



FOGARTY INTERNATIONAL CENTER • NATIONAL INSTITUTES OF HEALTH • DEPARTMENT OF HEALTH AND HUMAN SERVICES

African medical education program enters next phase

Fogarty is working with its partners to plan how to build on the success of the Medical Education Partnership Initiative (MEPI) and continue to strengthen and expand capacity building in sub-Saharan Africa. The Center has released two new program concepts that outline possible next steps. The first would support a governing body to continue networking activities among health educators in Africa, including participants of MEPI and the related NEPI network, devoted to nursing training. The second would fund efforts to strengthen training and retention of health care professionals; encourage research to improve and evaluate educational practices; and enhance capacity to develop, implement and evaluate evidence-based services with an emphasis on HIV/AIDS. Fogarty is working with the President's Emergency Plan for AIDS Relief (PEPFAR) to develop these activities, which would be administered by NIH. More information is available at: <http://bit.ly/FICConcepts>.

During the August MEPI/NEPI meeting in Nairobi, health academics and professionals joined together to establish the African Forum for Research and Education in Health (AFREhealth). Building on the MEPI Principal Investigator Council, "AFREhealth will take the lead in driving solutions to African health challenges from an African perspective," according to its chair, Dr. Peter Donkor, of Ghana's Kwame Nkrumah University of Science and

Photo by Richard Lord for Fogarty



Fogarty is helping to plan the next phase of the Medical Education Partnership Initiative (MEPI) to continue to build health and science capacity in Africa.

Technology. The new collective's goals include sharing best practices, collaborating with stakeholders to improve health outcomes, mobilizing resources, working toward an AIDS-free generation, and establishing a research agenda for key health priorities.

Fogarty awards \$3M to support emerging global leaders

To encourage promising developing country scientists to pursue research careers, Fogarty has launched the Emerging Global Leader Award program. In the first funding round, seven early career scientists will receive more than \$3 million over five years to afford them protected time for research and quality mentorship that will foster research independence. The awards provide support for salaries, and for research project and career

development activities. The inaugural grants cover topics such as cholera, diabetes, mental health and road safety, and are supported with funding from Fogarty, the National Institute of Mental Health and the NIH Offices of Research on Women's Health, and Behavioral and Social Sciences Research.

More information is available at: <http://bit.ly/EmergLead>.



- Eliminating malaria in the U.S.
- Working to eradicate smallpox, polio
- Building global research capacity

HHS makes progress on Zika, yellow fever vaccines

The U.S. Department of Health and Human Services (HHS) has announced progress on several fronts to develop vaccines that protect against Zika and yellow fever viruses.

In early September, the Department announced it has awarded an \$8.2 million contract to Moderna Therapeutics of Cambridge, Mass., to help speed development of a novel vaccine for Zika. Moderna's vaccine candidate uses messenger RNA or mRNA technology. Messenger RNA is a molecule that carries specific genetic codes to parts of the cell. This type of vaccine uses mRNA containing the genetic sequence of the Zika virus to generate an immune response in people.

Meanwhile at NIH, a clinical trial was launched in August to evaluate the safety and efficacy of another investigational Zika vaccine developed by the National Institute of Allergy and Infectious Diseases (NIAID). At least 80 healthy volunteers are expected to be studied at three U.S. sites.

"A safe and effective vaccine to prevent Zika virus infection and the devastating birth defects it causes is a public health imperative," said NIAID Director Dr. Anthony S. Fauci. "NIAID worked expeditiously to ready a



Photo courtesy of NIAID

A healthy volunteer receives the NIAID Zika virus investigational DNA vaccine as part of an early-stage trial to test the vaccine's safety and effectiveness.

vaccine candidate, and results in animal testing have been very encouraging."

In addition, NIH researchers have identified compounds that potentially can be used to inhibit Zika replication and reduce its ability to kill brain cells. Using screening robots at the National Center for Advancing Translational

Sciences, researchers identified two classes of compounds effective against Zika. One is emricasan, an investigational drug being evaluated for liver ailments. The other is niclosamide, an approved drug to treat people who have worm infections.

Finally, NIAID has begun early-stage clinical study of a vaccine for yellow fever. The disease has recently caused more than 400 deaths and 5,000 infections in Angola and the Democratic Republic of the Congo.

For more information: <http://bit.ly/ZikaLinks>

Dehydration diagnostic validated

A method of diagnosing the severity of dehydration in children has been validated by a team of Fogarty-supported scientists at Brown University.

As many as 700,000 children die worldwide each year of dehydration, making the quick and accurate diagnostic tool particularly useful in low-resource settings.

Developed in Bangladesh and known as the DHAKA score, diagnosis is based on four symptoms:

- General appearance: is the child restless, irritable, lethargic or unconscious?
- Breathing: is it normal or deep?
- Skin pinch: after a pinch, does skin snap back, respond slowly or very slowly?
- Tears: does the child produce normal volume, less than normal or none?

News release: <http://bit.ly/DHAKAScore>



What Technology Do You Need?



Gari Clifford and Omer Inan



Fogarty posts mHealth materials

Free, online training materials covering various aspects of global mobile health research are now available on the Fogarty website. The scenario-based presentations—developed for a workshop hosted by Fogarty's Center for Global Health Studies earlier this year—promote multidisciplinary research, implementation science and novel research methodologies. The modules include advice on how to define problems, develop needs assessments, design interventions and other topics.

Website: <http://bit.ly/mHealthtraining>

Cuba is new site for NIH-funded research training program

Cuba is the newest training site for an NIH-funded program that gives U.S. students the opportunity to conduct research in an international setting. Tulane University student Alejandra Marks spent eight weeks on the island this spring, working with a mentor to study maternity homes and their role in prenatal care. It's believed to be the first time a U.S. student has conducted research in Cuba as part of an NIH-funded research training program.

With the thaw in diplomatic relations between the U.S. and Cuba raising interest in increasing scientific collaborations, this recent fellowship is an example of what's possible. Tulane's School of Public Health and Tropical Medicine has opened a permanent collaboration site in Cuba and intends to send more students there. The school has an NIH grant to provide minority students with short-term training opportunities outside the U.S. so they can hone their research skills, and explore international health issues and careers. The program is offered by the NIH's National Institute on Minority Health and Health Disparities (NIMHD).

Cuba's National School of Public Health is the partner institution. From her base in Havana, Marks worked on a project examining maternity homes in the country and other parts of the world. These residential facilities give care and shelter to pregnant women who have obstetric complications and other risk factors, such as housing that's inadequate or far from a hospital. Cuba has been using this prenatal care strategy since the 1960s.

Marks helped build the conceptual framework for the U.S.-Cuba collaborative research project. She reviewed literature on prenatal care policies, strategies, and programs as well as articles documenting how maternity homes have improved prenatal care and contributed to better outcomes in Cuba and elsewhere. Marks also got a firsthand look at health care in urban and rural settings by visiting maternity homes, family doctor and nurses' offices, and polyclinics that provide both general and specialty care.

She says the experience gave her a deeper understanding of how Cuba's health system reaches out to women who are pregnant, or thinking of having a child, and provides continuity of care throughout their pregnancy.

"Cuba's case is a complete anomaly among health care systems in Latin America as it is the only country in which poverty is not an indicator of diminished health care

Photo courtesy of Alejandra Marks



During her NIH-funded fellowship in Cuba, Tulane student Alejandra Marks traveled to rural areas to discuss health care with residents.

access," observes Marks, who is earning a master's degree in Latin American studies and aspires to work for the WHO, United Nations or a nongovernmental organization. Marks will write several papers with her U.S. mentor, Dr. Arachu Castro of Tulane, and her Cuban mentor, Dr. María Cecilia Santana, a former director of maternal and child health in the Ministry of Health and current faculty member with the National School of Public Health.

"Working with my mentor was fascinating, especially on a cultural level," Marks says of her relationship with Santana. "It opened my eyes to a different system of research methods and styles to those in the U.S." Marks also notes that while she is bilingual, the training in Cuba strengthened her ability to write in Spanish at an academic level. Two of the three planned papers will be written in Spanish for peer-reviewed journals.

Tulane's international research training initiative is one of 24 funded by NIMHD's Minority Health and Health Disparities International Research Training Program (MHIRT). Since 2005, Tulane has given students the opportunity to train on research projects in Peru, Argentina, China and Mexico. The expansion to Cuba came after Tulane got approval from the NIH and the U.S. Departments of State and Treasury. Fogarty staff shepherded the process.

Castro and Dr. Richard Oberhelman, who directs the MHIRT program for students at Tulane and Xavier Universities in Louisiana, say they hope to develop more research collaborations in Cuba and provide additional training opportunities.

RESOURCES

Websites: <http://bit.ly/CubaFogarty>

PROFILE

Fulbright-Fogarty Fellow studies cholera in children

By Cathy Kristiansen

Dr. Brie Falkard was accustomed to handling study subjects that squeaked and scooted around cages, but she became drawn to a much more challenging research model than mice—humans. To venture into this new arena, she applied for a Fulbright-Fogarty Fellowship and set off to investigate how the human immune system reacted in cholera patients in Bangladesh.

“I thought it would be a lot more interesting to study immunology in a more direct environment,” said Falkard, who earned her doctoral degree in microbiology and immunology at Columbia University. “My background was microbiology in animal models, but with the fellowship, that completely switched. Now I’m focused on human immune responses.”

Her fellowship enabled the change and also gave her the opportunity to branch into global health research. Fulbright-Fogarty fellowships—supported through a partnership between Fogarty and the Department of State’s Office of Academic Exchange Programs—are designed to promote the expansion of research in public health and clinical research in resource-limited settings.

For her research project, Falkard focused on the hormone leptin, which mediates immune responses as well as metabolic processes, including appetite. First, she and her team measured the hormone in a small group of children—some with cholera and others without the disease—and followed them for 180 days. Leptin concentrations were lowest in acutely sick children. Researchers next studied 74 infected children and found that low leptin levels on the second day of illness were associated with improved immune responses to cholera, only in children with better nutritional status. “This study is the first assessment of leptin levels in individuals with cholera,” and indicates the hormone plays a role in the antibody response to the bacteria, Falkard and her colleagues wrote in a paper published in *The American Journal of Tropical Medicine and Hygiene*.

Falkard found many aspects of human studies more challenging than murine research, including limitations on which tissue can be sampled. “In mice, you can collect



Brie Falkard, Ph.D.

Fulbright-Fogarty Fellow: 2012 – 2013

Fellowship at: International Centre for Diarrhoeal Disease Research, Bangladesh

U.S. partner: Massachusetts General Hospital/Harvard
Research topic: Immunological response to cholera in children

all sorts of body parts, whereas it’s very difficult to get a tissue biopsy of, for instance, the small intestine in humans.” She said it’s also important to obtain approval in human studies and ensure participants are comfortable with and engaged in the research. Researching in humans involved much more detailed planning, she added.

Falkard said her interest in global health sprouted during a short stint at a malaria center in Mali before her doctoral studies. “Everyone there comes down with malaria. It’s so shocking to see places in the world where you accept that you’re going to get extremely sick once a year,” she recalls. “It was a very intense experience. I wanted to go back to the field, after that.”

She chose Bangladesh for her fellowship because of the close collaboration between the International Centre for Diarrhoeal Disease Research in Dhaka—the capital—and Massachusetts General Hospital, where she was working. Her fellowship enabled her to learn more lab skills, such as flow cytometry and how to conduct a variety of immunological tests. “It was a really great space with a lot of robust research projects going on that you could help out whenever you wanted to learn.” She also developed as a mentor, training others in some lab techniques.

Falkard subsequently joined a cholera vaccine project in Haiti to work with colleagues she met during her fellowship. “I am really enjoying what I do, being able to conduct science and work in developing countries and on human disease,” she said. “The fellowship was useful for my career, and it completely changed what I do.”

FÁBIO MESQUITA, M.D., PH.D.

Dr. Fabio Mesquita is the technical officer in charge of HIV and viral hepatitis for the WHO in Jakarta. A globally recognized harm reduction specialist, he has spent most of his career in his native Brazil, where he served from 2013 until August 2016 as director of the Health Ministry's department of STDs, AIDS and hepatitis. Dr. Mesquita devised and managed Brazil's first city-specific AIDS response, which became the basis of the country's successful national HIV program. He has previously worked on HIV/AIDS programs in Indonesia, as well as in the Philippines and Vietnam.



How did Fogarty training advance your career?

I would say that my international engagement and career are completely the result of the Fogarty-funded training and research I did in the 1990s. First, I attended a research training course on AIDS from 1990-1991 in the Department of Epidemiology at the University of California, Berkeley. It helped improve my research skills, and taught me to critically analyze my work and publish the findings. That was a big change from the way we do things in Brazil, and it was key to launching my career.

In Brazil, we have extremely good people working very hard on interesting projects but we're not used to publishing what we do—especially not in English. When we do publish, it's normally in Portuguese, which limits the audience the article will reach. So one of the best things I learned during that training is to publish whatever you are doing, and today, I publish at least one paper per year.

I went back to Berkeley in 1999 with additional support from Fogarty. The focus of my research was the dissemination of HIV among people who inject drugs in the city of Santos, in Sao Paulo state, on understanding their behavior and analyzing seroprevalence rates. I set up Brazil's first city AIDS program in Santos, which at the time had the highest rate of HIV infection throughout the country, with half the cases related to people who injected cocaine. That research and the lessons I learned in my training at Berkeley have been crucial for my career.

How has Fogarty helped Brazil respond to HIV?

Brazil is considered to have one of the best responses to HIV in the developing world—comprehensive, well-structured and successful. We provide free antiretrovirals to everyone with HIV/AIDS, have an effective harm reduction program and offer HIV testing at primary care facilities, among other things. The AIDS program in the city of Santos, which I led after completing my Fogarty training, was the main inspiration for the national HIV response in Brazil.

Brazil's connection to Fogarty has been crucial to building

the national HIV response. One of the heads of the STD, AIDS and Viral Hepatitis Department at the Ministry of Health in the 1980s, Dr. Lair Guerra de Macedo Rodrigues, very wisely connected us to Fogarty. After she left, almost all of the directors of the national AIDS program were former Fogarty trainees. We have led the national response to HIV for many years, and our Fogarty training was catalytic in developing the response.

How is Brazil building global health research capacity?

Brazil supports a great deal of south-south cooperation, particularly in Latin America, where we are especially active in poor countries like Paraguay and Bolivia. But this cooperation is more in the form of technical support or the donation of medicines. It's very pragmatic in terms of saving lives or helping countries to develop their programs, but it's not focused on research.

We also help build capacity for research in some of the African countries that speak Portuguese. We have developed a research component in Africa, but it's not as advanced as we'd like it to be. In Brazil, we have a very strong scientific capacity and collaborate with many international agencies, including the NIH, but we must continually advocate for investments in science. We need to prioritize research funding—and not just AIDS research.

What are your goals for Indonesia?

Indonesia is considered by UNAIDS to have a growing HIV epidemic. With the fourth largest population in the world, it's considered a critical country for the global AIDS response. The WHO was looking for someone with experience in facing challenges in developing countries to help the people of Indonesia lead the response to their HIV epidemic. My colleagues and I are working to build local capacity through targeted training programs, and transferring the knowledge and technology needed for a successful HIV response.

Fogarty program develops bioethics expertise in Uganda

As the HIV/AIDS epidemic took hold in Africa in the 1990s, researchers studying ways to treat and prevent the disease struggled with the ethical questions involved. Was it appropriate to use placebos in trials of drugs that were already proven effective in high-income countries? How could they ensure research subjects were not unduly influenced into participation when the alternative in many cases was no treatment at all? How could investigators clearly communicate the potential risks to populations with little education and low literacy?

After consultations with the research community, Fogarty launched a bioethics research and training program in 2000 aimed at building capacity in Africa and other low- and middle-income countries. Since then, hundreds of academics, scientists and health officials have developed expertise to address the issues affecting their populations in the context of their own culture and research environment.

In Uganda, Dr. Nelson Sewankambo—then Dean of Makerere University’s School of Medicine—recognized the growing importance of bioethics and was quick to send faculty to the master’s-level bioethics programs Fogarty supported at institutions in the U.S., Canada and South Africa. And when the trainees returned home, they began working as a team to develop a national bioethics framework for Uganda, which is now the third largest destination for clinical trials in Africa.

“Fogarty trainees have been very active in developing

the research ethics landscape in Uganda,” says Dr. Julius Ecuru, Assistant Executive Secretary of the Uganda National Council for Science and Technology (UNCST), the government agency that oversees research and development. With Fogarty support, he earned a postgraduate diploma in international research ethics from the University of Cape Town in 2005. He says the experience gave him the inspiration to help bring about many of the reforms that have been instituted in his country.

Although regulation of research in Uganda began in 1970 with formation of the National Research Council, comprehensive national guidelines were not adopted until 1997, to meet the increased demand for review and regulation driven largely by HIV trials. With new issues emerging, and in-country ethics experts now available to consider them, the policies were revised and expanded in 2007 and 2014.

“We felt the guidelines must be driven by some kind of value judgment,” Ecuru explains “Every statement we put in there has an ethical justification of why it is there.”

The national policy spells out the process for obtaining informed consent from a participant or their representative, and outlines how to address care during and after the trial, along with compensation for any research-related injuries. It also establishes that researchers should involve community stakeholders

when planning projects, show respect for local values and cultures, strive for the highest standards of scientific and ethical integrity, and be transparent about their research objectives. Recognizing the cultural value attached to biological samples, such as blood and saliva, a separate consent form for samples is required and a materials transfer agreement must be put in place when specimens are sent somewhere else for testing or storage. The guidelines also define how to approach traditional and complementary medicine, requiring that

Bioethics training in Uganda includes consideration of ensuring informed consent for research subjects with low literacy.



the indigenous knowledge of communities be acknowledged.

Research ethics committees have been established at institutions throughout Uganda to review, approve and oversee research projects. Candidates to fill these critical positions must complete ethics instruction and be accredited by the government. Uganda has also adopted on-site monitoring to ensure ethical standards are maintained. A study by Fogarty trainees determined that is a feasible and affordable strategy, even in low-resource settings.

In the first decade of the Fogarty bioethics program, nine Ugandans from Makerere University traveled abroad for master's level training. They studied the principles of ethics, international guidelines, research methodologies and other topics. They were also immersed in the practical application of coursework, by observing IRBs in action and developing case studies relevant to the research issues they were facing at home. Throughout the process, they were mentored by experienced bioethicists.

Seven faculty with substantial training returned to Uganda and formed the core leadership for bioethics in the country. In addition to building a robust department at Makerere, they helped to shape national bioethics guidelines and develop training tools so the government could meet its need for accredited experts. They also assisted in organizing national and regional conferences to share information, build capacity and consider emerging issues.

By 2014, Makerere had developed sufficient bioethics expertise to successfully compete for its own Fogarty bioethics grant, partly supported by the National Institute of Allergy and Infectious Diseases and the National Human Genome Research Institute. That funding allowed Makerere to expand activities and establish its own bioethics master's degree program, greatly increasing the reach and sustainability.

Researchers no longer have to leave the country, or learn from a foreign trainer who comes in and teaches with examples from elsewhere, explains Dr. Joseph Ochieng, who was one of the first Ugandans to receive bioethics training. Ochieng, an anatomy professor at Makerere, earned a master's in bioethics from the University of Toronto in 2002 with Fogarty support, and continues to be heavily involved in bioethics.



With Fogarty support, Uganda's Makerere University has developed a cadre of bioethics experts and now offers a master's degree program tailored to the national context and research priorities.

Photo by Richard Lord for Fogarty

“We are training individuals in the context of Uganda, in the context of where they live and practice, so they connect much better.”

– DR. JOSEPH OCHIENG, MAKERERE UNIVERSITY

“We are training individuals in the context of Uganda, in the context of where they live and practice, so they connect much better,” Ochieng says, noting the approach also reduces brain drain and is cost-effective. “The only sustainable way you can do it adequately is by training locally. You can train more people with less funds.”

Under the program, bioethics short courses have been presented to several hundred individuals, case studies specific to Uganda have been developed and online training tools are being produced, which will reduce costs and increase capacity. In addition to supporting trainees' participation in national and international research ethics conferences, the grant also helps fund the study of emerging issues such as genetics research in Africa. To coordinate all the activities, Makerere has established a bioethics center that will provide leadership to facilitate scientific discovery, while protecting human subjects and ensuring ethical standards are upheld.

“Strengthening research ethics has given us a good environment to support quality research,” Ecuru says. “Our regulatory system should not be a hindrance to scientific progress. Rather, we want scientific progress that also ensures respect for human participants and causes less harm to participating communities.”

RESOURCES

Websites <http://bit.ly/BioethicsLinks>



As its workload grew, so did its staff and reputation until the CDC became the agency it is today: one that researches and tackles disabilities, injury prevention and control, non-communicable diseases, longtime threats to global health, such as measles and smallpox, and emerging ones, from Ebola to bioterrorism to Zika—which, like the CDC’s very first target, malaria, is transmitted by mosquitoes.

Along the way, the CDC has notched up many notable successes and helped to improve global health. After the agency played a major role in eradicating smallpox in the early 1980s, it teamed up with international partners to create the Task Force for Child Survival, which helped boost global vaccination rates for childhood diseases, such as measles, from 20 to 80 percent in six years. In 1999, the CDC worked with global partners to accelerate the effort to eradicate polio. Its Stop Transmission of Polio program has helped reduce the number of reported global polio cases from nearly 7,000 in 1999 to only a handful of cases so far in 2016. In response to the Zika outbreak, the CDC has placed its Emergency Operations Center at the highest level of alert and is working with partners around the world to try to understand and fight the virus.

The CDC “surged in with the rest of the world to stop the world’s first true epidemic of Ebola,” said current director, Dr. Thomas Frieden, referring to the 2014 outbreak in West Africa. The agency has also helped bring Haiti to the “verge of elimination of malaria, filariasis and maternal-to-child transmission of HIV,” said Frieden.

From its Atlanta base, the CDC deploys hundreds of public health professionals overseas in addition to employing around 1,300 local staff in some 60 countries. “We work with local individuals, training them,

helping build the people’s capacity who will stay and work in their communities, in their laboratories, in their clinics, so that when we leave, the capacity remains and we create an impact that exceeds the immediate short-term value of the dollars that we contribute,” said Dr. Julie Gerberding, CDC director from 2002-2009. The U.S.-based staff who are sent to other countries to respond to a disease threat are “embedded in the health ministries or in the clinical arena, working side by side with local health officials, rolling up their sleeves,” she said.

The CDC also works with officials in other countries to develop public health infrastructure, improve disease

The CDC is marking 70 years of accomplishments in global health, including training thousands of scientists worldwide to help identify and control disease outbreaks.

CDC celebrates 70 years of global health leadership

By Karin Zeitvogel

In 70 years of existence, the Centers for Disease Control and Prevention (CDC) has grown from an agency focused on eliminating malaria in the United States to a global health leader that uses research and rapid interventions to improve lives and respond to health emergencies in a shrinking world.

Since it was founded in 1946, the CDC—which at the time stood for the Communicable Diseases Center—has become “the gold standard for the world” in terms of global health, Dr. William L. Foege said at a recent anniversary event at CDC’s headquarters in Atlanta, Ga. Foege and six other CDC directors, who led the agency from the late 1970s until today, gathered with staff to celebrate seven decades of public health milestones.

“The Ebola outbreak, and now the Zika outbreak, continue to show that the CDC effort is needed in order to provide for a healthy world,” said Foege, who headed the agency from 1977-1983 and is widely credited with devising the successful strategy that eradicated smallpox, which he then took to the Carter Center to try to end Guinea worm disease.

After achieving its initial goal of eliminating malaria in the U.S. in 1951, the CDC broadened its mission to include tracking and investigating a range of diseases.

“CDC’s leadership in evidence-based public health science has attracted the most dedicated professional staff in the world.”

– DR. THOMAS FRIEDEN, CDC DIRECTOR

surveillance capacity, and create health information systems. Through its Field Epidemiology Training Program (FETP)—and the related laboratory track program, the FELTP—the CDC has offered hands-on, in-the-field training to the next generation of epidemiologists in more than 70 countries. The programs have produced over 3,100 graduates who, after their training, have the skills needed to detect and respond to events “in a world where the next outbreak is only a plane ride away,” the CDC says on its website.

The CDC is always ready to spring “into action whenever called upon” to fight emerging global health threats, Dr. William L. Roper, director from 1990-1993, said in his presentation at the gathering in Atlanta. “It’s important that CDC have that capability because the nation and the world depend on it,” he said.

As it strives to improve health around the world, the CDC has been met by a growing number of challenges. Greater longevity and changing lifestyles have led to an increase in noncommunicable diseases. Microbes that cause illnesses such as tuberculosis have grown resistant to the drugs developed to fight them. New infectious diseases—such as Severe Acute Respiratory Syndrome (SARS), Middle East Respiratory Syndrome (MERS), avian flu and HIV—emerge in one part of the world and rapidly spread around the planet.

“We are always just one traveler away, or one animal exposure away” from the next global health emergency, said Gerberding.

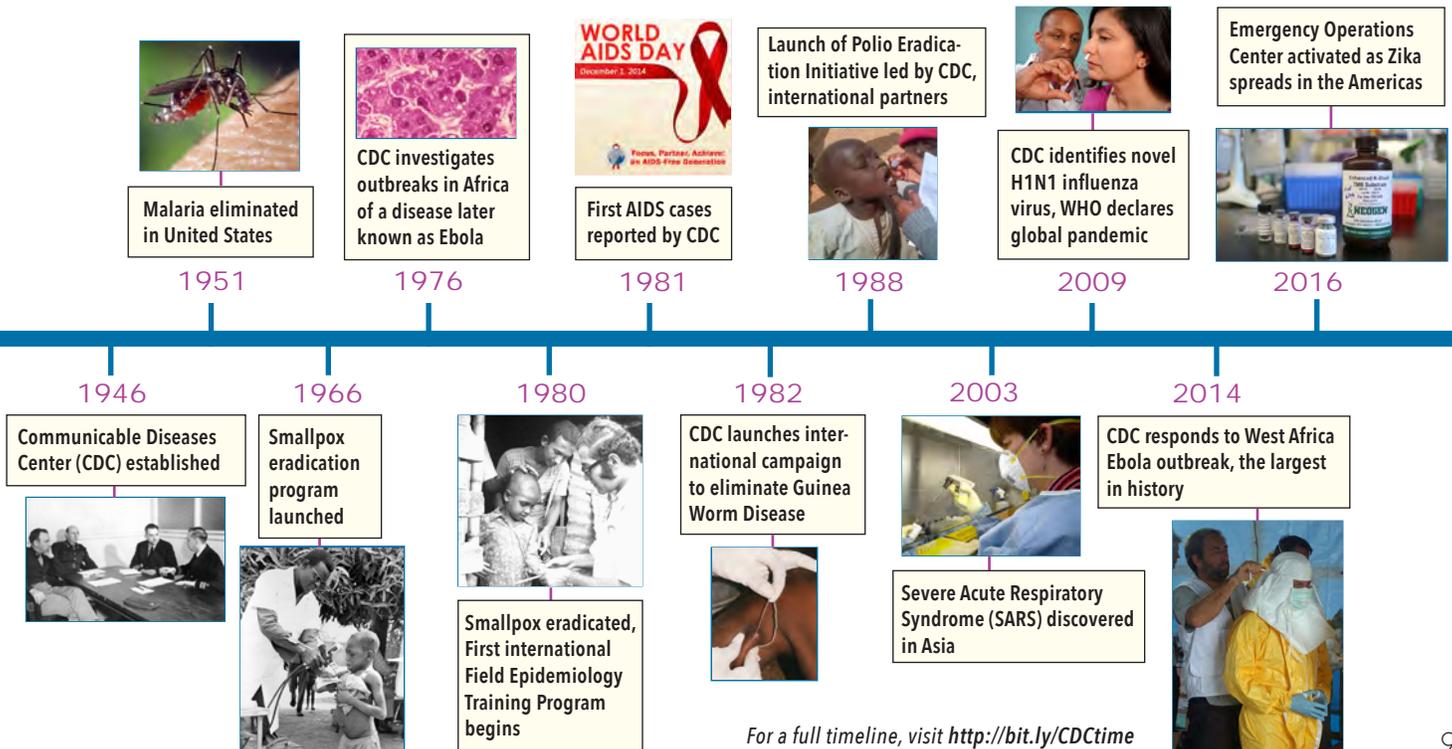
“There are always new and emerging challenges” and the world has looked to the CDC to provide the steady leadership needed to steer through them, said Dr. David Satcher, who led the CDC from the mid- to late 1990s. The CDC owes its world-leading reputation to its staff and directors, said Dr. James O. Mason, director from 1983-1989. “Visionary staff ... understood that health is a global affair. Disease doesn’t occur in one place without affecting the quality of life elsewhere,” Mason told the anniversary celebration.

The several hundred entomologists, medical and health specialists and engineers who made up the CDC 70 years ago have been joined by tens of thousands of epidemiologists, biologists, physicians, veterinarians, behavioral scientists, nurses, public health advisers, economists, health communicators, toxicologists, chemists, computer scientists and statisticians—all dedicated to the pursuit of public health.

“CDC’s leadership in evidence-based public health science has attracted the most dedicated professional staff in the world,” Frieden enthused, calling “this extraordinary collaboration of top-notch experts in every conceivable field of public health” the CDC’s greatest achievement.

“It’s a special place,” summarized Dr. Jeffrey P. Koplan, director from 1998-2002. “We’re driven by our mission and shared core values, and are committed to addressing the needs of the poor, the underserved, and those at increased risk, both in the U.S. and around the world.” For more information: <http://bit.ly/CDCat70>

Timeline: 7 decades of CDC’s global health engagement



For a full timeline, visit <http://bit.ly/CDctime>

OPINION

By Dr. Roger I. Glass, Director, Fogarty International Center

Continuing to strengthen science capacity in Africa



There was a sense of excitement in the air at the recent Medical Education Partnership Initiative (MEPI) meeting in Nairobi, where plans to continue the program were announced. With support from the President's Emergency Plan for AIDS Relief (PEPFAR), efforts to strengthen capacity building in sub-Saharan Africa would continue and solidify progress made in the first five years. Attendees, which

included representatives of the sister program devoted to nursing (NEPI), were energized by the news.

It was an extraordinary gathering of 234 academics, government officials, scientists and others from some 20 countries, who have come together around the common goal of increasing the quantity and quality of health care professionals in sub-Saharan Africa. During the proceedings, attendees officially established a new organization, called the African Forum for Research and Education in Health (AFREhealth), to build on the existing MEPI Principal Investigators Council and provide leadership in addressing Africa's health challenges.

I have been delighted with the creativity, leadership and good stewardship of the MEPI awards over the past five years. These dozen grants—made directly to African organizations with high-income country partners in the subordinate role—have accomplished much more than we ever imagined.

Networking within countries and among the MEPI grantees has been central to the program's success. In Uganda, a consortium of medical schools was formed, enabling collaboration to address national education and health system challenges, such as the delivery of HIV care and prevention services. Zambian participants used some of their funding to strengthen infrastructure including skills labs, computers and IT equipment, and Wi-Fi and internet bandwidth. Botswana established and reinforced geographically distributed teaching sites, producing its first-ever locally trained doctors, who may remain in rural areas where most of the population lives.

Meanwhile, Ghana developed its first emergency medicine curriculum, graduating and retaining in-country more than 80 health professionals. These are just a few of the many success stories detailed in MEPI's five-year report, which I encourage you to read.

During the meeting, participants discussed plans for the next five years and considered a number of issues. First, by encouraging more interaction between MEPI and NEPI, we are acknowledging the important role of nursing and the great potential for working and educating together as one unit.

We also explored the wonderful development of strong south-south partnerships that have formed among members of the network and discussed ways to encourage new ones. Collaborations with industry are another area that holds promise and may be expanded. Finally, since

Fogarty is now assuming a formal role in the NIH's Human Health and Heredity in Africa (H3Africa) program, it will facilitate increased collaboration on genomics in the region, particularly in regard to training efforts.

The concepts detailing our plans for the next round of funding to strengthen the MEPI network have been posted on Fogarty's website. The first would provide support for a leadership body and the

second would fund programmatic activities to strengthen the quality of medical and nursing education, retain health professionals and enhance research capacity.

Perhaps our most important goal is to ensure the sustainability of the program, preserving the substantial gains that have been made and the vibrant network that has been created. We have made headway in many countries, securing financial and other support from national governments, but more must be done to increase their investment and to attract funding from other public and private funders.

MEPI has proven to be one of the truly game-changing programs in support of advancing education in medicine and the health sciences in Africa, and could have a rich legacy for many years to come.

“MEPI has proven to be one of the truly game-changing programs in support of advancing education in medicine and the health sciences in Africa.”

RESOURCES

Websites: <http://bit.ly/MEPIlinks>



Former Fogarty trainee is Peru's new health minister

Dr. Patricia Garcia, a former Fogarty trainee and principal investigator on numerous Fogarty-funded projects, is the new Minister of Health in Peru. Garcia was public health dean at the Universidad Peruana Cayetano Heredia and also had affiliations with the University of Washington and Tulane University.



Bloomberg named Global Ambassador for NCDs

The WHO has named philanthropist and former New York City Mayor Michael R. Bloomberg as Global Ambassador for Noncommunicable Diseases (NCDs). He will work with national and local leaders around the world to highlight the burden of NCDs and injuries.



Bianchi to lead NIH child health institute

Dr. Diana Bianchi will become the new director of NIH's *Eunice Kennedy Shriver* National Institute of Child Health and Human Development. Bianchi is a medical geneticist who holds positions at the Floating Hospital for Children and Tufts University.



NIH appoints Gordon as mental health director

Dr. Joshua Gordon has been tapped to lead NIH's National Institute of Mental Health. A psychiatrist and neuroscientist, Gordon was most recently on faculty at Columbia University and a research psychiatrist at the New York State Psychiatric Institute.



Smallpox legend D.A. Henderson has died

The epidemiologist who helped rid the world of smallpox, Dr. Donald "D.A." Henderson, died in August. Henderson helmed the WHO campaign of smallpox surveillance and vaccination, which led to the 1980 declaration that the infectious disease had been eradicated.



Public health leader Harrison Spencer is mourned

Dr. Harrison Spencer, president and CEO of the Association of Schools and Programs of Public Health, died in August. Spencer previously held positions at the CDC and WHO, and served as dean of the Tulane University School of Public Health and Tropical Medicine and the London School of Hygiene and Tropical Medicine.



Fogarty fellow Bhunu dies in Zimbabwe

Former Fogarty fellow Dr. Claver Bhunu died in July. Bhunu completed his Ph.D. in mathematical modeling during his fellowship and returned to Zimbabwe, where he was a professor in the University of Zimbabwe's Department of Mathematics.

New global alliance will develop vaccines

The Coalition for Epidemic Preparedness Innovations (CEPI) has been launched to finance and coordinate the development of new vaccines to prevent and contain infectious disease outbreaks. CEPI is an alliance of governments, industry, academia, philanthropy, intergovernmental institutions, such as the WHO, and civil society.

Website: <http://cepi.net>

Global health advice for next U.S. President

A memo from the Center for Global Development proposes six ways the next U.S. administration can do better on global health, including expanding the Medical Education Partnership Initiative (MEPI). Funded by NIH and PEPFAR, the program is designed to strengthen training in sub-Saharan Africa.

Full report: <http://bit.ly/nextadmin>

HHS partners combat antibiotic resistance

To address the global threat of antibiotic resistance, HHS is joining with the Wellcome Trust, the AMR Centre and Boston University on a collaboration that could promote innovation and provide hundreds of millions of dollars to increase the number of antibiotics in the drug-development pipeline.

News release: <http://bit.ly/antimres>

NIH unveils plan for heart, lung research

The NIH's National Heart, Lung and Blood Institute has released a new strategic vision to accelerate advances around four goals: to understand human biology, reduce human disease, advance translational research, and develop workforce and resources.

Full plan: <http://bit.ly/NHLBISP>

New NIH fetal alcohol guidelines proposed

A group of experts on fetal alcohol spectrum disorders (FASD), organized by the National Institute on Alcohol Abuse and Alcoholism (NIAAA), has produced proposed clinical guidelines for diagnosing FASD, which can result when a mother drinks during pregnancy.

News release: <http://bit.ly/FASDdiag>

Delayed breastfeeding is risky for newborns

UNICEF reports 77 million newborns globally are not breastfed within their first hour of life, increasing the risk of infant deaths by up to 80 percent. The longer breastfeeding is delayed, the higher the likelihood of death in the first month.

News release: <http://bit.ly/UNICEFbf>

Funding Opportunity Announcement	Details	Deadline
International Tobacco and Health Research and Capacity Building Program (R01)	http://bit.ly/FOGTOBAC	Oct 13, 2016
Ecology and Evolution of Infectious Diseases Initiative (EEID)	http://bit.ly/EEIDops	Nov 16, 2016
Human Heredity and Health in Africa (H3Africa) Initiative (Bioinformatics and Training; Collaborative Research Centers and Research Projects; Ethical, Legal and Societal Issues)	http://bit.ly/H3Aopps	Nov 15, 2016
Emerging Global Leader Award - Career Development (K43)	http://bit.ly/K43-2016	Dec 14, 2016
Global Brain and Nervous System Disorders Research R21 R01	http://bit.ly/Brain-R21 http://bit.ly/Brain-R01	Jan 5, 2017 Jan 5, 2017
Global Noncommunicable Diseases and Injury Research (R21)	http://bit.ly/NCD-injury	Feb 22, 2017
Planning Grant for Emerging Epidemic Virus Research Training for West African Countries w/ Widespread Ebola Transmission (D71)	http://bit.ly/EbolaOp	Feb 22, 2017
International Research Scientist Development Award (IRSDA) (K01)	http://bit.ly/IRSDA2017	Mar 2, 2017
International Research Ethics Education and Curriculum Development Award (R25)	http://bit.ly/Ethicsop	May 18, 2017
For more information, visit www.fic.nih.gov/funding		

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NIH Director advises Fogarty Fellows and Scholars

During the annual orientation and training of the Fogarty Fellows and Scholars, NIH Director Dr. Francis S. Collins offered advice to the early-career scientists. About 100 trainees will spend a year conducting a mentored research project in a low- or middle-income country. Topics of interest varied widely from gender-based violence and mental health, to cancer and cardiovascular disease, to infectious diseases such as tuberculosis, malaria and HIV/AIDS.

RESOURCE

More Information: <http://bit.ly/FOGSF2017>