-decade-long association with the University of Cincinnati and the Children's Hospital Research Foundation. For part of that time, he was away serving as a lieutenant colonel in the US Army Medical Corps, researching diseases that afflicted American soldiers in World War II and, in the course of his work, helping to develop vaccines against dengue fever and Japanese encephalitis.

After the war, Sabin returned to Cincinnati and by the mid-1950s was ready to test a vaccine made from live but weakened poliovirus. His approach was based on one of the time-tested principles of immunology: infection with a harmless strain of virus stimulates antibody production that protects against more virulent strains. In 1960, after extensive worldwide trials, Sabin's live-virus vaccine was approved for use in the United States.

The Sabin vaccine is easily administered, with doses given orally. A killed-

Continued on next page



Pictured at the celebration in Washington, DC, following the release of the Albert Sabin stamp are, from left, Dr. David H. Reid, medical director, Health and Resource Management, U.S. Postal Service; Michael Whitham, secretary/treasurer, Sabin Vaccine Institute Board of Trustees; Ciro de Quadros, MD, MPH, president and CEO a.i., Sabin Vaccine Institute; Mrs. Heloisa Sabin, founding member, Sabin Vaccine Institute; John Sever, MD, member of the International Polio Plus Committee, Rotary International; Stephen Strickland, PhD, senior liaison officer, Global Polio Eradication, United Nations Foundation; Andrea Gay, director, Children's Health, United Nations Foundation; and Robert Chanock, MD, senior investigator, Laboratory of Infectious Diseases, National Institute of Allergy and Infectious Disease, National Institutes of Health.



virus vaccine developed by Jonas Salk and licensed for general use in 1955 requires injections. Both vaccines are highly effective and are responsible for the eradication of polio in the United States and, subsequently, the rest of the Americas and Europe. Today, Sabin's vision of a world without polio has almost been realized, thanks to an extraordinary international effort to make his vaccine available to all people. Immunization efforts are continuing to make headway against the virus in Africa and Asia, raising hopes that global polio eradication will be achieved in the near future.

In the years following his success against polio, Sabin continued to play a major role in the scientific community—researching, consulting, and lecturing. He was also involved in several humanitarian efforts, focusing on non-viral “diseases” such as poverty and ignorance. On March 3, 1993, Albert Sabin died in Washington, DC; he was buried at Arlington National Cemetery.

For Collectors

The Albert Sabin first day cover is available from Uncover, a company specializing in stamp collectibles, and can be ordered by phone, 1-800-443-3232, or ordered online at www.uncover.com. The mailing address is: One Uncover Center, Cheyenne, Wyoming 82008-0001.

Recommendations for Rotavirus Vaccine and Human Papillomavirus Vaccine Made by Advisory Committee

The U.S. Centers for Disease Control and Prevention's (CDC) Advisory Committee on Immunization Practices (ACIP) met in Atlanta this past February and June, making recommendation that included two lifesaving vaccines.

New Vaccine to Prevent Rotavirus

The ACIP in February voted to recommend a newly licensed vaccine to protect against rotavirus, a viral infection that can cause severe diarrhea, vomiting, fever and dehydration (gastroenteritis) in infants and young children. Rotavirus is the leading cause of gastroenteritis in infants and young children in the United States and worldwide.

The ACIP recommendation is for infants to receive three doses of the oral vaccine at two, four, and six months of age. Children should receive the first dose of the vaccine by 12 weeks of age and should receive all doses of the vaccine by 32 weeks of age.

The new vaccine, RotaTeq™ (marketed by Merck and Company), is the only vaccine approved in the United States for prevention of rotavirus gastroenteritis (vomiting and diarrhea).

Each year, rotavirus is responsible for more than 400,000 doctor visits, more than 200,000 emergency room visits, 55,000 to 70,000 hospitalizations, and between 20 and 60 deaths in US children younger than 5 years of age, leading to about \$300 million in direct medical costs and \$900 million in total societal costs. In developing countries, rotavirus is a major cause of childhood deaths, causing more than half a million deaths each year in children younger than five years of age.

Rotavirus vaccine will not prevent gastroenteritis caused by other viruses, but is very effective against rotavirus disease. Studies indicate the vaccine will prevent about 74 percent of rotavirus cases and about 98 percent of the most severe cases, including 96 percent of cases requiring hospitalization.

HPV Vaccination Recommended

The ACIP voted in June to recommend that a newly licensed vaccine designed to protect against human papillomavirus virus (HPV) be routinely given to girls when they are 11 to 12 years old. The ACIP recommendation also allows for vaccination of girls beginning at nine years old as well as vaccination of girls and women 13-26 years old. HPV is the leading cause of cervical cancer in women and causes genital warts in men and women.

According to the ACIP's recommendation, three doses of the new vaccine should be routinely given to girls when they are 11 or 12 years old. The advisory committee, however, noted that the vaccination series can be started as early as nine years old at the discretion of the physician or health care provider. The recommendation also includes girls and women 13-26 years old because they will benefit from getting the vaccine. The vaccine should be administered before onset of sexual activity (i.e., before women are exposed to the viruses), but females who are sexually active should still be vaccinated.

Gardasil®, manufactured by Merck, is the first vaccine developed to prevent cervical cancer, precancerous genital lesions and genital warts due to HPV.

The vaccine is highly effective against four types of the HPV virus, including two that cause about 70 percent of cervical cancer. Those who have not acquired HPV would get the full benefits of the vaccine. On average, there are 9,710 new cases and 3,700 deaths from cervical cancer in the United States each year.

Recommendations of the ACIP become recommendations of CDC once they are accepted by the director of CDC and the Secretary of Health and Human Services and are published in the Morbidity and Mortality Weekly Report.

Sabin Vaccine Institute Represented at Woodrow Wilson Center Forum on Brazil Biotech

SVI Collaborates with Brazil's Butantan Institute and the Oswaldo Cruz Foundation

A seminar hosted by the Woodrow Wilson International Center this past March considered biotechnology advances in Brazil and obstacles to overcome in the field of neglected tropical diseases. Brazil is classified as an “innovative developing country” (IDC), having advanced in such fields as biotechnology in recent years despite its status as a developing country. The seminar featured representatives from the Sabin Vaccine Institute.

Taking advantage of its public-sector infrastructure and low-cost production, Brazil has tackled the issue of poor health care by investing in health research and development, along with creating and patenting new and innovative vaccines, technologies, and health services. The Sabin Vaccine Institute is participating in one aspect of this activity through a collaboration on research for its human hookworm vaccine at Brazil's Oswaldo Cruz Foundation (Fiocruz). Also, SVI established a memorandum of understanding in 2004 with Brazil's federal biological manufacturing organization for prospective production of a human hookworm vaccine.

At the seminar titled, “Brazilian Research and Development to Help the World's Poor,” were Peter Hotez, MD, PhD, professor and chair, Department of Microbiology, Immunology and Tropical Medicine at The George Washington University and SVI principal scientist, *Ciro de Quadros*, SVI president & CEO, *a.i.* and Mrs. *Helois Sabin*, founding SVI board member. Representing Brazil's federal biotechnology sector were *Isaias Raw*, president, Fundação Butantan, and researcher, Center of Biotechnology, Instituto Butantan, São Paulo, Brazil; and *Akira Homma*, director, Bio-Manguinhos / Fiocruz, Rio de Janeiro, Brazil.

The session illustrated that due in part to global product development partnerships, Brazil is successfully pioneering

the development of vaccines for tropical infectious diseases that are largely ignored by the international public health community because of relatively small capital returns. The seminar was moderated by *Thome Nicocelli*, MD, director of the Brazil Project at the Woodrow Wilson International Center.

Helois Sabin stressed the vital importance of biotechnology and medical research in working to eradicate diseases and improve the lot of the world's poor. *Ciro de Quadros* described how the Sabin Institute commemorates Sabin's legacy through the promotion of vaccine research by identifying viable research opportunities and supporting their development. According to *de Quadros*, ongoing vaccine developments, in both the developed and developing world, herald a new era: “the twentieth century was the century of antibiotics, the twenty-first will be the century of vaccines.”

Peter Hotez highlighted collaborative measures taken by Brazilian public health organizations such as Fiocruz and the Butantan Institute, with global development partners, such as the Sabin Vaccine Institute, to target tropical diseases neglected by most researchers in the developed world. Malaria, HIV, and tuberculosis, or the “big three,” receive all the attention from the international community, he argued, while 13 parasitic and bacterial diseases are often overlooked and understudied. These 13 diseases have been burdening humanity for centuries, and many of them are associated with intense stigmas, as is the case with leprosy. These diseases



Ciro de Quadros, MD, MPH addresses a group convened by the Woodrow Wilson International Center with *Peter J. Hotez*, MD, PhD, left, and *Helois Sabin*, right.

mainly afflict the rural poor of low-income countries, as such diseases are often both causes and consequences of poverty. Many of these diseases cause physical growth suppression and cognition underdevelopment, decreasing victims' chances of making a better livelihood. *Hotez* proposed that a paradigm shift is needed in the way we think about diseases in developing countries, with the big three replaced by the “gang of four,” to account for neglected tropical diseases in the aggregate.

Isaias Raw reiterated the problem of lack of commercial incentive, explaining that medicine should be “for people,” not for profit. He highlighted the need to invest in research and development in the developing countries themselves so that medicines are made available to the poor at affordable prices. *Akira Homma* provided an overview of the development and evolution of Brazilian biotechnology. He outlined the country's increasing vaccine production capacity by showing that in 2004, 96% of polio vaccinations used in Brazil were produced domestically. In regards to intellectual property rights, *Homma* stressed the need for the developed world to free up technology and share it with the developing world at negotiated prices.

World Vaccine Congress 2006 Draws Vaccine Researchers and Industry Leaders

Sabin Vaccine Institute Collaborates at New Venue in Washington, DC

The World Vaccine Congress 2006, held in Washington, D.C., for the first time in its eight-year history, took place on March 20-23, 2006. The Sabin Vaccine Institute was among the field of collaborating organizations. The conference sessions provided progress reports on vaccine development and a forum of interaction for public health experts, senior industry leaders, government officials and vaccine researchers. Its program addressed critical issues facing the vaccine industry today.

Lance Gordon, PhD, president and CEO of VaxGen and an SVI board member, moderated a conference session on vaccines in development. Oren Cohen, MD, chief medical and scientific officer at Quintiles Translational Corporation, in a presentation on vaccines for the poor, presented a description of the work Quintiles engages in with SVI's Human Hookworm Vaccine Initiative.

Sen. Dale Bumpers (retired) presented a keynote speech on funding for vaccine development. The retired four-term senator from Arkansas, and his wife, Betty, are known as strong advocates of childhood immunization. In 1999, a vaccine research center at the National Institutes of Health was named the Dale and Betty Bumpers Vaccine Research Center.



Above, Oren Cohen, MD, Quintiles Translational Corporation, offered an example from his work from the SVI Human Hookworm Vaccine Initiative, during the World Vaccine Congress in Washington, DC. Below, Sen. Dale Bumpers (retired) delivers a keynote speech.



SVI Cancer Vaccine Consortium News

CVC Contributes to NCI Translational Research Working Group

On April 24, 2006, the National Cancer Institute's (NCI) Translational Research Working Group (TRWG) hosted an Industry/Society/Foundation Roundtable to solicit input from a range of stakeholders. Lothar Finke, MD, of Argos Therapeutics, represented the SVI's Cancer Vaccine Consortium (CVC) at this meeting.

The goal of the TRWG is to analyze current NCI translational research activities and to define gaps, strategies, and directions for the future. Among the consensus recommendations that came out of the April roundtable were several that would advance CVC goals. For example, it was recommended that the NCI:

- take an active role in standardization and validation of tests and assays, e.g. through proficiency panels that include non-NCI entities;
- broaden its tumor/biological sample banking activities, link samples with strong clinical data, and make these

- available to NCI, non-NCI, and industry researchers;
- broker collaborations between academia and industry; and
- lead efforts on surrogate endpoints, biomarkers, and imaging.

The TRWG has outlined five "developmental pathways to clinical goals," which are published on the NCI website, www.cancer.gov/trwg. Of particular interest is the pathway for immune response modifiers (vaccines, cytokines, etc.).

In other CVC news...

Lothar Finke was elected to the Executive Council of the CVC, while member Axel Hoos, MD, PhD, of Bristol-Myers Squibb, was elected to the position of chair. The Executive Council guides CVC strategy and advises the CVC Executive Director.

Colloquium Yields Insights on Vaccine Programs for Developing Countries

from page 5

MPH, president, *a.i.*, of the Sabin Vaccine Institute. "By capturing diverse perspectives on immunization financing, both from the developed and developing countries, we identified paths forward. The challenge now is for participants and the whole global immunization community to work together to realize the ideas and recommendations that emanated from this forum."

The book features comments by Sir George Alleyne, MD, director emeritus of the Pan American Health Organization, on the theme, "Immunization for all: a condition for health and development." An overview of the current status of immunization programs is accented by country reports from Angola, Brazil, Ethiopia, Ghana, and Vietnam. The document explores immunization program financing, including innovative new funding mechanisms and programs that have had regional success over recent years.

The dialog includes commentary from representatives of key international agencies, from UNICEF, the World Health Organization, Pan American Health Organization, and the Global Alliance for Vaccines and Immunization. Manufacturer's insights are also captured in this publication.

The economic benefits and lifesaving value of immunization programs for developing world countries are compelling aspects of the Sabin Vaccine Institute's latest publication release. The heightened emphasis on global health makes a publication of this kind an important contribution to an urgent debate. The meeting and proceedings were supported by a grant from the Bill & Melinda Gates Foundation. An electronic version of the publication is available at www.sabin.org; hard copies can be obtained by request by emailing sabin@sabin.org.

SABIN CALENDAR

AUGUST-NOVEMBER 2006

August 2006

August, all month US Nationwide
National Immunization Awareness Month
www.partnersforimmunization.org/niam.cfm

August 9 - 11 Denver, Colorado
7th National Conference on Immunization Coalitions
www.seeuthere.com/rsvp/invitation/invitation.asp?id=/m2c666-455170415278

August 13 - 18 Toronto, Canada
XVI International AIDS Conference
www.aids2006.org

September 2006

September 12 - 14 London, UK
Modern Vaccines, Adjuvants & Delivery Systems
www.meetingsmanagement.com/mvads_2006

September 24 - 30 US Nationwide
National Adult Immunization Awareness Week
www.cdc.gov/nip/events/naiaaw

September 26 - 27 Washington, DC
National Vaccine Advisory Committee
www.bhs.gov/nvpo/nvac

October 2006

October 9 - 11 Lyons, France
World Vaccine Congress 2006
www.lifescienceworld.com/2006/wvc1%5Efr

October 18 - 20 Vienna, Austria
Influenza Vaccines for the World
www.meetingsmanagement.com/ivw_2006

October 25 - 26 Atlanta, Georgia
Advisory Committee on Immunization Practices
www.cdc.gov/nip/ACIP/dates.htm

October 26 - 29 Los Angeles, California
International Society for Biological Therapy of Cancer Annual Meeting
www.isbtc.org/meetings.html

November 2006

November 4 - 8 Boston, Massachusetts
American Public Health Association (APHA) 134th Annual Meeting and Exposition
www.apha.org/meetings

November 9 - 10 Washington, DC
8th Annual Colloquium on Cancer Vaccines and Immunotherapy
www.sabin.org

November 10 - 11 Washington, DC
Cancer Vaccine Consortium Meeting
www.sabin.org

November 15 - 17 Prague, Czech Republic
From Genomes to Protective Antigens – Designing Vaccines
www.meetingsmanagement.com/gpadv_2006



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