

DEPARTMENT OF HEALTH AND HUMAN SERVICES

NATIONAL INSTITUTES OF HEALTH

John E. Fogarty International Center
for Advanced Studies in the Health Sciences

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NATIONAL INSTITUTES OF HEALTH

John E. Fogarty International Center

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NATIONAL INSTITUTES OF HEALTH

John E. Fogarty International Center
for Advanced Studies in the Health Sciences

For carrying out the activities at the John E. Fogarty International Center [*\$67,182,000*]
\$67,048,000.

[Departments of Labor, Health and Human Services, Education, and Related Agencies
Appropriations Act, as enacted by the Consolidated Appropriations Act for Fiscal Year 2005]

**National Institutes of Health
John E. Fogarty International Center**

Amounts Available for Obligation 1/

Source of Funding	FY 2004 Actual	FY 2005 Appropriation	FY 2006 Estimate
Appropriation	\$65,800,000	\$67,182,000	\$67,048,000
Enacted Rescissions	-418,000	-550,000	0
Subtotal, Adjusted Appropriation	65,382,000	66,632,000	67,048,000
Real transfer under NTH Director's one-percent transfer authority to other ICs	-216,000	0	0
Comparative transfer to NIBIB for Radiology Program	0	0	0
Comparative transfer to Buildings and Facilities	-38,000	0	0
Comparative transfer to/from other NIH ICs for NIH Roadmap	216,000	0	0
Subtotal, adjusted budget authority	65,344,000	66,632,000	67,048,000
Unobligated Balance, start of year	0	0	0
Unobligated Balance, end of year	0	0	0
Subtotal, adjusted budget authority	65,344,000	66,632,000	67,048,000
Unobligated balance lapsing	-5,800	0	0
Total obligations	65,338,200	66,632,000	67,048,000

1/ Excludes the following amounts for reimbursable activities carried out by this account:

FY 2004 - \$3,056,000; FY 2005 - 4,660,000; FY 2006 - \$4,765,000.

Justification

John E. Fogarty International Center for Advanced Study in the Health Sciences

Authorizing Legislation: Sections 301 and 307 and Title IV of the Public Health Service Act, as amended.

Budget Authority:

FY 2004 Actual		FY 2005 Appropriation		FY 2006 Estimate		Increase or Decrease	
FTEs	BA	FTEs	BA	FTEs	BA	FTEs	BA
53	65,344,000	57	66,632,000	57	67,048,000	0	416,000

This document provides justification for the Fiscal Year 2006 activities of the John E. Fogarty International Center (FIC), including HIV/AIDS activities. A more detailed description of NIH-wide Fiscal Year 2006 activities can be found in the NIH section entitled "Office of AIDS Research (OAR)."

INTRODUCTION

"A rising tide lifts all the boats. And a partnership, by definition, serves both partners, without domination or unfair advantage." John Fitzgerald Kennedy

These words of President Kennedy remind us of the need to work in partnership with those around the world, on equal footing, and for the common good. Indeed, this was the vision of Congressman John E. Fogarty, who worked tirelessly to champion improved health of Americans through international health research programs. Today, the vision of Congressman Fogarty inspires the Center in building international partnerships on behalf of the National Institutes of Health (NIH) and in supporting an array of research and training programs to advance global health objectives. FIC's unique mission and initiatives add value, complement NIH international programs and build scientific capacity around the world for the benefit of Americans and the global community.

Fogarty's flagship program, the AIDS International Training and Research Program (AITRP), now in its 17 year, has built much needed scientific and public health capacity in more than 90 low- and middle-income nations. Graduates of this program have become senior leaders at foreign universities, have applied successfully for NIH grants as well as grants from other science funding agencies, and have formed the framework for effective public policymaking in their home countries. Many are now associated with the President's Emergency Plan for AIDS Relief and the Global Fund to Combat AIDS, Malaria and Tuberculosis (TB), both key

Administration efforts in the fight against AIDS. In fact, the partnerships built on the framework of the Fogarty AIDS training program underpin the U.S. and global efforts to tackle AIDS. These partnerships have led to the identification of new AIDS prevention strategies and tools which have contributed to halting the spread of AIDS at home and abroad.

In FY 2006, Fogarty will support novel initiatives to energize the medical research community on global health. We will continue to inform health policymaking from the unique perspective of a center dedicated to improving global health through research and training. And we will build expertise within the biomedical research community through initiatives to build a corps of science diplomats. We will continue to build on our successes, many of which we highlight in the text.

SCIENCE ADVANCES

On behalf of the 27 NIH Institutes and Centers and the Director's Office, Fogarty supports more than 20 training and research programs, each aimed at advancing specific fields of global health or biomedical research through international partnerships.

Combating HIV/AIDS and Emerging Infectious Diseases. With millions of people crossing international borders every day, infectious diseases in one country can rapidly spread to others. SARS, West Nile Virus and multi-drug resistant tuberculosis are stark examples. At the same time, AIDS and malaria continue to take a toll on individuals, families and communities. With an estimated 40 million people worldwide living with HIV/AIDS and with almost five million new infections in 2003 alone (UNAIDS 2004 Report on the Global AIDS Epidemic), no country will be spared the devastation of AIDS until all countries can manage it. Rapidly expanding AIDS epidemic in Asia pose additional challenges to the global community.

Fogarty's AIDS International Research and Training Program (AITRP) and the International Clinical, Operational and Health Services Research Training Award for AIDS and Tuberculosis (ICOHRTA-AIDS/TB) Program are building capacity in poor countries to tackle the AIDS problem more effectively. Working through 25 U.S. universities, educational programs support Ph.D., Masters level, and nurse training to advance research on vaccine development and microbicide development, and to identify groups at high-risk for exposure. Nearly 2,000 researchers from over 100 countries have been trained in the U.S., many at senior levels, and more than 50,000 through in-country workshops and courses. More than 80 percent of those trained in the U.S. through this program returned home to pursue research and health efforts locally. Experts in Uganda, Haiti, Thailand, Russia, and China are now working with partners in the U.S. to advance AIDS prevention and mitigation strategies. Many are working as part of the National Institute of Allergy and Infectious Diseases (NIAID) programs. In addition, recognizing the need for new strategies to monitor the effectiveness of AIDS drug delivery paradigms, FIC is supporting four new initiatives between U.S. institutions and Uganda, Haiti, China and Russia to evaluate efforts on the ground. These programs support the goals of the President's Emergency Plan for AIDS Relief and the Global Fund and will lead to useful insights about effective drug delivery approaches in poor countries.

In many poor countries, taking vitamin supplements during pregnancy is not routine and supplements are not provided following pregnancy. In an eight-year study supported by FIC and the National Institute of Child Health and Human Development (NICHD), researchers from Harvard University and partners in Tanzania examined the effect of multivitamin supplements containing high doses of the vitamin B complex and vitamins C and E on the risks of clinical disease progression, HIV-related complications, immune response, and viral levels in HIV-positive women in Tanzania. Multivitamin supplements reduced the risk of progression to AIDS by half when they were given to HIV-infected women during pregnancy and for more than five years after they gave birth. These women also had fewer later-stage symptoms, such as mouth infections or diarrheal diseases. The supplements bolstered counts of disease-fighting immune cells and modestly lowered HIV levels in the blood. These results suggest that use of multivitamins by HIV-infected women during and after pregnancy can slow the course of disease, and could provide a low-cost intervention to extend the time before they need antiretroviral therapy.

Building on the leadership and skills developed through the AITRP program, FIC, together with other NIH partners and the CDC and U.S. Agency for International Development, supports the ICOHRTA-AIDS/TB Program in several U.S. and developing world institutions. Multidisciplinary and collaborative research training supported by this program spans the full range of conditions and issues related to care of adult and pediatric patients with HIV/AIDS or TB. Trainees in this program include a wide range of scientists and allied health professionals, including nurses, midwives, physicians, dentists, health care administrators and public health workers. In addition to being an integral and critical component of NIH and DHHS global research strategies, the ICOHRTA-AIDS/TB Program plays a critical role in complementing the President's Emergency Plan for AIDS Relief.

Malaria: An emerging disease threat. Every year, between 300-500 million people are infected by the malaria parasite, and nearly three million die (*The Intolerable Burden of Malaria: II. What's New, What's Needed*, Supplement to The American Journal of Tropical Medicine and Hygiene, August 2004). Most deaths occur among children under the age of five living in sub-Saharan Africa. United States citizens are increasingly vulnerable, with rising numbers of tourists and military traveling to malaria-endemic settings. Increasing resistance of the Anopheles mosquito to insecticides and of the malaria parasite to currently available drugs, adds urgency to the search for new anti-malarial drugs. A significant barrier to the development of anti-malarial drugs is that commonly used laboratory techniques require radioactivity as part of the detection strategy of malaria parasites. The use of radioactivity requires special laboratory procedures and facilities, usually beyond the reach of most developing country laboratories.

A new malaria parasite detection system has been developed as part of Fogarty's unique drug discovery program which supports screening of flora and fauna for potentially active compounds. Scientists in Panama associated with the International Cooperative Biodiversity Groups (ICBG), have developed a novel, non-radioactive assay based on the use of a fluorescent dye. Researchers in Bolivia and Italy have adopted the new technique, that represents an accurate, rapid, cost-effective method for anti-malarial drug discovery. Visiting scientists from Madagascar who were participating in the Panama ICBG learned the technique and incorporated

it into their program. This innovation will allow malaria research to move forward in new ways in those countries hardest hit and will yield knowledge that will ultimately benefit the global community.

Ecology of Infectious Diseases. The majority of emerging diseases are zoonoses, that is, transmitted at least initially from animals to humans. SARS, avian influenza, Nipah Virus, West Nile Encephalitis and hanta virus, are examples of zoonotic diseases, which have emerged as potentially major public health threats. While active and growing surveillance programs are in place to detect outbreaks in their early stages, FIC programs employing new strategies allow insights into prediction and prevention. For example, FIC mathematical modelers are using existing databases and simulations to estimate the impact of future influenza pandemics. In addition, FIC's Ecology of Infectious Disease program takes an interdisciplinary ecological approach involving soil scientists, veterinarians and life scientists to create predictive tools for outbreaks.

The Rising Challenge of Obesity. Globally, more than 1 billion adults are overweight, with at least 300 million clinically obese. Obesity rates are soaring in specific population U.S. groups and in children. According to global statistics from the World Health Organization, approximately 1 in 10 children between 5 and 17 years old are overweight or obese, and the situation is getting worse. In the U.S., for example, the rate of obesity and overweight among children and adolescents aged 6 to 18 years increased to more than 25 percent in the 1990s, up from 15 percent in the 1970s.

The biological processes leading to obesity are better understood because of new brain imaging technologies and other techniques. Still, much remains unknown about the causes of obesity, including biological mechanisms, and social and cultural factors. The obesity epidemic is not restricted to industrialized societies. In developing countries, more than 115 million people suffer from obesity-related problems (World Health Organization - "Controlling the Obesity Epidemic"). Obesity is a major risk factor for type 2 diabetes, cardiovascular disease, hypertension and stroke, as well as certain forms of cancer. Particularly relevant to developing countries, recent studies have shown that people who were undernourished in early life and became obese in adulthood tended to develop conditions such as high blood pressure, heart disease, and diabetes at an earlier age, and also in a more severe form than those who were never undernourished.

One important aspect of developing effective interventions is to better understand how the prevalence of obesity varies across levels of socioeconomic status within developing countries. Two Fogarty-supported studies in Mexico shed light on the relationship between socio-economic status and obesity trends. In one study, researchers compared the prevalence of obesity and overweight among the rural poor to the general population in Mexico. The results showed that 67 percent of women and 61 percent of men across Mexico are obese or overweight, while among the rural poor the prevalence is almost 60 percent in women and 50 percent in men. This high prevalence of overweight and obesity in the poorest segment of the Mexican population, which is only slightly lower than the nationally represented sample, indicates that the rural poor are generally just as susceptible to overweight and obesity as the Mexican population as a whole.

Therefore, this study underscores the need to expand obesity-related health research and services to the entire Mexican population, and not just those in urban settings or higher socio-economic groups.

In the second study supported by FIC's International Training Program in Population and Health, scientists used data from national surveys conducted in 37 developing countries to show a much more complex relationship than was previously recognized between obesity and socio-economic status (SES) in the developing world. Belonging to a lower SES group confers a strong protection against obesity in low-income economies, but it is a systematic risk factor in upper-middle-income economies such as in Mexico, for example. In lower-middle-income economies, the pattern between SES and obesity was mixed. These findings suggest that the development of new interventions to combat obesity may be most effective if targeted to specific SES groups. These research findings are relevant not only to the countries from which the data arises, but also to the U.S. and other countries as SES is considered in the development of interventions and programs.

NIH ROADMAP

The NIH Roadmap for Medical Research rests on three pillars ~ New Pathways to Discovery, Research Teams of the Future, and Re-engineering the Clinical Research Enterprise. Current Fogarty programs support each of these pillars and extend them through international partnerships. Among Roadmap programs already underway, there are noteworthy projects employing new approaches for tackling seemingly intractable global health challenges. Among these are the efforts of a U.S. researcher working in Kenya to bring together experts in public health, entomology (the study of insects), environmental engineering, and demography to understand the spread of malaria, dengue fever, and other mosquito-borne diseases in the developing world. Another project supported through the NIH Pioneer Award program seeks to develop vaccines against the progression of AIDS in an HIV-infected individual rather than to prevent the initial infection. Fogarty will continue to encourage its grantees to apply for NIH Roadmap funding and to incorporate new thinking and approaches into their global health research and training efforts. Additionally, Fogarty will continue to work with NIH counterparts around the world to share information on the NIH Roadmap and to encourage NIH Roadmap efforts within their other grant systems.

**Story of Discovery:
FIC-supported Research and Training Collaboration Enables U.S. and Brazilian Scientists to Better Understand
and Combat Childhood Diarrheal Disease**

Diarrhea is a leading cause of child disease and death (morbidity and mortality) and a serious cause of malnutrition. While some progress has been made in preventing death from diarrheal diseases worldwide (mortality fell from 2.5 million in 1990 to 1.6 million in 2002), the number of new cases (incidence) has remained constant and still accounts for 15 percent of all childhood deaths (World Health Report 2003). This ongoing burden requires continued active research aimed at better ways to diagnose, treat and prevent diarrheal diseases in addition to more comprehensive and accurate surveillance.

For nearly a decade, Fogarty has funded a program that has produced a substantial number of researchers with the research tools and expertise to address the research and clinical challenges associated with intestinal infections. This group of Latin American scientists has developed the most up-to-date skills in several scientific disciplines - cognitive assessment of children, genetic analysis, development of animal models, and laboratory techniques. The program has enabled its trainees to plan and implement their own new laboratory in Brazil, which allows for long-term research sustainability. This strong international collaboration is fostering new discoveries on the long-term effects of and treatments for diarrheal diseases. The devastating long-term impact of heavy diarrhea and other intestinal infection in the first two years of life may be more important than previously thought. Through research investments by Fogarty, there is better understanding of how early childhood diarrhea might affect cognitive development. The effect of this research could lead to improved oral rehydration therapy suitable for developing countries to meet the needs of malnourished children with intestinal infections, help U.S. AIDS patients with diarrhea, as well as cancer patients suffering the ravages of chemotherapy or radiation.

The research and training collaboration between the University of Virginia and the Federal University of Ceara in Brazil has built capacity for a broad array of research approaches to diarrheal disease. Support has come from two key FIC programs. First is the Global Infectious Disease Research Training Program that funds research and training programs for non-AIDS infections in developing countries. Second is the Actions for Building Capacity Program that addresses training needs related to infectious diseases endemic in tropical countries and directly supports NIAID's International Collaborations in Infectious Disease Research program. Through these two programs, FIC has supported the training of 21 postgraduates, including seven Ph.D.s and four Masters Degree students.

In addition to the expected effects on physical growth and fitness, which result from diarrheal illness that occurs in the first two years of life, new findings from this group show that impaired cognitive development is an important and unexpected outcome. Researchers used a battery of cognitive tests to assess information processing and coding skills, auditory short-term memory, problem-solving abilities, and visual-motor coordination. They also found that the best "surrogate" predictor of cognitive development after early childhood diarrhea is the height-for-age score at two years of age. Using new molecular tools, the scientists found that susceptibility to early childhood diarrheal disease may have a strong genetic component. A genetic analysis of family histories indicates that the same cognitive deficit associated with early childhood diarrhea is similar to some of the types of neuropsychological functioning altered in Alzheimer's dementia. Building on the findings about impaired cognitive development, a Brazilian trainee in this FIC-supported program found that the same gene associated with poor recovery from brain injury and Alzheimer's disease, an apolipoprotein allele known as APOE4, may also play a pivotal role in cognitive development in children recovering from diarrheal disease. This gene may provide a selective advantage to protecting the cognitive development of children experiencing severe diarrhea in early childhood.

In extending the genetic research further, trainees have gone on to develop laboratory and animal models. For example, researchers are developing an animal model using APOE 4 deficient mice to study the effect of this genetic difference on brain development and behavior cognition and morphology. This same model is also being used to study the developmental changes in intestinal maturation and to test the benefits of treating diarrhea with an oral rehydration solution using a modification of the amino acid glutamine. Glutamine is an essential source of energy for the intestine, regulates intestinal cell repair and barrier function, and helps to restore chemical balance. However, glutamine is not very soluble in water and becomes potentially toxic when exposed to acidic conditions, heat or prolonged storage, limiting its

inclusion in oral rehydration salt packet formulations. An alternative is the use of stable, highly soluble glutamine, dipeptide alanyl-glutamine, which has proven to be safe, well tolerated and effective in intravenous treatments for other conditions. In 2001, another Brazilian trainee received an NIH Small Business Innovation Research (SBIR) grant to conduct animal model studies on these alternative glutamine derivatives.

Studying the effect of glutamine on damage to the intestine has the potential to impact people with HIV and cancer globally as well as those who live in and visit low- and middle- income nations. Ongoing experiments using an animal model to demonstrate the intestinal side effects of the cancer drug 5-fluorouracil, showed that alanyl-glutamine hastens intestinal repair after chemotherapy. In a randomized controlled clinical trial in Brazil, other researchers reported that the same alanyl-glutamine treatment improves diarrheal associated intestinal function, anti-retroviral drug absorption and drug resistance in HIV infected people. The exciting research advances resulting from this program can lead to new and more effective strategies in the way the tremendous disease burden of diarrheal disease is addressed.

The investment in human capital has produced equally promising results. In the words of one trainee, the research and training collaboration activities conducted under this program have "not only provided trainees with technical expertise and support, but also an opportunity for self-improvement and scientific partnership." The research performed during fellowship training will help to launch research careers, and the training received will set the stage for a "continuous and fruitful collaboration ... which will help to build local and sustainable research capacity." Importantly, this global health project can serve "as a bridge to peace..."

NEW AND EXPANDED INITIATIVES

FORGING NEW PARTNERSHIPS FOR GLOBAL HEALTH

As universities around the world work to address health challenges, multiple schools within any given institution have much to offer. When schools of journalism, engineering, law, and business teamed up with schools of public health and medicine, the results were new insights and strategies to tackle health problems and policies—for the good of all. Recognizing that new approaches are needed to support global health research and training so as to energize the next generation of students and professionals to select careers in global health, Fogarty will expand a new program to "glue" multiple schools together around the common concern of global health.

This program, Framework Programs for Global Health, provides a range of training and support activities at universities both in the U.S. and developing countries. Support activities in a Framework include:

- curriculum development for global health studies at the undergraduate or graduate level;
- support for seminars and visiting lectureships on global health topics;
- grant-writing workshops to ensure that scientists are prepared to access global health research funds, and particularly those with a multi-disciplinary focus;
- administrative mechanisms to coordinate university-wide global health activities; and
- advisory efforts for students about career prospects and opportunities in global health fields.

To ensure that universities support the Framework at the highest level, letters from university leadership and matching funds are required. Once operational, the Framework would represent a worldwide network of universities with expertise and support for moving research and training programs forward. Such a network will have significant impact on the ability of developing country scientists to engage more meaningfully as full partners in research, and on the ability of U.S. and other scientists to work in new ways with partners around the globe. The Framework will support them and will be key to engaging the next generation of global thinkers in health.

EXPANDING EFFORTS TO ADDRESS THE GLOBAL BURDEN OF OBESITY

Recognizing the rising burden of obesity, FIC will work with the NIH-wide Obesity Research Task Force and relevant NIH Institutes and Centers to address the global burden of obesity. Through its existing programs, FIC will encourage new applications in the areas of obesity and nutrition. In doing so, we will support the development of new knowledge that benefits the U.S. and the global community.

ADDRESSING GLOBAL BURDEN OF HIV/AIDS

As the HIV/AIDS problem continues to devastate individuals, families and communities in the U.S. and abroad, the global community must step up its efforts to find new strategies to prevent infections, and to mitigate their impact. The FIC AITRP and ICOHR TA-AIDS/TB Programs respond to this global health emergency through research and public health training. The FIC AITRP program now works through 25 U.S. universities to train Ph.D.s, Masters and other health professionals in epidemiology, laboratory methods, behavioral approaches and other areas. The ICOHR TA-AIDS/TB program provides critically needed training in clinical and operational research, including strengthening the capacity for evaluation of ongoing AIDS drug delivery programs and other large-scale efforts. It is well recognized that the largest obstacle in moving ahead in many settings is the number of local qualified professionals prepared to address challenges, incorporate laboratory findings and interventions on a large scale, and to assess progress and impact on the health of each of the 15 countries included in the President's Emergency Plan for AIDS Relief. These programs also help to support other related efforts, such as the Global Fund to combat AIDS, Tuberculosis and Malaria.

BUILDING ON SUCCESS: TRAINING AMERICAN AND FOREIGN SCIENTISTS IN GLOBAL HEALTH

FIC will continue its commitment to enhancing global health research in areas of critical needs through support of training programs for U.S. and developing country counterparts. Existing programs to address HIV/AIDS, emerging infectious diseases, bioethics, informatics training, trauma and injury, and maternal and child health issues will continue.

Cadres of clinical researchers. In 2004, supporting the NIH Roadmap and recognizing the need for clinical researchers around the world, Fogarty launched a new program - the Fogarty-Ellison Fellowship Program. It provides one year of clinical research training for U.S. graduate students at well-established research institutions in the developing world. This innovative public-private partnership supports the training of 30 U.S. medical and public health students, each of whom elected to add a year of training to gain experience in one of 18 developing world institutions. Fogarty joins with financial co-sponsors, the National Center for Minority Health and Health Disparities and the Ellison Medical Foundation, and with other partners, including the American Association of Medical Colleges and the Association of Schools of Public Health.

United States students hail from all over, such as Illinois, New York, California and Rhode Island, and from countries in Africa, Latin America, Asia and Russia. Counterparts from the developing world who receive training as equal partners will benefit from the experience and insights gained in clinical research. As these students pursue their careers, these experiences may help them choose their final goal. As more young people move into clinical research careers that focus on international and global health challenges, benefits accrue to all. As the original program matures, we will consider new approaches to training developing world clinical researchers. Among the activities under consideration are additional training in clinical research through existing Fogarty programs at U.S. institutions.

Programs to combat "brain drain." A World Bank study shows that a significant number of poor countries are losing highly skilled health professionals to richer countries at alarming rates. Not only does the country's health care system suffer from a lack of skilled physicians, but also the diminished faculty is unable to train sufficient numbers of future medical officers, clinical researchers and basic scientists.

To continue to combat "brain drain" most effectively, FIC will continue to emphasize two new initiatives. The Global Health Research Initiative Program (GRIP) provides partial salaries to junior researchers who were trained through Fogarty programs or within the NIH intramural program when they return home to a developing country institution. Research projects supported by this program must focus on a high-priority health problem in the investigator's home country as well as one with global importance. Also, the host country institution must support the returnee through in-kind support. The GRIP plays an important role in helping ensure that developing countries do not lose the benefit of talented scientists. The program currently funds 33 grantees in Latin America, Africa, Eastern Europe, Russia and Asia on projects that can last up to five years. GRIP funds research on a wide range of diseases, including HIV/AIDS, asthma, childhood obesity, childhood pneumonia, various types of cancers and Hepatitis C. FIC will also continue its pilot effort, developed in partnership with the National Institute of Environmental Health Sciences and the newly formed NIH Committee for Visiting Fellows from the Developing World, to support Alumni Associations for NIH trainees in their home countries. Initial efforts to establish such Associations in key countries of China, Russia, India, Mexico and South Africa are meeting with success. This suggests that Alumni value them as positive support networks, critical venues for information and technical exchange, and as a way to enhance the visibility of junior scientists in those settings.

Brain disorders in the developing world. Recognizing the burden of suffering from brain disorders around the world, FIC, in partnership with a number of NIH Institutes, plans to launch, in FY 2006 a comprehensive global program to identify new technologies and to enhance the understanding of brain biology. This program will build on a pilot effort begun in FY 2003. Disturbing trends with regard to growing mental illness and neurological diseases in the developing world were the impetus for the development of this program. The current aggregate growth rate of the elderly population in developing countries is more than double that in developed countries. This increase in life expectancy is further complicated by the widespread incidence of neurological, psychiatric and developmental disorders. With the exception of sub-Saharan Africa, brain disorders are the leading contributor to years' lived with disability in all regions of the world. More than 150 million people suffer from depression at any point in time and nearly 1 million commit suicide each year. Worldwide, about 25 million people suffer from schizophrenia and 38 million from epilepsy. While cost-effective treatment to reduce the burden of certain brain disorders is available in the developed world, this is not the case in the developing world. Significantly, since many of the disorders included in this program affect parts of the U.S. population, much of the research funded by this program could have implications for how certain brain disorders are studied, diagnosed, and treated in the U.S.

LEADERSHIP ON GLOBAL HEALTH

As Fogarty continues to raise awareness among NIH staff about international opportunities and global health challenges, we must consider the workforce needs of the future. In FY 2006 Fogarty plans to expand a pilot effort to develop a cadre of NIH "Science Diplomats" with an understanding both of the NIH infrastructure and of the DHHS international and U.S. State Department efforts. Fogarty is well positioned to bring multiple partners together in this effort and to serve as a training ground for NIH extramural and intramural program staff who want to gain experience in broader international and global affairs. Through specific agreements with other agencies, these Science Diplomats could be posted at U.S. embassies, research institutions and non-governmental organizations (NGOs) in country to gain on-site experience and to serve as liaisons with U.S. policy officials and other technical agency representatives working in specific countries. Through such a program, Fogarty could catalyze a significant international effort across the NIH that would reap benefits throughout the community.

Fogarty will renew its efforts in the Fogarty Scholars program, now aimed at bringing eminent Scholars from around the world to work in the NIH laboratories. In FY 2006, Fogarty plans to invite leading thinkers on global health topics to serve as Fogarty Scholars. These individuals will add new perspectives on global health to the daily life of the NIH, spark new ideas and approaches to specific health challenges that Fogarty and NIH may wish to investigate, and serve as a resource for junior scientists and administrators now working and training at the NIH. Conferences on specific topics to raise awareness of key issues and to identify new approaches may be supported. Through such an approach, Fogarty will continue to play a leadership role in global health, to the benefit of the whole of the NIH.

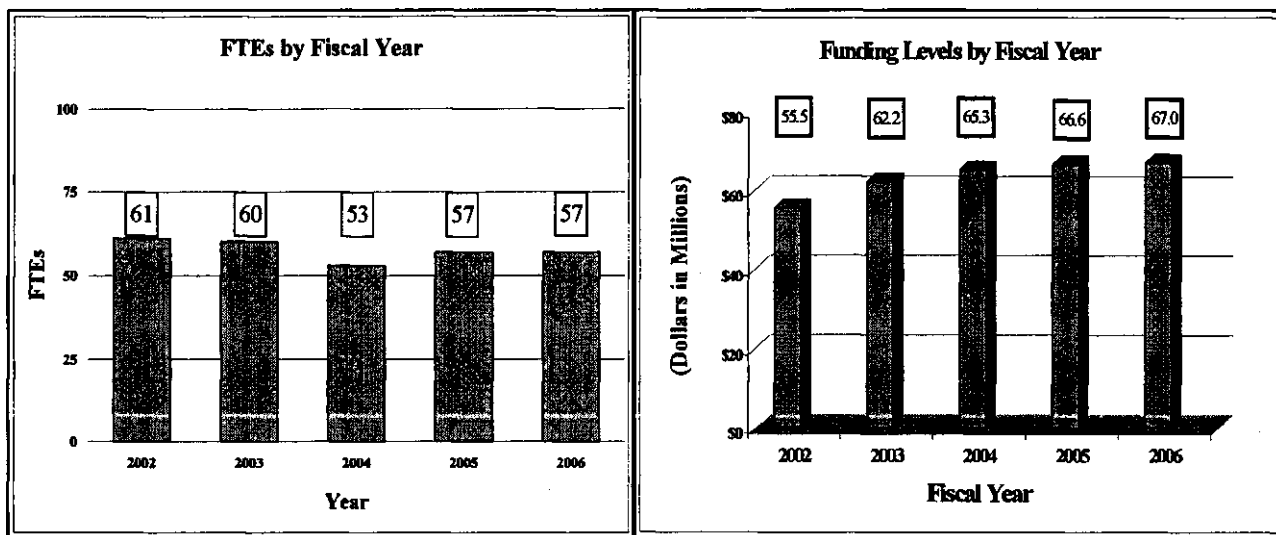
CONCLUSION

The programs and initiatives of the Fogarty International Center support partnerships to improve health around the globe. At no point in history have these programs been as important as they are today. As President Kennedy suggested, partnerships should be considered as a framework for moving ahead, both in good times and in bad. With continued support and strong leadership, Fogarty is positioned to move the global health research agenda forward in new ways, to the benefit of the global community and the American people.

BUDGET POLICY

The Fiscal Year 2006 budget request for the FIC is \$67,048,000, an increase of \$416,000 and 0.6 percent over the FY 2005 Appropriation. Also included in the FY 2006 request, is FIC's support for the trans-NIH Roadmap initiatives, estimated at 0.89 percent of the FY 2006 budget request. This Roadmap funding is distributed through the mechanisms of support, consistent with the anticipated funding for the Roadmap initiatives. A full description of this trans-NIH program may be found in the NIH Overview.

A five-year history of FTEs and Funding Levels for FIC are shown in the graphs below.

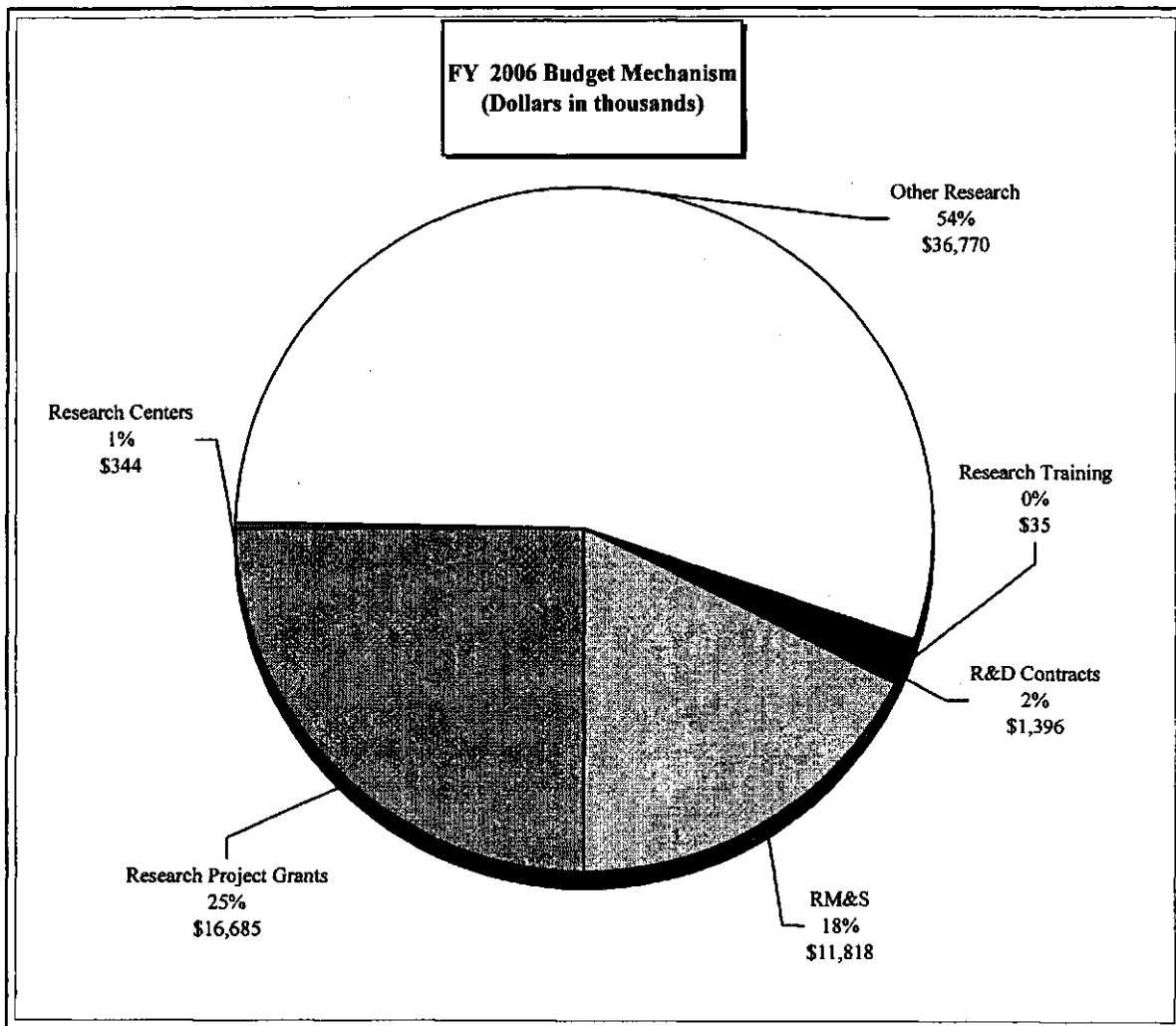


NIH's highest priority is the funding of medical research through research project grants (RPGs). Support for RPGs allows NIH to sustain the scientific momentum of investigator-initiated research while pursuing new research opportunities. The average cost of competing RPGs will be held at the FY 2005 level. There will be no inflationary increases for direct, recurring costs in noncompeting continuation RPGs.

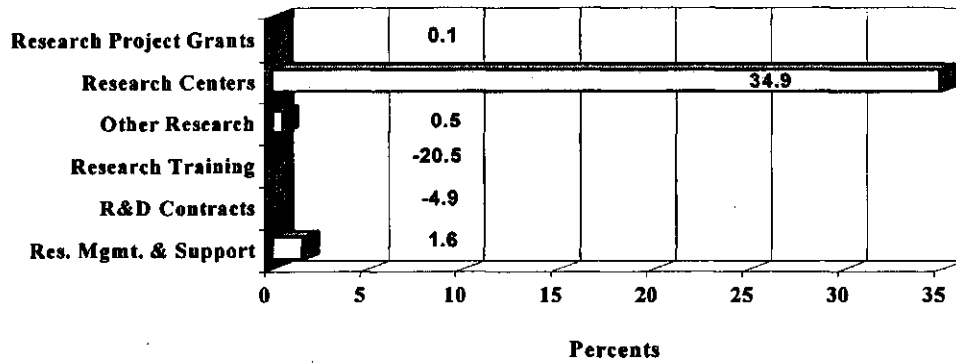
The Fiscal Year 2006 request includes funding for 165 Other Research Grants. Research Management and Support (RMS) receives an increase of 1.6 percent over FY 2005 which

includes a .5% increase in RMS for FIC (the same as the NIH total increase) and the remainder for NIH Roadmap activities.

The mechanism distribution by dollars and percent change are displayed below:



**FY 2006 Estimate
Percent Change from FY 2005 Mechanism**



**NATIONAL INSTITUTES OF HEALTH
John E. Fogarty International Center**

Budget Mechanism - Total

MECHANISM	FY 2004 Actual		FY 2005 Appropriation		FY 2006 Estimate	
	No.	Amount	No.	Amount	No.	Amount
Research Grants:						
Research Projects:						
Noncompeting	185	\$13,424,000	152	\$11,171,000	166	\$12,450,000
Administrative supplements	(4)	1,281,000	(7)	944,000	(7)	425,000
Competing:						
Renewal	0	0	0	0	0	0
New	60	3,244,000	77	4,553,000	65	3,810,000
Supplements	0	0	0	0	0	0
Subtotal, competing	60	3,244,000	77	4,553,000	65	3,810,000
Subtotal, RPGs	245	17,949,000	229	16,668,000	231	16,685,000
SBIR/STTR	0	0	0	0	0	0
Subtotal, RPGs	245	17,949,000	229	16,668,000	231	16,685,000
Research Centers:						
Specialized/comprehensive	0	32,000	0	212,000	0	284,000
Clinical research	0	0	0	0	0	0
Biotechnology	0	28,000	0	43,000	0	60,000
Comparative medicine	0	0	0	0	0	0
Research Centers in Minority Institutions	0	0	0	0	0	0
Subtotal, Centers	0	60,000	0	255,000	0	344,000
Other Research:						
Research careers	16	1,694,000	20	2,181,000	21	2,176,000
Cancer education	0	0	0	0	0	0
Cooperative clinical research	0	0	0	0	0	0
Biomedical research support	0	1,000	0	2,000	0	2,000
Minority biomedical research support	0	0	0	0	0	0
Other	137	33,063,000	144	34,386,000	144	34,592,000
Subtotal, Other Research	153	34,758,000	164	36,569,000	165	36,770,000
Total Research Grants	398	52,767,000	393	53,492,000	396	53,799,000
Research Training:	FTEs		FTEs		FTEs	
Individual awards	0	0	0	0	0	0
Institutional awards	0	18,000	1	44,000	1	35,000
Total, Training	0	18,000	1	44,000	1	35,000
Research & development contracts (SBIR/STTR)	0 (0)	1,231,000 (0)	0 (0)	1,468,000 (0)	0 (0)	1,396,000 (0)
Intramural research	FTEs		FTEs		FTEs	
Intramural research	0	0	0	0	0	0
Research management and support	53	11,328,000	57	11,628,000	57	11,818,000
Cancer prevention & control	0	0	0	0	0	0
Construction		0		0		0
Buildings and Facilities		0		0		0
Total, N	53	65,344,000	57	66,632,000	57	67,048,000
(RoadMap Support)		(225,000)		(420,000)		(600,000)
(Clinical Trials)		(0)		(0)		(0)

**NATIONAL INSTITUTES OF HEALTH
John E. Fogarty International Center**

Budget Authority by Activity
(dollars in thousands)

ACTIVITY	FY 2004 Actual		FY 2005 Appropriation		FY 2006 Estimate		Change	
	FTEs	Amount	FTEs	Amount	FTEs	Amount	FTEs	Amount
Extramural Research:								
International Research Activities		\$54,016		\$55,004		\$55,230		\$226
Subtotal, Extramural Research		54,016		55,004		55,230		226
Research Management & Support	53	11,328	57	11,628	57	11,818	0	190
Total	53	65,344	57	66,632	57	67,048	0	416

NATIONAL INSTITUTES OF HEALTH
John E. Fogarty International Center

Summary of Changes

FY 2005 Estimate		\$66,632,000		
FY 2006 Estimated Budget Authority		67,048,000		
Net change		416,000		
CHANGES	FY 2005 Appropriation		Change from Base	
	FTEs	Budget Authority	FTEs	Budget Authority
A. Built-in:				
1. Intramural research:				
a. Within grade increase				
		\$0		\$0
b. Annualization of January 2005 pay increase				
		0		0
c. January 2006 pay increase				
		0		0
d. One less day of pay				
		0		0
e. Payment for centrally furnished services				
		0		0
f. Increased cost of laboratory supplies, materials, and other expenses				
		0		0
Subtotal				
				0
2. Research Management and Support:				
a. Within grade increase				
		5,783,000		95,000
b. Annualization of January 2005 pay increase				
		5,783,000		54,000
c. January 2006 pay increase				
		5,783,000		100,000
d. One less day of pay				
		5,783,000		(22,000)
e. Payment for centrally furnished services				
		1,472,000		7,000
f. Increased cost of laboratory supplies, materials, and other expenses				
		4,373,000		62,000
Subtotal				
				296,000
Subtotal, Built-in				
				296,000

**NATIONAL INSTITUTES OF HEALTH
John E. Fogarty International Center**

Summary of Changes—continued

CHANGES	2005 Current Estimate Base		Change from Base	
	No.	Amount	No.	Amount
B. Program:				
1. Research project grants:				
a. Noncompeting	152	\$12,115,000	14	\$760,000
b. Competing	77	4,553,000	(12)	(743,000)
c. SBIR/STTR	0	0	0	0
Total	229	16,668,000	2	17,000
2. Research centers	0	255,000	0	89,000
3. Other research	164	36,569,000	1	201,000
4. Research training	1	44,000	0	(9,000)
5. Research and development contracts	0	1,468,000	0	(72,000)
Subtotal, extramural				226,000
6. Research Management and Support	57	11,628,000	0	(106,000)
Subtotal, program		66,632,000		120,000
Total changes	57		0	416,000

NATIONAL INSTITUTES OF HEALTH
John E. Fogarty International Center
Budget Authority by Object

	FY 2005 Appropriation	FY 2006 Estimate	Increase or Decrease
Total compensable workyears:			
Full-time employment	57	57	0
Full-time equivalent of overtime & holiday hours	1	1	0
Average ES salary	\$144,326	\$146,635	\$2,309
Average GM/GS grade	11.1	11.1	0.0
Average GM/GS salary	\$74,611	\$76,570	\$1,959
Average salary, grade established by act of July 1,1944 (42 U.S.C. 207)	\$75,779	\$77,769	\$1,990
Average salary of ungraded positions	128,168	131,533	3,365
	FY 2005 Appropriation	FY 2006 Estimate	Increase or Decrease
Personnel Compensation:			
11.1 Full-Time Permanent	\$3,569,000	\$3,698,000	\$129,000
11.3 Other than Full-Time Permanent	595,000	620,000	25,000
11.5 Other Personnel Compensation	52,000	55,000	3,000
11.7 Military Personnel	272,000	285,000	13,000
11.8 Special Personnel Services Payments	48,000	50,000	2,000
Total, Personnel Compensation	4,536,000	4,708,000	172,000
12.0 Personnel Benefits	1,032,000	1,067,000	35,000
12.1 Military Personnel Benefits	215,000	235,000	20,000
13.0 Benefits for Former Personnel	0	0	0
Subtotal, Pay Costs	5,783,000	6,010,000	227,000
21.0 Travel & Transportation of Persons	330,000	335,000	5,000
22.0 Transportation of Things	20,000	21,000	1,000
23.1 Rental Payments to GSA	0	0	0
23.2 Rental Payments to Others	1,000	1,000	0
23.3 Communications, Utilities & Miscellaneous Charges	63,000	64,000	1,000
24.0 Printing & Reproduction	65,000	66,000	1,000
25.1 Consulting Services	210,000	211,000	1,000
25.2 Other Services	1,300,000	1,300,000	0
25.3 Purchase of Goods & Services from Government Accounts	5,579,000	5,589,000	10,000
25.4 Operation & Maintenance of Facilities	12,000	12,000	0
25.5 Research & Development Contracts	1,468,000	1,396,000	(72,000)
25.6 Medical Care	0	0	0
25.7 Operation & Maintenance of Equipment	22,000	22,000	0
25.8 Subsistence & Support of Persons	0	0	0
25.0 Subtotal, Other Contractual Services	8,591,000	8,530,000	(61,000)
26.0 Supplies & Materials	145,000	120,000	(25,000)
31.0 Equipment	140,000	116,000	(24,000)
32.0 Land and Structures	0	0	0
33.0 Investments & Loans	0	0	0
41.0 Grants, Subsidies & Contributions	51,494,000	51,785,000	291,000
42.0 Insurance Claims & Indemnities	0	0	0
43.0 Interest & Dividends	0	0	0
44.0 Refunds	0	0	0
Subtotal, Non-Pay Costs	60,849,000	61,038,000	189,000
Total Budget Authority by Object	66,632,000	67,048,000	416,000

**NATIONAL INSTITUTES OF HEALTH
John E. Fogarty International Center**

Salaries and Expenses

OBJECT CLASSES	FY 2005 Appropriation	FY 2006 Estimate	Increase or Decrease
Personnel Compensation:			
Full-Time Permanent (11.1)	\$3,569,000	\$3,698,000	\$129,000
Other Than Full-Time Permanent (11.3)	595,000	620,000	25,000
Other Personnel Compensation (11.5)	52,000	55,000	3,000
Military Personnel (11.7)	272,000	285,000	13,000
Special Personnel Services Payments (11.8)	48,000	50,000	2,000
Total Personnel Compensation (11.9)	4,536,000	4,708,000	172,000
Civilian Personnel Benefits (12.1)	1,032,000	1,067,000	35,000
Military Personnel Benefits (12.2)	215,000	235,000	
Benefits to Former Personnel (13.0)	0	0	0
Subtotal, Pay Costs	5,783,000	6,010,000	227,000
Travel (21.0)	330,000	335,000	5,000
Transportation of Things (22.0)	20,000	21,000	1,000
Rental Payments to Others (23.2)	1,000	1,000	0
Communications, Utilities and Miscellaneous Charges (23.3)	63,000	64,000	1,000
Printing and Reproduction (24.0)	65,000	66,000	1,000
Other Contractual Services:			
Advisory and Assistance Services (25.1)	210,000	211,000	1,000
Other Services (25.2)	1,300,000	1,300,000	0
Purchases from Govt. Accounts (25.3)	3,557,000	3,556,000	(1,000)
Operation & Maintenance of Facilities (25.4)	12,000	12,000	0
Operation & Maintenance of Equipment (25.7)	22,000	22,000	0
Subsistence & Support of Persons (25.8)	0	0	0
Subtotal Other Contractual Services	5,101,000	5,101,000	0
Supplies and Materials (26.0)	145,000	120,000	(25,000)
Subtotal, Non-Pay Costs	5,725,000	5,708,000	(17,000)
Total, Administrative Costs	11,508,000	11,718,000	210,000

NATIONAL INSTITUTES OF HEALTH

John E. Fogarty International Center

SIGNIFICANT ITEMS IN HOUSE, SENATE, AND CONFERENCE APPROPRIATIONS

COMMITTEE REPORTS

FY 2005 House Appropriations Committee Report Language (H. Rpt. 108-636)

Item

Tuberculosis Training - The Committee is pleased with the Fogarty International Center's efforts to supplement grants in the AIDS International Training and Research Program (AITRP) or International Training and Research Program in Emerging Infectious Diseases (ERID), which trains tuberculosis experts in the developing world. Given the magnitude of global tuberculosis, the Committee encourages FIC to consider developing a specific free-standing TB program (p. 103).

Action taken or to be taken

Given the impact of tuberculosis (TB) on the global health agenda, FIC has integrated TB research and training efforts across the spectrum of extramural programs, allowing leveraging of resources and multi-disciplinary approaches to tackle this urgent problem. TB continues to be an important focus of several FIC extramural programs, including: the Global Infectious Disease (GID) Research Training program; the International Clinical, Operational, and Health Services Research and Training Award for AIDS and TB program (ICOHRTA AIDS/TB); the AIDS International Training and Research Program (AITRP); and the Stigma and Global Health Research program. By building on infrastructure in place for a range of infectious diseases, the GID program allows TB researchers in low- and middle-income nations to leverage resources of a range of partners, including the National Institute of Allergy and Infectious Diseases (NI AID), the Centers for Disease Control and Prevention (CDC), and the Aeras Global TB Vaccine Foundation, supported by the Bill and Melinda Gates Foundation involving TB vaccine research in South Africa. By linking clinical, operational and health services research training on AIDS with that of TB, the ICOHRTA AIDS/TB program allows FIC and its partner agencies, including the National Institute on Drug Abuse (NIDA), and also CDC and USAID, to bolster efforts in these linked epidemics in the developing world. Training and research on TB has been an important part of AITRP since its inception seventeen years ago. In FY 2004, FIC expanded its research to include projects to understand stigma in various cultures related to TB, AIDS and other diseases. In addition, TB research is also conducted within FIC's Tobacco Research program and the International Research Scientist Development Award (IRSDA) program for junior scientists.

Item

Chronic Obstructive Pulmonary Disease-The Committee notes that Chronic Obstructive Pulmonary Disease [COPD] is the fourth leading cause of death worldwide, and encourages the FIC expand its COPD research and training activities (p. 103).

Action taken or to be taken

The Fogarty International Center (FIC) continues to address chronic obstructive pulmonary disease (COPD) with the establishment in FY 2003 of the International Tobacco and Health Research and Capacity Building Program. The FIC and eight partners, including the National Cancer Institute and the National Institute on Drug Abuse, made 14 awards to institutions working in 20 developing countries to support research and training on the impact of smoking-associated adverse health consequences. These awards will enhance the ability of scientists in low- and middle-income nations to understand risk factors for smoking uptake, particularly in youth, to develop effective prevention and mitigation programs, and to identify the most effective health service and communications policies to reduce the negative impacts of smoking on populations. Among the studies supported are those that focus on the use of the Internet for education related to smoking in rural Dominican Republic, economic analysis and smoking policies in China, smoking cessation in Syria, the use of water pipes in Egypt, and adolescent smoking prevention and cessation in South Africa. It should be noted that waterpipes are becoming more popular in the U.S. as well. The knowledge gained and interventions developed abroad through this program will benefit the United States since risk factors are similar in communities at home and abroad, and since effective interventions developed overseas may have particular effectiveness in U.S. groups. The FIC is pleased with progress under this program and publications are beginning to appear in the scientific literature based on support from this program. For example, in a recent article in the journal *Lancet*, authored by Jha and Peto, two FIC Principal Investigators, they were able to show a strong link between smoking and tuberculosis, indicating that TB was not only more common than expected in smokers, but also much more lethal.

In addition to the tobacco program, FIC is also addressing COPD under its International Training and Research in Environmental and Occupational Health (ITREOH) Program. The ITREOH is a collaborative program involving FIC and the National Institute of Environmental Health Sciences (NIEHS) within the NIH, and also the National Institute for Occupational Health and Safety (NIOSH) within the Centers for Disease Control and Prevention. Examples include efforts to reduce environmental and occupational health risks associated with mining and mineral processing in sub-Saharan Africa, in countries such as Zambia, Zimbabwe, and South Africa, as well as prevention of silicosis in Vietnam, and reduction of smoking and exposure to environmental tobacco smoke in China. For the first time, global programs are making in-roads with more coordinated efforts with the goal of educating people on the dangers of tobacco, thus reducing initial uptake as well as overall exposure, and thereby ultimately reducing illness and disease associated with tobacco use.

Tuberculosis Training - The Committee is pleased with the Fogarty International Center's efforts to supplement grants in the AIDS International Training and Research Program (AITRP) or International Training and Research Program in Emerging Infectious Diseases (ERID), which trains tuberculosis experts in the developing world. Given the magnitude of global tuberculosis, the Committee encourages FIC to consider developing a specific free-standing TB program (p. 161).

Please refer to page 24 of this document for IC's response to this Significant Item regarding Tuberculosis Training.

**NATIONAL INSTITUTES OF HEALTH
John E. Fogarty International Center**

Authorizing Legislation

	PHSAct/ Other Citation	U.S. Code Citation	2005 Amount Authorized	FY 2005 Appropriation	2006 Amount Authorized	2006 Budget Estimate
Research and Investigation	Section 301	42§241	Indefinite		Indefinite	
International Cooperation	Section 307	42§2421	Indefinite	> \$66,588,000	Indefinite	y \$67,013,000
John E. Fogarty International Center	Section 482	42§287b	Indefinite		Indefinite	
National Research Service Awards	Section 487(d)	42§288	a/	44,000	'b/	35,000
Total, Budget Authority				66,632,000		67,048,000

a/ Amounts authorized by Section 301 and Title IV of the Public Health Act.

b/ Reauthorizing legislation will be submitted.

**NATIONAL INSTITUTES OF HEALTH
John E. Fogarty International Center**

Appropriations History

Fiscal Year	Budget Estimate to Congress	House Allowance	Senate Allowance	Appropriation	1/
1997	\$15,790,000 2/	\$26,707,000	\$16,838,000 21	\$26,557,000	3/
1998	16,755,000 2/	27,620,000	28,468,000	28,289,000	
1999	19,045,000 2/4/	30,367,000	35,426,000	35,426,000	
Rescission	0	0	0	(24,000)	
2000	23,498,000 2/	40,440,000	43,723,000	43,723,000	
Rescission				(229,000)	
2001	32,532,000 2L	50,299,000	61,260,000	50,514,000	
Rescission				(21,000)	
2002	56,449,000	56,021,000	57,874,000	56,940,000	
Rescission				(81,000)	
2003	63,088,000 5/	63,088,000	60,880,000	63,880,000	
Rescission				(415,000)	
2004	64,266,000	64,266,000	65,900,000	65,800,000	
Rescission	0	0	0	(418,000)	
2005	67,182,000	67,182,000	67,600,000	67,182,000	
Rescission	0			(550,000)	
2006	67,048,000				

1/ Reflects enacted supplemental, rescissions, and reappropriations.

2/ Excludes funds for HIV/AIDS research activities consolidated in the NIH Office of AIDS Research.

3/ Excludes enacted administrative reductions of \$29,000.

4/ Reflects a decrease of \$60,000 for the budget amendment for Biodefense.

5/ Reflects a decrease of \$292,000 for the budget amendment for Buildings and Facilities.

**NATIONAL INSTITUTES OF HEALTH
John E. Fogarty International Center**

Detail of Full-Time Equivalent Employment (FTEs):

OFFICE/DIVISION	FY 2004 Actual	FY 2005 Appropriation	FY 2006 Estimate
Office of the Director	12	13	13
Office of Administrative Management and International Services	11	12	12
Division of International Training and Research	10	12	12
Division of International Relations	8	9	9
Division of Advanced Studies and Policy Analysis	7	6	6
Division of International Epidemiology and Population Studies	5	5	5
Total	53	57	57
FTEs supported by funds from Cooperative Research and Development Agreements	(0)	(0)	(0)
FISCAL YEAR	Average GM/GS Grade		
2002	10.7		
2003	11.1		
2004	11.0		
2005	11.1		
2006	11.1		

NATIONAL INSTITUTES OF HEALTH

National Institute of

Detail of Positions

GRADE	FY 2004 Actual	FY 2005 Appropriation	FY 2006 Estimate
Total - ES Positions	2	2	2
Total - ES Salary	\$284,106	\$288,652	\$293,270
GM/GS-15	6	6	6
GM/GS-14	10	11	11
GM/GS-13	4	5	5
GS-12	4	5	5
GS-11	5	5	5
GS-10	1	1	1
GS-9	2	5	5
GS-8	1	1	1
GS-7	5	6	6
GS-6	0	0	0
GS-5	0	2	2
GS-4	2	0	0
GS-3	0	0	0
GS-2	1	1	1
GS-1	0	0	0
Subtotal	41	48	48
Grades established by Act of July 1, 1944(42U.S.C.207):			
Assistant Surgeon General			
Director Grade	1	1	1
Senior Grade	1	1	1
Full Grade	1		
Senior Assistant Grade			
Assistant Grade			
Subtotal	3	2	2
Ungraded	7	7	7
Total permanent positions	46	52	52
Total positions, end of year	53	59	59
Total full-time equivalent (FTE) employment,end of year	53	57	57
Average ES salary	\$142,053	\$144,326	\$146,635
Average GM/GS grade	11.1	11.1	11.1
Average GM/GS salary	\$72,591	\$74,611	\$76,570