

# UVRI ACHIEVEMENTS

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# OUTLINE PRESENTATION

- Historical perspective
- Vision, Mission, Core values
- Functions of UVRI and achievements

# HISTORIC PERSPECTIVE

- Established in 1936 by the International division of RF as a Yellow Fever (YF) Research Institute; YF confirmed in Western Uganda.
- Other viruses: Chikungunya, Onyongnyong, Rift Valley Fever, West Nile, Bunyamwera, Bwamba, Sindbis,
- 1950 it became the EA Virus Research Institute under the East African High Commission, same year designated as WHO Regional Centre for Arboviruses Reference and Research,
- 1962 Imperial Cancer Research Fund collaborated with UVRI in studying Burkitt's lymphoma,
- 1965 isolation from ticks started yielding 2 new strains from cattle ticks,
- 1969, WHO established a program for Polio and other viruses including acute respiratory diseases and enteroviruses,
- 1977, the EAC collapsed and the Institute subsequently named UVRI
- 1987: RHSP, 1988: MRC, 1997: CDC, 2001: IAVI



Yellow fever laboratory in Entebbe, Uganda, est.1936  
Joint Venture between Ugandan Government and the International  
Health Division of the Rockefeller Foundation  
Alexander Mahaffy, Director

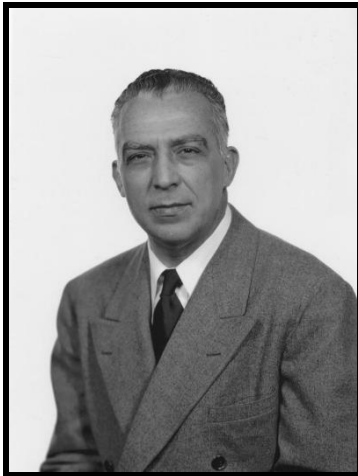
Strode GK (1951)

A NEUROTROPIC VIRUS ISOLATED FROM THE BLOOD  
OF A NATIVE OF UGANDA<sup>1</sup>

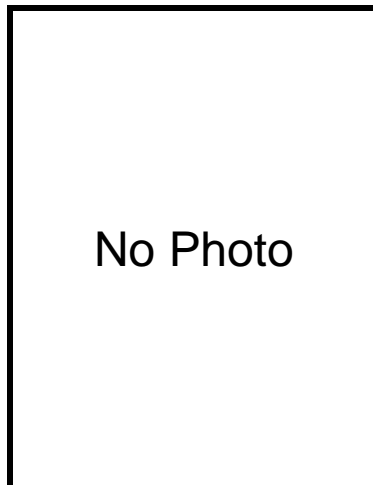
K. C. SMITHBURN, M.D., T. P. HUGHES, PH.D., A. W. BURKE, M.D., AND  
J. H. PAUL, M.D.

*From the Yellow Fever Research Institute, Entebbe, Uganda*

Am J Trop Med 20: 471 - 492 (1940)



Smithburn



No Photo

Hughes



Burke



Paul

# VISION, MISSION & CORE VALUES

- **Vision:** To be a world class centre of excellence in health research
- **Mission:** To conduct scientific investigations on viral and other diseases to contribute to knowledge, policy, practice and engage in capacity dev't for improved public health
- **Core values:** Ethics and integrity, competency and efficiency, team work and collaboration, innovativeness, bio-security and safety

# FUNCTIONS OF UVRI

- Public Health Related Research
- Reference & Specialized Testing
- Training & Education
- Disease Prevention, Control & Microbial Epidemiology
- Environmental Health & Protection
- Emergency Preparedness
- Regulation and Policy Development and Quality Improvement
- Expert advice
- Enabling Partnerships and Communication

# Public Health Related Research

- Evaluate and develop diagnostic and reference technologies: **new HIV test kits, plague rapid test kits, POC,**
- Search for new pathogens and antimicrobial resistance and mechanisms: **mosquitoes, ticks, HIV drug resistance**
- Undertake research and support the work of others in communicable diseases: **HIV, arboviruses, zoonoses, special pathogens**
- Vaccine development and evaluation: **HIV vaccines, Ebola and Marburg**
- Epidemiology of rare and common pathogens: **Marburg, plague, HIV**
- Seroepidemiology and seroprevalence studies: **HIV, HBV, HHV8**
- Mathematical models of the spread of infections: **HIV, Marburg**
- Economic evaluation of control programmes: **HIV mainly**



# Reference and Specialized Testing

- Typing of organisms: Polio, Ebola, Rotavirus
- Confirm laboratory test results: Polio, HIV, Measles
- Serodiagnosis: HIV, HBV, leptospirosis
- Identification of unusual or difficult and dangerous pathogens: Ebola, Marburg
- Antimicrobial resistance confirmation and mechanism determination: HIV drug resistance to ART
- National and International Collections: Blood products, nose aspirates, urine collections, animal and bird tissues, excreta
- Specialist in vivo and ex vivo assays: arbovirus isolation, VHF

# Training and Education

- Maintain competency and improve scientific and technical skills of clinical microbiology, laboratory, and medical practitioners: CME, obtain higher qualifications, write scientific papers and winning grants
- Provide public health microbiology training to scientists, clinicians, public health specialist and environmental officers: done through in-service training, workshops, conferences and short courses, attachments
- Participate in training at international level of lab scientists: exchange visits, short courses, masters and PhD level
- Organize and contribute to national and international training workshops and meetings: many attended by staff at all levels
- Contribute to the public understanding of science: open days to schools, colleges and universities, presentations to public invited, press conferences and releases, articles in the print media, radio and TV talk shows.

# Disease Prevention, Control and Microbial Epidemiology

- To provide Reference Microbiology and Surveillance for viruses causing:
  - respiratory, liver diseases, polio, measles, rotavirus, yellow fever
- Detection of national outbreaks: measles, polio, hepatitis E, Marburg, Ebola, typhoid, nodding disease
- Detect and monitor emerging and imported infectious diseases and antimicrobial resistances: Ebola, Marburg, Avian influenza
- Search for new pathogens: mosquitoes, ticks
- Support disease outbreak investigations
- Zoonoses: plague, leptospirosis, anthrax
- General and on-call support and expertise advice
- Support introduction of immunization programmes, vaccine efficacy and vaccine coverage: rotavirus, childhood immunizable diseases
- International surveillance and reference services support: Avian influenza, arboviruses, polio, measles,
- Seroepidemiology: HIV, HBV, HHV8, leptospirosis

# Environmental Health and Protection

- Zoonoses: **plague**
- Vector-borne infections: **yellow fever**
- Environmental monitoring: **climatic change and relationship to acute febrile illnesses**
- Risk Assessment: **Maramagambo cave**
- Advice on microbiological risks: **bats and transmission of Marburg virus**

# Emergency Preparedness

- Infectious disease emergencies: **VFH, plague, hepatitis E, polio**
- Bioterrorism response: **Anthrax outbreak in hippos, lab security**
- Drafting and annual review of epidemic/ outbreak contingency plans: **partnerships**
- Mathematical models and scenario planning: **HIV, Marburg**

TRUTH EVERYDAY

# Daily Monitor

THURSDAY, NOVEMBER 15, 2012

NO. 320 USHS 1,500 | KSH80 | RF650 | TZSH1,200 | JUA USHS2,000

## Two killed as Ebola confirmed near Kla

**Fresh outbreak:** A month after country was declared free of the deadly virus, it returns to claim more lives in Bombo, about 30 kilometres outside the capital.

# Regulation and Policy Development and Quality Improvement

- Contribute to national and international guidelines and policy development: **research guidelines, health care guidelines, tourism guidelines**
- National and International Quality Assurance Scheme: **HIV testing, HIV drug resistance, Measles and Polio**
- Development of standards: **biosafety and biosecurity**
- Development of testing algorithms: **HIV rapid testing**
- Evaluation of diagnostic kits/tests/methods: **HIV, rapid tests for plague, POC**
- Development of new kits/tests: **in collaboration with partners**
- Provision of assay controls and performance panels: **HIV**
- Assessment of new technologies: CD4, Viral load
- Development of Standard Operating Procedures: **Routine**

# Expert advice

- Provision of expert:
  - Clinical advice: HIV patient care
  - Microbiological advice: HIV drug resistance, VHF considered to be atypical malaria
  - Technical advice: Polio, Measles labs, Avian influenza
  - Infection control advice: Biosafety
  - Outbreak advice: MOH, districts, local leaders, the public
  - Public health advice: policy makers, civic leaders and the public including the media



# Enabling Partnerships and Communication

- Developing partnerships between public health professionals, clinical services, academia, industry, veterinary, wild life authorities, water service industry: **CPHL, SPH, MOH, MAAIF, UWA, TOURISM**
- Contribute to National strategic policy planning and development: **HIV prevention, tourism, plague, vaccines**
- Maintain and develop further international networks particularly in developed and LRC: **CDC, MRC, RHSP, IAVI, NIH, LSHTM, EDCTP; EACCR**
- Provide expert advice to specialist and general press: **press conferences and releases**
- Interactions with agencies and government departments eg Environment Agency (**NEMA**), Medical Devices Agency (**NDA**), Department of health, DETRA, etc: