



# Best Practices for Scientific Sustainability in a Research Institution

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# Research Institute for Tropical Medicine

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- Established 1981 in Alabang, Muntinlupa City
- Attached agency of the Department of Health
- Primary mandate to conduct globally competitive research on infectious and tropical diseases
- Conducts training, clinical care, reference laboratory services and biologicals production for the prevention and control of infectious and tropical diseases of public health importance to the Philippines





# Executive Order 674, 1981







# Responsibilities

- Main research arm of DOH for infectious and tropical diseases (1981)
- National Reference Laboratories for infectious disease (2000)
- Designated Referral Hospital for Emerging and Reemerging Infections (2003)
- Biologicals production, storage and distribution of EPI vaccines in the country (1998)
- WHO TDR Regional Training Center for Good Research Practices





## Emerging Infections in the Philippines

- 2015 ◀ **MERS CoV, Ebola Reston**
- 2014 ◀ **Measles, MERS CoV, Henipah, Ebola?**
- 2013 ◀ **Pertussis, Measles**
- 2012 ◀ **Leptospirosis**
- 2011 ◀ **Chikungunya**
- 2010 ◀ **Dengue**
- 2009 ◀ **Pandemic A H1N1**
- 2008 ◀ **Ebola Reston in pigs and humans/ Leptospirosis/ Salmonella typhi**
- 2007 ◀ **Resistant Shigella flexneri 2a in Cavite, Bohol and Cotabato**
- 2006
- 2005
- 2004 ◀ **Meningococemia outbreak in CAR**
- 2003 ◀ **SARS Outbreak**
- 2002 ◀ **West Nile Virus Pseudo outbreak (RITM as Referral Laboratory)**
- 2001 ◀ **Bioterrorism threat using Bacillus anthracis as biological weapon**
- 1998 ◀ **Serological Surveillance ABLV**
- 1996 ◀ **Ebola Reston in monkeys (US)**
- 1992 ◀ **Ebola Reston in monkeys (Sienna, Italy)**
- 1989 ◀ **Ebola Reston in monkeys (Reston, Virginia)**



# Laboratory Research Division

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- Microbiology
- Virology
- Parasitology
- Immunology
- Molecular Biology
- Pathology, including Clinical Lab, EM & TTI-NRL
- Veterinary Research, including Special Pathogens
- Antimicrobial Resistance Reference Lab
- TB Reference Lab



# Clinical Research Division

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- Medical Department
- 50 bed capacity tertiary hospital for infectious diseases
- 8 negative pressure rooms, 2 ICU for highly infectious pathogens
- Rabies confinement
- Hospital support (Nursing, Dietary, Pharmacy etc)
- Epidemiology and Biostatistics, including Library





# Study Groups

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- Acute Respiratory Infections
- Diarrhea
- Schistosomiasis
- Dengue
- HIV / AIDS
- Tuberculosis
- Malaria
- Leprosy
- Rabies
- Hepatitis
- Medical Department



# Institutional Review Board & RIO

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- FERCAP recognized & PHREB Level III accredited
- 11 members (5 MD, 2 PhD, 4 Lay members)
- Institutional Research Policy

## Research & Innovation Office

- Strengthen research capacity of RITM investigators
- Knowledge management



# Key Achievements

- Translation of research output to public health policies
- Over 500 publications in peer-reviewed international journals
- Rapid laboratory response to outbreaks and pandemic threats
- Clinical expertise in management of infectious and tropical diseases
- Established and expanded formal linkages with local and international institutions



# Ongoing Researches

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89 research projects

- 63 investigator-initiated
  - 33 basic biomedical research
  - 28 operations research
- 26 sponsor-initiated, both DOH/WHO-commissioned & private
  - 15 are industry sponsored clinical trials



# Challenges

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- Lack of institutional research funding
- Dependent on highly competitive funding process and on commissioned grants, both public & private
- Brain drain
- Equipment and facilities
- Laboratory and clinical trial space
- Human resource competency





# Research funding

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- Capacity building for investigator initiated research
  - Journal access
  - Grant proposal and protocol writing
- Collation and dissemination of funding opportunities (twice monthly RIO Newsletter)
- Local funding through the Philippine Council for Health Research & Development
- **Strengthen and expand collaboration with international research and academic institutions**



# Funding Agencies

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US National Institutes of Health  
Centers for Disease Control and Prevention  
Japan International Cooperation Agency  
UK Medical Research Council  
Australian National Health Medical Research Council  
USAID, AUSAID  
WHO Tropical Disease Research  
Bill & Melinda Gates Foundation  
American Foundation for AIDS Research  
Global Fund for TB, Malaria and HIV  
Funding agencies in Canada, France, China etc



# Industry funding and collaboration

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- GlaxoSmithKline
- Takeda
- Sanofi-Pasteur
- Pfizer
- LG Chem

## Non-profit

- International Vaccine Institute
- PATH



# Research Funding

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- Internal research funds
  - Research Policy mandates Institutional Fee
  - 6 small research grants in 2017
  - 5 grants in 2018, out of 10 submissions
  - P 300,000 for one year projects
  - Personnel and supplies



# Lobby for institutional research support

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- Health Policy Development and Planning Bureau
  - Facilitated by the HPDPB Research Division
  - >20 proposals from the various study groups
  - for evaluation by the RITM executive committee & submission to HPDPB
  - 2% DOH budget allocation for research





# Human Resource

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- Incentivise researchers through honoraria
  - Local researchers do more work than international collaborators, but are inappropriately compensated
  - DBM-DoF-COA circular on international projects respecting the approved budget
  - Challenging for publicly funded research (25% cap)
- Scientific career system
- Recognition (PRAISE Committee)
  - Publication award, international research award



# Investments in Human Resource

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- Capacity building
  - Manuscript writing
  - Policy brief workshop
  - GCP and ethics training
  - Project management and implementation
  - Dissemination of scholarship and fellowship opportunities

WHO TDR Regional Training Center for Good Research Practices



# Investments in Human Resource

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- Research-nurturing environment
  - Monthly brown bag lectures
  - Research symposia for visiting scientists
  - Annual Research Conference
  - Support for local conference travel of accepted abstracts
- Dedicated time (Writing leave) for proposal and manuscript development
- Support for publication fees (\$\$\$ per page)



# Institutional Resources

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- **Epidemiology & Biostatistics**
  - Study design, data collection tools, data management, sample size calculation, statistical analysis
- **Molecular Biology core facility**
  - Conventional and real-time PCR, Sanger sequencing, Next Generation Sequencing
- **Immunology core facility**
  - Monoclonal antibody production, antigen production and purification, ELISA, peptide mass fingerprinting
- **Pathology (Histopath, EM)**



# Setting directions

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- Institutional Research Agenda
  - RITM Research Agenda established 2017, reviewed in 2018
  - 64 research topics from the study groups and departments
  - Aligned with NUHRA and DOH research agenda
  - Close coordination with Program Managers
- Research targets in Quality Management System
  - IPCR targets for ongoing IRB-approved research projects, proposals submitted, publications





# Future-proof

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- Lobby for & acquire advanced technologies
- Expansion of research spaces



# Summary

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- Funding opportunities are available for quality, timely and relevant research proposals
- Strength in collaboration
- Human resource is our greatest asset
- Shared responsibility to establish a nurturing and productive environment for researchers