

Petronella Ahenda

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EDUCATION

- 2024 **Doctor of Public Health (DrPH) in Health Promotion and Community Health Sciences**
School of Public Health
Texas A&M University (TAMU), US
Thesis Title: "Views of Rural Community Members on Building or Rebuilding Public Trust in Healthcare"
- 2012 **Master of Science (MSc) in Medical Microbiology**
Institute of Tropical Medicine and Infectious Diseases (ITROMID)
Jomo Kenyatta University of Agriculture and Technology (JKUAT), Kenya
Thesis Title: "Prevalence and Epidemiology of Enteric Viruses in Children Attending Lwak Mission Hospital in Asembo, Western Kenya"
- 2007 **Bachelor of Science (BSc) in Biochemistry**
School of Medicine
University of Nairobi (UoN), Kenya

PROFESSIONAL TRAININGS/CERTIFICATES

- 2018 **Collaborative Institutional Training (CITI)**
Social and Behavioral Research,
School of Public Health, Texas A&M University, US
- 2012 **ISO 15189 Laboratory Accreditation Standards Training**
Kenya National Accreditation Standards (KENAS), Kenya
- 2012 **Internal Auditors Training**
A Global Healthcare Public Foundation (AGHPF), Kenya
- 2012 **Blood-Borne Pathogen Training**
Centers for Disease Control and Prevention (CDC), Kenya
- 2008 **Good Clinical and Laboratory Practices Training**
Centers for Disease Control and Prevention (CDC), Kenya

PROFESSIONAL EXPERIENCE/SKILLS

Administrative & Leadership Experience:

- Team leader of scientific research projects and manuscript development
- Mentoring students on research skills and proposal development
- Quality Management systems, regulations, and standards based on applied and field epidemiology and laboratory sciences theory and technology
- Supervise approx. 30 laboratory staff members on maintenance of good clinical laboratory practices
- Scientific research including various molecular diagnostic tests, data analysis and report writing
- Public health surveillance of Kenya national health systems
- Student trainings in laboratory methodologies and evaluation strategies, and occupational safety and health skills
- Establishment and maintenance of an effective laboratory Quality Management System
- Collaborative engagements with the Kenya Ministry of Health and Public Health Services

Skills:

- Ability to write good concept papers, reports and scientific articles for publication
- Effective in written and oral communication skills including hosting conferences
- Organization, coordination, and development of scientific symposiums as the Centers for Disease Control and Prevention (CDC) representative for African research scientists at the Medical Veterinary and Virus Research (MVVR) conference held yearly with over 200 participants from 2012-2016
- Development and planning of policy and curriculum development with various Ministry of Health and Public Health Service partners in Kenya
- Ability to conduct laboratory audits based on international standards
- Ability to analyze and evaluate data using a variety of tools
- Effective team member and excellent inter-personal skills
- Ability to establish good working relationships with various programs and organizations both internally and externally

WORK PROFILE

2023-Present **Texas A&M University**, Instructional Assistant Professor of Epidemiology and Biostatistics
Teaching undergraduate and graduate courses including epidemiology, data management and public health writing.

- Identifying innovative research proposals in epidemiology through student engagements and mentorships
- Developing abstracts and manuscripts for conference presentations and publications

- Implementation and coordination of future study abroad programs in collaboration with Texas A&M University related to epidemiology

2020-2023

Texas A&M University, Instructor of Record

Teaching Undergraduate courses as the lead instructor. Assisted in identifying improved teaching strategies and mode of delivery.

- PHLT 310 Public Health Writing (Traditional), Fall 2022
- PHLT 311 Narrative Approach to Public Health (Traditional), Spring 2022
- PHLT 311 Narrative Approach to Public Health (Traditional), Fall 2021
- PHLT 311 Narrative Approach to Public Health (Traditional), Summer 2021
- PHLT 311 Narrative Approach to Public Health (Traditional/ Online), Spring 2021
- PHLT 311 Narrative Approach to Public Health (Traditional/ Online), Fall 2020
- PHLT 311 Narrative Approach to Public Health (Traditional/ Online), Spring 2020

2019

Texas A&M University, Teaching Assistant

Served as a Graduate Teaching Assistant (Traditional) for undergraduate level courses. Assisted in coordination of assignments, presentations, and grading.

- PHLT 310 Public Health Writing, (Dr. Angela Clendenin) Fall 2019
- PHLT 311 Narrative Approach to Public Health, (Dr. Angela Clendenin) Fall 2019

2018-2019

Texas A&M University, Doctoral Research Assistant

Engaged in collaborative research with Dr. John Spengler (Department of Health Promotion and Community Health Sciences).

- Identifying innovative research proposals and techniques for doctoral research
- Translating research to real-world practice to address emerging health issues

2017-2018

Texas Woman's University, Graduate Research Assistant

Participated in a teen pregnancy prevention research project (North Texas Alliance to Reduce Teen Pregnancy (NTARuPT) funded by the U.S. Department of Health and Human Services, Office of Adolescent Health under the supervision of Dr. Mandy Golman (Department of Health Studies) and Dr. Nila Ricks (Department of Social Works).

- Conducting focus groups with parents, teens, and teen parents
- Distributing surveys to community partners
- Intervention fidelity monitoring and data collection and entry
- Working on quantitative and qualitative research projects using statistical softwares
- Providing assistance in data collection, analysis, presentation, and dissemination

- Developing newsletters and results flyers for report distribution
- Developing abstracts and manuscripts for conference presentations and publications

2017

Texas Woman's University, Teaching Assistant

Served as a Graduate Teaching Assistant (Online) for undergraduate level courses. Assisted in assignment distribution, course grading, and overall grade uploads.

- HS 2813: Introduction to Global Health, (Dr. Thomas Coyle) Spring 2017
- HS 3033: Medical Terminology, (Alex Quezada) Spring 2017
- HS 3383: Legal and Ethical Issues in Health Informatics, (Dr. Mindy Menn) Spring 2017
- HS 5103: Principles and Methods of Teaching Health Professionals, (Dr. Mindy Menn) Spring 2017
- HS 5383: Program Development and Coordination, (Dr. Mandy Golman) Spring 2017

2011-2016

Centers for Disease Control and Prevention (CDC)/ Kenya Medical Research Institute (KEMRI), Quality Assurance Officer/ Research Officer

Diagnostics and Laboratory Systems Program (DLSP), Biosafety Level III (BSL III), Kenya

- Oversee quality control programs appropriate for tests performed in the DLSP laboratories and other partner laboratories in Kenya and the region
- Develop, perform, and manage an audit program that encompasses all phases of laboratory practices and field sample collection
- Perform scheduled and unscheduled checks on bench scientists
- Supervise laboratory staffs on Standard Operating Procedures (SOPs) development and adherence in laboratory tests
- Prepare technical and audit reports on Quality Management Systems and maintain the ISO 15189 standards
- Administer proficiency testing and External Quality Assurance (EQA) programs efficiently
- Maintain current and accurate records of all personnel qualifications
- Check validation systems for all pieces of equipment to ensure maximal function
- Perform/supervise training and its documentation for lab staff and the Ministry of Health staffs to enhance capacity building within the country and the region
- Review and maintain all laboratory SOPs
- Review test results and reports for accuracy, completeness and compliance to standard requirements
- Provide expert assistance to the Ministry of Health and advise to facilitate and improve laboratory systems
- Plan and work towards ensuring other partner laboratories achieve ISO 15189 accreditation, national accreditation, and/or are clinical trials accredited

- Deputize the Laboratory Systems Deputy Director while off duty and serve as the technical advisor on laboratory systems management
- Organize, coordinate and supervise laboratory trainings both on site and various field stations
- Assist the Ministry of Health (MOH) in capacity building through policy making, program management and development
- Perform various laboratory diagnostic tests and research assays including:
 - Outbreak response and VHF samples testing by PCR
 - Dengue virus serology tests
 - Pathogen testing and discovery using TAC cards

2008-2011 **Centers for Disease Control and Prevention (CDC)/ Kenya Medical Research Institute (KEMRI)**, Assistant Research Officer
International Emerging Infectious Program (IEIP), Biosafety Level III (BSL III), Kenya

- Influenza retesting of specimen positive for Influenza B virus
- Subtyping of specimen positive for Influenza A virus
- Outbreak specimen testing by ELISA (IgM)
- RNA Extraction manually using the Qiagen method (silica membrane-based technology)
- Real time PCR in Respiratory Viral Testing of Refugee Camp Samples (Dadaab & Kakuma) i.e. Adenovirus, Influenza A & B, Respiratory syncytial virus, Human Metapneumovirus, Para Influenza I, II & III
- Quantitative analysis of amplified RNA
- DNA Sequencing and analysis using the Applied Biosystems 3100 Genetic Analyser
- Organization, compilation and reporting of results
- Training of new lab staff and students on rotation
- Assist in specimen shipment to and from Atlanta, Nairobi and Kisumu
- Stock taking and accounting of required laboratory items
- Assist in basic laboratory purchase orders

2007-2008 **Centers for Disease Control and Prevention (CDC)/ Kenya Medical Research Institute (KEMRI)**, Laboratory Attachment Internship
International Emerging Infectious Program (IEIP), Biosafety Level III (BSL III), Kenya

- DNA/ RNA Extraction manually using the Qiagen method (silica membrane-based technology) and the Applied Biosystems 6100 semi-automated extraction machine
- Conventional PCR
- Real time PCR in:
 - Respiratory Viral testing i.e. Adeno virus, Influenza A & B, RSV, hMPV, PIV I, II & III

- Bacterial testing i.e. Mycoplasma Pneumoniae, Chlamydiae Pneumoniae, Legionella Pneumophilla and Streptococcus Pneumoniae
- DNA Sequencing and analysis using the Applied Biosystems 3100 Genetic Analyser for Rift Valley Fever, especially the S-segment
- Viral isolation using MDCK and Vero cell lines
- ELISA (IgG and IgM) e.g. Rift Valley Fever
- Primer/Probe reconstitution
- Rotavirus G and P genotyping
- Blood culture using the Becton Dickinson BACTEC 9050 system
- Acquired general Biosafety within a Level III Laboratory
- Data entry using the Laboratory Information Management System (LIMS)

Other Duties: Kibera Tabitha A Clinic

Involved in undertaking temporary jobs at the Tabitha A Clinic in Kibera, Kenya

- Sample collection and testing for TB patients
- Phlebotomy
- Macroscopic detection of malarial parasites
- Macroscopic and microscopic analysis of stool and urine samples

Jan-Apr 2007 **Kenya Medical Research Institute (KEMRI)**, Influenza Laboratory Intern
U.S. Army Medical Research Unit (USAMRU-K), Biosafety Level II (BSL II), Kenya

- Preparation of MDCK, RD and Hep2 cells in tissue culture
- Processing of clinical materials for virus isolation
- Inoculation of cell lines
- Microscopic studying of the cytopathic effects (CPE) of virally infected cells
- Virus harvesting from flasks
- Characterization of viral isolates through:
 - Initial screening tests (Immunofluorescence tests- IFA)
 - Haemagglutinin typing (HA)
 - Haemagglutination Inhibition tests (HAI)
- Preservation of tissue/ cells (Cryopreservation)
- Revival of frozen cells
- General knowledge in shipping specimen
- Assistance in data collection, entry, and management

Dec 2005 **Kenya Medical Research Institute (KEMRI)**, Arbovirus Laboratory Intern
Viral Haemorrhagic Fever (VHF) Laboratory, Kenya Medical Research Institute (KEMRI), Biosafety Level II (BSL II), Kenya

- IgM and IgG ELISA Testing for Yellow Fever, West Nile, Chikungunya, Dengue, Onyong'nyong'

Dec 2005 **Kenya Medical Research Institute (KEMRI)**, HIV Laboratory Intern
National Public Health Laboratory (NPHL) at the National AIDS and STI
Control Program (NASCOP), Kenya

- HIV diagnosis by rapid ELISA techniques
- BED Incidence ELISA

PEER REVIEWED JOURNAL ARTICLE PUBLICATIONS

Peer-reviewed Publications

1. **Petronella Ahenda**, David J. Washburn, Brian Colwell, Shinduk Lee, Ibrahim H. Gwarzo, Debra K. Kellstedt, Jay E. Maddock. Shifts in Social Determinants of Vitamin A Supplementation Among Children Under Five in Kenya, 2003-2014. *Maternal and Child Health Journal*. (2023). doi.org/10.1007/s10995-023-03663-y
2. Shinduk Lee, David J Washburn, Brian Colwell, Ibrahim H Gwarzo, Debra Kellstedt, **Petronella Ahenda**, Jay E Maddock. Examining social determinants of undiagnosed diabetes in Namibia and South Africa using a behavioral model of health services use. *Diabetes Research and Clinical Practice*. (2021). doi.org/10.1016/j.diabres.2021.108814
3. Alastair I. Matheson, Ondari D. Mogeni, Joshua R. Lacsina, Melvin Ochieng, Allan Audi, Godfrey Bigogo, John Neatherlin, Harold S. Margolis, Barry Fields, **Petronella Ahenda**, Judd L. Walson, and Joel M. Montgomery. No Evidence of Acute Dengue Virus Infections at a Rural Site in Western Kenya, 2011 and 2013. *American Journal of Tropical Medicine and Hygiene*. (2020). doi:10.4269/ajtmh.20-0132
4. Kellstedt D, Washburn D, Lee S, Gwarzo I, **Ahenda P**, Maddock J. Household motor vehicle ownership and obesity among Indian women and men: 2005-2016. *International Health*. (2020). doi:10.1093/inthealth/ihaa031
5. Caroline Ochieng, **Petronella Ahenda**, Amy Y. Vittor, Raymond Nyoka, Stella Gikunju, Cyrus Wachira, Lilian Waiboci, Mamo Umuro, Andrea A. Kim, Leonard Nderitu, Bonventure Juma, Joel Montgomery, Rob Breiman, Barry Fields. Seroprevalence of infections with Dengue, Rift Valley Fever and Chikungunya viruses in Kenya, 2007. *PLoS ONE*. (2015) doi:10.1371/journal.pone.0132645

Pre-prints

1. Wah W. Myint, David J. Washburn, Shinduk Lee, Brian Colwell, **Petronella Ahenda**, Jay E. Maddock. Prevalence and correlates of age at first birth and utilization of maternal health care services among pregnant women in four Asian-Pacific Island countries. *medRxiv*. (2023).

Manuscripts Under Review

1. Ibrahim Gwarzo, David J. Washburn, Archana Tale, Shinduk Lee, Firdausi Matawalle, Debra K. Kellstedt, **Petronella Ahenda**, and Jay Maddock. (Under review). Vehicle Ownership and road accidents in Cambodia: Results from three nationwide surveys. *SAGE Open*. (2021).

REFEREED RESEARCH PRESENTATIONS: ABSTRACTS

1. **PA Ahenda**, C Osuji, S Tasnim, N Chukwuma, LJ McKyer, H Clark. Prenatal Care During Covid-19: A Systematic Review. Accepted for presentation at the 16th Health Disparities Conference, February 23-24, 2023, New Orleans, Louisiana.
2. **Ahenda P.A.**, John S, He R, Philip H, Jasso-Moreno D, Mills E, Serrano M, Ma P. Systematic Review of Postpartum Smoking Relapse Interventions Among Maternal Women. Accepted for presentation at the American Academy of Health Behavior (AAHB), March 12-15, 2023, San Francisco, California.
3. **Ahenda P.A.**, Washburn D.J., Colwell, B., & Maddock J.E. Socioeconomic Determinants of Mammography Utilization Among Jordanian Women Aged 40-49. Presented at the American Academy of Health Behavior (AAHB), March 13-16, 2022, Bakers Cay Resort, Key Largo, FL. Abstract No. 122.
4. Lee S, Washburn DJ, Colwell B, Gwarzo IH, Kellstedt D, **Ahenda P**, Maddock JE. The Social Determinants of Undiagnosed Diabetes in Namibia and South Africa. Presented at the American Academy of Health Behavior (AAHB) 20th Annual Conference, June 2020, Napa, CA.
5. **Petronella Ahenda**, Theophile Destain, Gautami Shikhare, Micheal Akinboro, Tyra Flenoy, Lakshmi Bhagavatula, Yarielka Batista, Annette Reagan, Maria Perez-Patron. Association between multiple births and maternal mental health outcomes: A systematic review. Presented at the Jean Brender Poster Contest, 15th annual National Public Health Week, April 9, 2020. Texas A&M School of Public Health, College Station, Texas.
6. **Petronella Ahenda**, David J. Washburn, Brian Colwell, Shinduk Lee, Ibrahim H. Gwarzo, Debra K. Kellstedt, Jay E. Maddock. Targeted prevention efforts and shifts in the social determinants of vitamin A supplementation among children under five in Kenya, 2003-2014. Presented at the 8th annual Houston Global Health Collaborative Conference (HGHC), March 6-7, 2020, Houston, Texas.
7. **Petronella Ahenda**, Mandy Golman, Nila Ricks, Angela Rabl, Christopher Carpenter. Sources of Sexual Health Information: What do Teens Say? Presented at the Annual Meeting and Expo of the American Public Health Association (APHA), November 4 – 8, 2017, Atlanta, Georgia, USA. Abstract No. 4428.

8. Matheson AI, Lacsina JR, Ochieng M, Audi A, Bigogo G, Neatherlin N, Margolis HS, Fields B, **Ahenda P**, Walson JL, Montgomery JM. Assessment of incident dengue virus infections among febrile patients in western Kenya. Presented at the 63rd Annual Meeting of the American Society of Tropical Medicine and Hygiene (ASTMH), November 2–6, 2014, New Orleans, Louisiana. Abstract No. 824.
9. **Petronella Ahenda**, Zipporah Ng'ang'a, Sandra Panchalingam, Allan Audi, Anthony Gichangi, Daniel Feikin, Joseph Oundo, Robert Breiman. Viral Etiologies of Diarrhea Among Children Attending Lwak Mission Hospital In Asembo, Western Kenya. Presented at the 61st Annual Meeting of the American Society of Tropical Medicine and Hygiene (ASTMH), November 11–15, 2012, Atlanta, Georgia. Abstract No. 925

HONORS AND AWARDS

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|------|---|
| 2020 | SPH Student Spotlight: Helping Others Make Healthy Choices |
| 2022 | Recipient , American Academy of Health Behavior (AAHB) Member Appreciation |
| 2020 | Recipient , Gunnin Public Health Memorial Fellowship |
| 2019 | Alternate American Association of University Women (AAUW) |
| 2018 | Recipient , Graduate Research Assistantship, School of Public Health, Texas A&M University |
| 2017 | Recipient , Mary Lynn Walker Drews Endowed Scholarship, Texas Woman's University |
| 2015 | Recipient , Certificate of Achievement KEMRI-CDC Nairobi |
| 2014 | Recipient , Certificate of Appreciation KEMRI-CDC Nairobi |
| 2008 | Recipient , Outstanding Performance Award at KEMRI-CDC Nairobi |

PROFESSIONAL ORGANIZATION MEMBERSHIP

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| 2020-2021 | Maternal and Child Health Student Organization at Texas A&M, School of Public Health (Research Coordinator) |
| 2017-2018 | American Public Health Association (APHA) |
| 2022 | American Academy of Health Behavior (AAHB) |

2014 American Society of Tropical Medicine and Hygiene (ASTMH)

SERVICE ACTIVITIES

2022 AAHB Scientific Meeting Proceeding Helper
Registration table daily set-up, organizing participant packets/name tags, vaccine requirement verification, poster displays, check badges for those attending professional development sessions, take down of registration table daily.

2021 Covid-19 Mass Testing Volunteer
Overseeing specimen collection and cleaning of workstations post specimen collection.

2013-Present **Member**, Multiples to Multiples Society, Kenya
Team meeting assistant organizer, peer mentor for new and upcoming mothers with multiple births, social media group diaspora liaison.

TECHNICAL SKILLS

- Statistical Software: STATA, SPSS, R, NVivo
- Teaching platforms: Blackboard Learning Service Management System, e-Campus, Canvas