International Collaboration Through Research and Training

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• Begun as a one-room Laboratory of Hygiene in 1887, the NIH has grown to 27 Institutes and Centers (ICs)
DEFINITION: IC = Institute - Center
The National Institutes of Health

NIH’s mission is to seek fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce the burdens of illness and disability. The goals of the agency are:

- to foster fundamental creative discoveries and their applications as a basis for ultimately protecting and improving health;
- to develop, maintain, and renew scientific human and physical resources to ensure our capability to prevent disease;
- to expand the knowledge base in medical sciences to enhance the nation’s economic well-being and ensure a continued high return on the public investment in research; and
- to exemplify and promote the highest level of scientific integrity, public accountability, and social responsibility in the conduct of science.
At his inaugural address as NIH director, Dr. Collins shared “five areas of special opportunity in the coming years”:

- High throughput technologies
- Translation of NIH science into practice
- Putting science to work for the benefit of healthcare reform
- Greater focus on global health
- Need to reinvigorate and empower the biomedical research community through stable and predictable funding increases, through high quality training programs
NIH in numbers

• ~$30 billion dollars/year
• More than 4/5 of NIH budget is devoted to funding competitive grants:
  • Support more than 325,000 research personnel
  • Funding to over 3,000 institutions
• Activities in all 50 states and US territories and more than 90 countries around the world
Substantial Growth in NIH Foreign Awards

Number of Research Awards to Foreign Institutions

Amount Awarded ($ in Millions) to Foreign Institutions

Source: NIH OER
Non-communicable diseases and conditions

Adult mortality rates, 2004
### Non-communicable diseases (2005-2016)

<table>
<thead>
<tr>
<th>Geographical regions (WHO classification)</th>
<th>2005</th>
<th>2006-2015 (cumulative)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Total deaths (millions)</td>
<td>NCD deaths (millions)</td>
</tr>
<tr>
<td>Africa</td>
<td>10.8</td>
<td>2.5</td>
</tr>
<tr>
<td>Americas</td>
<td>6.2</td>
<td>4.8</td>
</tr>
<tr>
<td>Eastern Mediterranean</td>
<td>4.3</td>
<td>2.2</td>
</tr>
<tr>
<td>Europe</td>
<td>9.8</td>
<td>8.5</td>
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<tr>
<td>South-East Asia</td>
<td>14.7</td>
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<tr>
<td>Western Pacific</td>
<td>12.4</td>
<td>9.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>58.2</strong></td>
<td><strong>35.7</strong></td>
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</tbody>
</table>
The Cancer Genome Atlas

- Coordinated by a project team comprised of individuals from both the National Cancer Institute (NCI) and the National Human Genome Research Institute (NHGRI)
- over the next few years, TCGA’s research team will build comprehensive catalogs of the key genomic changes in 20 major types and subtypes of cancer. These data are being shared rapidly with the worldwide scientific community, and will provide powerful new guides for all those striving to develop better ways to diagnose, treat, and prevent cancer
Diabetes Prevention Program

• NIH funded trial that showed that one of the most effective ways to lower the risk of type 2 diabetes is through regular exercise and modest weight loss. A recent follow-up study showed that the protective effects of weight loss and exercise persist for at least a decade.

• Research into implementing DPP findings in the real world -> United Health Group, YMCA, and Walgreen’s pharmacies will implement on a national scale what was learned in DPP

National Collaborative on Childhood Obesity Research (NCCOR)

• Pulled experts from four NIH institutes (NCI, NHLBI, NICHD, NIDDK), the CDC, the USDA, and the Robert Wood Johnson Foundation.

• Trial of Activity for Adolescent Girls: a national study to develop and test school- and community-based interventions to get girls more involved in gym class, organized sports, or recreational activities.

• We Can!: provides families with practical tools for weight loss at more than 1,000 community sites nationwide

• [http://www.nccor.org/index.html](http://www.nccor.org/index.html)
Alzheimer’s Disease Neuroimaging Initiative

• Public-private partnership: National Institute of Aging (NIA), National Institute of Bioimaging and Bioengineering (NIBIB), Pharma, and several foundations

• Showing some success in finding methods for early diagnosis and assessing whether drugs and other interventions can prevent or delay the onset of AD

• http://www.adni-info.org/Home.aspx
NHLBI Centers of Excellence

NHLBI and UnitedHealth Group network

- Network of research and training centers to build institutional and community capacity to prevent and control chronic diseases

- NHLBI awarding 5-year contracts totaling almost $26m to LMIC sites and a 6-year contract to Westat for $8.8m
NINDS International Neuroscience Fellowship

8 ICs (NINDS, NIA, NIAAA, NICHD, NIDA, NIDCD, NIEHS, NIMH) participate

For foreign junior and mid-career scientists to receive 1-2 years (clinical research up to 3 years) of research training in the U.S.

Candidate must have a position upon returning to the home country

Preference will be given to developing country scientists

Connecting at the government-to-government and investigator levels
US-LA CRN At a Glance

• Launched in March 2009
• Unprecedented bilateral partnership connecting governments, institutions & researchers, and non-governmental organizations
• First project: Addressing the high breast cancer incidence in Latin America
• Providing data to advance cancer management for United States Hispanic population
• Focusing on 21st century biomedical concepts
  ▪ Molecular Profiling of Breast Cancer
  ▪ Understanding/ImprovingEarly Detection
  ▪ Clinical Trials
• Improving biobanking process in Latin America
John E. Fogarty International Center for Advanced Study in the Health Sciences

- Established in 1968

- Mission: supporting and facilitating global health research conducted by U.S. and international investigators, building partnerships between institutions, and training the next generation of scientists

- Budget has grown from $0.5m to ~$70m
FIC strategic plan

- Address the growing epidemic of chronic, non-communicable diseases
- Bridge the implementation research training gap
- Develop human capital in the developing world
- Foster a sustainable research environment in low- and middle-income countries
- Build strategic alliances and funding partnerships
Fogarty Intl Center Percent of NIH Budget

Fogarty Intl Center Percent of NIH Budget

99.75%

0.25%
Fogarty International Center
Major Research and Training Sites

U.S. Collaborating Institutions >120
Fogarty programs

• Research training grants
• Research grants
• Fellowships
• Career development awards
• Multidisciplinary global health educational development initiatives
Research Training Programs

- provide funding to train foreign researchers and build sustainable research capacity in LMICs in areas such as HIV, global infectious diseases, chronic disease, trauma, occupational and environmental health, and informatics.
- Utilize D43 mechanism
NCD-Lifespan

- Goal is to support collaborative research training between institutions in the US and LMICs to increase in-country experts to conduct research on non-communicable diseases
- Both US and LMIC institutions can apply for full grants
- Up to $250,000 per year (total direct costs) for up to five years
- Planning grant: up to $27,000 per year for up to two years
- Receipt date: Sept 2011, 2012
AIDS International Research & Training Program

- Begun in 1988
- Goal is to build multi-disciplinary biomedical, behavioral, and social science research capacity for the prevention, care and treatment of HIV/AIDS and related conditions
- Both US and LMIC institutions eligible to apply
- $278,000 per year (total direct costs) for up to five years for new applicants; $695,000 per year for up to 5 tears for renewal applicants entering their 16th or greater year of funding
- Receipt date: August 2012
Research grants

• Provide funding to perform research in a variety of global health topics, such as brain disorders, tobacco cessation, ecology of infectious diseases, biodiscovery from biodiversity, a small grants program in all NIH fields, and a program for new foreign investigators.

• Utilize R01, R03, R21 mechanisms
GRIP awards

Global Research Initiative Program for New Foreign Investigators

R01 research grant mechanism

- New, young investigators
  - Trained under a Fogarty D43 program (research training program)
  - Trained at an NIH campus for 2 years
  - Training completed within 4 years of application
- Coming from and returning to a LMIC after U.S. training
- Work on scientific needs of the country/region
- Only foreign institutions can apply
GRIP

- Up to $50,000 per year for up to 5 years, Plus facilities and administrative (F&A) costs up to 8% for a foreign institution
- Approximately 6-8 awards per year
- Two funding opportunity announcements
  - Behavioral/Social Sciences
  - Basic/Biomedical Sciences
FIRCA

Fogarty International Research Collaboration Award
R03 mechanism – small research grant

• Goal is to support collaboration between a U.S. investigator with NIH research funds and a foreign collaborator from a LMIC to help build research capacity

• Applicants must either be an NIH-funded investigator holding an R01, P01, U01, R21, or R03; or a previous LMIC collaborator on an awarded FIRCA

• All areas of health-related research are eligible

• Very competitive, but a good way to get started
FIRCA

- $50,000 in direct costs for up to 3 years
- All areas except for HIV/AIDS-related illnesses are eligible
- FIRCA-BSS (behavioral & social science)
- FIRCA-BB (basic biomedical)
Fellowships

Provide funding to U.S. postdoctoral fellows, medical students, clinical fellows, and junior faculty who have an interest in research in LMICs.
Fogarty Fellows Program (FICRS-F)

- Clinical research training program for medical residents and fellows, and PhDs in health-related post-doc programs
- Both US and non-US candidates can apply
- 39 vetted sites in Africa, Asia, South & Central America
- Support for one year of mentored clinical research only in a developing country setting
- $45,000 stipend, $8,000 infrastructure support, up to $15,000 discretionary and research project related funds

Career Development Awards: K01

International Research Scientist Development Award (IRSDA)

• US institutions only
• Eligible PIs:
  ▪ Non-tenure track faculty
• Support for 3-5 years
  ▪ Up to $75,000 in salary + fringe benefits
  ▪ Up to $30,000 in research development support

http://www.fic.nih.gov/programs/training_grants/irsda.htm
Career Development Awards: K02

Independent Scientist in Global Health Award (ISGHA)

• US institutions only
• Eligible PIs:
  ▪ Tenure track ± independent NIH research support
  ▪ Non-tenure track + independent NIH research support
• Support for 3-5 years
  ▪ 50% of salary up to $85,000 + fringe benefits
  ▪ Up to $25,000 in research support

Global Health Educational Development Initiatives

- Multidisciplinary
Medical Education Partnership Initiative

MEPI is a collaborative effort by the U.S. Office of the Global AIDS Coordinator, the National Institutes of Health, and the Health Resources and Services Administration.

**Goal:** Provide direct support to African institutions to transform medical education in Sub-Saharan Africa, strengthening and building clinical and research capacity and thereby strengthening human resources for health.

**Where:** 13 Awardee Institutions in 12 African Countries

**Funding:** $130 million over 5 years

**Expected Outcome:** 40,000 healthcare workers targeted for training. Retention of faculty, clinicians, and researchers in their home countries.
MEPI Sites

- Botswana
  University of Botswana
- Ethiopia
  Addis Ababa University
- Ghana
  Kwame Nkrumah University of Science and Technology
- Kenya
  University of Nairobi
- Malawi
  University of Malawi College of Medicine
- Mozambique
  Universidade de Eduardo Mondlane
- Nigeria
  University of Ibadan
- South Africa
  University of KwaZulu-Natal Stellenbosch University
- Tanzania
  Kilimanjaro Christian Medical Centre
- Uganda
  Makerere University
- Zambia
  University of Zambia
- Zimbabwe
  University of Zimbabwe

Coordinating Center: George Washington University
Thank you