A Healthier World Through Quality Laboratory Systems:
2017 APHL Country Update
ASSOCIATION OF PUBLIC HEALTH LABORATORIES

The Association of Public Health Laboratories (APHL) is a nonprofit, nongovernmental organization with members representing US state and local public health, agricultural and environmental labs, US federal agencies, health partners and interested individuals. For more than 20 years, APHL has worked outside the US, collaborating with over 30 countries on five continents to strengthen laboratory systems. Through close partnerships, strategic planning facilitation, training for laboratory leaders and bench staff and technical assistance, APHL works to strengthen laboratory-based disease surveillance, early outbreak detection and disease prevention.

Much of this critical work has been possible through funding from the US President’s Emergency Plan for AIDS Relief (PEPFAR), which strives to control and reduce the spread of HIV, and the Global Health Security Agenda (GHSA), which aims to strengthen the capacity to prevent, detect and respond to public health emergencies of international concern.

This report covers APHL initiatives to support the goals of these cooperative agreements through December 2017.
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### Document Development
APHL actively collaborates with governmental health agencies to convene key stakeholders and assist in the development of strategic plans, standard operating procedures, national policy guidelines for medical laboratory services, and blueprints for creating a national laboratory system.

### Evaluation & Accreditation
APHL assists laboratories to maintain the most effective surveillance and evaluation practices. APHL members and consultants assess laboratory capacity, workflow and resource availability, enabling countries to close need-gaps. Assessments help laboratories understand what steps need to be taken to strengthen their laboratory.

### Informatics
APHL supports countries in evaluation, design and implementation of LIS for more efficient management of laboratory processes and reporting of laboratory data from public health and clinical laboratories. Systems that facilitate the use and ability to share quality information—in both paper- and computer-based formats—is crucial to the effective functioning of laboratories.

### Quality Systems
APHL, in collaboration with CDC, develops and implements effective, flexible quality improvement and quality assurance programs, including designing and implementing national EQA programs. Assuring laboratory quality, from validation to follow-up, is a continuous and overarching goal.

### Training & Mentorship
**Training**
APHL develops custom-tailored workshops and curricula that focus on eliminating immediate gaps, but also comprehensively address the broad range of skills laboratory managers require: financial management, quality control and quality assurance, equipment maintenance and collaboration within the health system. The result is increased system-wide capacity of supervisory and management staff who now operate as effective leaders.

**Mentorship**
APHL facilitates relationships between lab staff and expert lab scientists who monitor day-to-day responsibilities, offer professional advice on quality control and quality assurance when necessary. Mentors also offer continuous support by providing checklists and data management tracking, conducting site audits, and sharing best practices and ideas.

### Transport
APHL supports a specimen transport network at select VL laboratories, coordinating the flow of specimens to and from the laboratories. Bikers’ schedules are coordinated to make sure specimens are transported in time for high-quality VL Testing.

### Twinning
APHL supports laboratory twinning relationships, which pairs a laboratory from an under-resourced country with a more-established institution with particular expertise. Ideally, twinning benefits both organizations, increasing the knowledge and understanding of all in the relationship.
GLOSSARY

APHL  Association of Public Health Laboratories
AMR  Antimicrobial Resistance
ASLM  African Society for Laboratory Medicine
BSC  Biological Safety Cabinet
CDC  US Centers for Disease Control and Prevention
EQA  External Quality Assessment
GHSA  Global Health Security Agenda
LIS  Laboratory Information System
MOH  Ministry of Health
PEPFAR  US President’s Emergency Plan for AIDS Relief
QMS  Quality Management System
SLIPTA  Stepwise Laboratory Improvement Process Towards Accreditation
SLMTA  Strengthening Laboratory Management Towards Accreditation
SOP  Standard Operating Procedure
TB  Tuberculosis
VL  (HIV) Viral Load
WHO  World Health Organization

Mozambique: Dried blood samples for HIV VL testing

Vietnam: Participants in the Trioplex training session at the Pasteur Institute of Nha Trang

Guinea: Laboratory scientists at work in the parasitology lab at National Public Health Laboratory in Conakry
**APHL ACTIVITIES BY THE NUMBERS**

- **66 trainings** were given to 1201 participants
- **40 sites** actively used LIS
- **39 stakeholder meetings** were facilitated
- **38 site assessments** were performed
- **36 APHL staff** worked in 7 country offices
- **24 strategic & operational plans** were developed
- **20 in-country visits** were made by APHL members
- **16 guidance documents** were produced
- **15 countries** were provided with procurement support

APHL’s 2017 trainings included:
- Diagnosis and biological monitoring of HIV/AIDS
- Biosafety in HIV/AIDS laboratory testing
- Biological diagnosis of HIV/AIDS infection by rapid diagnostic testing
- HIV VL and the GeneXpert platform
- Diagnosis of HIV infection by rapid diagnostic test
- Proficiency test
- Dried tube specimen
- Collection of dried blood spots
- Accurate record keeping via logbooks

APHL strengthened partnerships by:
- Collaborating with community-based advocacy groups and partners for demand creation and mobilization
- Creating, enhancing and supporting VL committee meetings among stakeholders at provincial and district levels
- Engaging and maintaining professional working relationships with provincial health management teams

*South Africa: Participants of the 2017 APHL International Team Meeting, a gathering of APHL field staff and APHL global health and operations staff from the US office*
APHL ACTIVITIES BY COUNTRY

ANGOLA

PEPFAR

Informatics
Collaborated with a local vendor to support the development of a health information system to track HIV and TB patients. The health information system monitors clinical visits, HIV and TB indicators, and patient treatment.

Training & Mentorship
Trained 24 laboratorians, in collaboration with CDC Angola, on maintenance, data and sample management, and quality control on the GeneXpert platform for HIV VL and TB testing.

Provided ongoing technical assistance, coaching and mentorship for quality system improvements to nine public health laboratories in Luanda.

Transport
Collaborated with a local vendor to support development of a sample transport system between health clinics and HIV VL testing sites in Luanda.

DEMOCRATIC REPUBLIC OF THE CONGO

PEPFAR

Evaluation & Accreditation
Six laboratories were evaluated on their progress towards SLMTA accreditation. The results determined each laboratory’s current status and identified gaps needing support.

Completed a baseline review and SLIPTA assessments in ten HIV laboratories—five in both Lumumbashi and Kinshasa—and one TB lab in Kinshasa.

Training & Mentorship
Developed a training of trainers (ToT) HIV training curriculum, intended for laboratory personnel across Kinshasa and Lubumbashi. Trainers will transfer knowledge to staff in their respective laboratories.

Completed a five-day HIV ToT training in November at the Kinshasa School of Public Health (KSPH) which targeted participants from the MOH, KSPH and PEPFAR-implementing partner lab advisors from Kinshasa, Haut Katanga and Lualaba. An APHL member-consultant, APHL consultant, Programme National de Lutte contre le SIDA/VIH trainer and CDC staff served as instructors.

BOTSWANA & NEW YORK STATE

Twinning
APHL and CDC’s National Public Health Institute have linked the Botswana MOH with New York State Public Health Laboratory (NYSPHL), Wadsworth Center in a twinning relationship. The goal of this partnership is to strengthen the laboratory system in Botswana, as MOH are working to transition their National Health Laboratory to a National Public Health Laboratory, under one of the pillars of the newly formed Botswana Public Health Institute.

Photo: Patricia Munyadzwe and Tefelo Thela from Botswana MOH learning from an NYSPHL expert during a twinning exchange visit
ETHIOPIA

PEPFAR

Informatics

Guided proper implementation and management of LIS at regional laboratories, bringing the total number of laboratories with implemented LIS to 20.

Collaborated with a LIS vendor to provide support and training to build capacity of the Ethiopian Public Health Institute (EPHI) LIS team to maintain LIS in 20 laboratories throughout Ethiopia.

Coordinated meetings with CDC Ethiopia, EPHI and the LIS vendor to ensure transfer of knowledge for the sustainability of the project.

GHSA

Training & Mentorship

Provided a multifaceted BSC certification program, in collaboration with Eagleson Institute, to address training and workforce development needs and build capacity for maintenance and certification of BSCs. Seven engineers from the Ethiopian Public Health Institute completed this certification program.

Piloted a seven-day interactive Global Health Security and Foundation in Laboratory Management workshop to support and strengthen 34 senior laboratory personnel throughout Ethiopia.

GEORGIA

GHSA

Training & Mentorship

Provided ongoing AR technical assistance to strengthen laboratory capacity through the development and implementation of laboratory activities, including direct service delivery and building comprehensive national laboratory services.

GHANA

PEPFAR

Document Development

Facilitated stakeholder meetings with 87 participants to develop the “Ghana Laboratory VL Testing Expansion Plan 2017-2020,” which will standardize and enhance VL testing while improving capacity within the laboratory system.

Created six VL SOPs regarding risk assessment reporting, sample collection, packaging, handling, and storage and transport of plasma VL testing.

Drafted a curriculum outline for country-specific training on the International Health Regulations and HIV as it relates to laboratory activities.

Evaluation & Accreditation

Conducted a baseline VL assessment using VL scorecards in nine VL testing laboratories to determine current capacities and inform VL scale-up activities in the future.

Informatics

Conducted a pre-implementation baseline assessment (gap analysis), instrumentation interfacing, technical support and a half-day onsite workshop in five priority regions (Greater Accra, Eastern, Western, Brong-Ahafo and Ashanti Region).

Transport

Conducted geographic information services (GIS) mapping of all 245 ART centers in Ghana, in partnership with the Centre for Remote Sensing and Geographic Information Services, to generate geo-referenced maps for each site, determine the plot of the latitude and longitude of the ART centers, and differentiate care sites (regional VL, sector VL centers, functional VL centers, etc.). These maps will help drivers locate the referral centers when transporting specimens.
Trained eight staff at the National AIDS Control Programme in GIS to manipulate the database and perform analysis as needed.

**GUINEA**

**GHSA**

**Document Development**

Conducted a desktop review of existing biosafety regulations and practices and reviewed prior assessments to provide recommendations for adaptation of the Biorisk Management Framework template that was developed by APHL.

**Evaluation & Accreditation**

Conducted three rapid AMR assessments focused on basic laboratory capabilities, bacterial isolates and AMR susceptibility testing. The final report included recommendations based on the findings and was shared with CDC Ghana and laboratory directors.

Conducted four biosafety and biosecurity needs assessments, in partnership with Integrated Quality Laboratory Services, at the country’s four public health laboratories to determine current capabilities, identify priority needs and propose recommendations.

**Training & Mentorship**

Conducted a BSC end-user training for 15 laboratory scientists, which included hands-on work with BSCs to further improve technical skills and covered set-up, use, spill response and decontamination, maintenance and best practices.

**Guinea**

APHL’s Dr. Alpha Diallo (left) with the director of Guinea’s National Public Health Laboratory, Dr. Fallaye, outside the laboratory in Conakry

**Training & Mentorship**

Provided bench-level mentoring at LNSP that increased laboratory testing capacity, including media and reagent preparation for the diagnosis of meningitis, cholera and other epidemic-prone diseases.

Supported an electrical engineer from Guinea to attend advanced training in BSC certification in the US.

Supported a national hospital laboratory scientist to receive microbiology and AMR testing training at the National Institute for Communicable Diseases in South Africa.

Provided training workshops on laboratory management, data management and calibration and standardization of laboratory equipment and procedures.
**INDIA**

**GHSA**

**Training & Mentorship**

Supported 69 microbiologists and epidemiologists from 25 districts in Tamil Nadu to attend integrated microbiology and epidemiology training in Tiruchirappalli.

Supported internal auditor training in Chennai with 57 participants from medical college microbiology, pathology, and biochemistry departments.

Supported two, two-day QMS trainings in Chennai with 122 participants from the district public health labs and medical colleges.

Supported over 50 participants to attend the National Workshop on Strengthening Laboratory-based Surveillance of AMR.

**INDONESIA**

**GHSA**

**Training & Mentorship**

Hosted a QMS Training with 55 participants coming from 10 cities across Indonesia.

Presented an overview of the GHSA LABNET Scorecard with 13 participants from Jakarta. This assessment tool was developed in collaboration with the Amsterdam Institute for Global Health Development and ASLM to assess the performance of national laboratory networks and system using a maturity scale across various laboratory standards. The GHSA LABNET Scorecard provides an initial assessment to identify areas that are preventing a laboratory from achieving the nine core capabilities identified in the GHSA Package.

**KAZAKHSTAN**

**GHSA**

**Training & Mentorship**

Supported trainings on ISO 15189 in Almaty and Petropavlovsk and three-day trainings on Assuring Quality of Examination Procedures/Measurement Uncertainty in Karaganda, Oskeman, Petropavlovsk, Almaty and Shymkent.

APHL supported two stakeholder working group meetings in Astana, Kazakhstan with 75 participants to discuss laboratory system strengthening projects.

**KENYA**

**PEPFAR**

**Evaluation & Accreditation**

Administered a revised laboratory capacity mapping questionnaire to 360 facilities that had been missed in previous assessments. Since 2015, over 1500 facilities in 40 counties have been mapped.

Facilitated Technical Working Group meetings to review data collection, management, analysis and reports to assist in developing next steps for the final phase of lab mapping in all 47 counties.

**Informatics**

Enhanced platform used for collecting data on laboratory capacity mapping (DHIS2) to include data management, analyses, querying, visualization and reporting in various output formats for MOH. User access levels and permission for the system was determined for various governmental personnel.

Implemented and supported LIS at health facilities across Kenya. Currently 14 laboratories are equipped with LIS.

Implemented an application to submit VL test requests and receive VL results from laboratories that conduct VL testing. More than 20 sites have been equipped with this LIS application.

Piloted a Short Message Service (SMS) program to communicate between MOH and facilities throughout the country so facilities were better prepared to conduct testing events and provide results back.

Kenya: Dignitaries and laboratory staff gather to celebrate the launch of the NPHL Center for Excellence in Equipment Calibration
Quality Systems

Worked with CDC Kenya and the National Public Health Laboratory (NPHL) to facilitate, strengthen and integrate the EQA Proficiency Testing program.

Supported continuous quality improvement for rapid HIV testing to improve the timely reporting and communication between NPHL and sites referring samples. Contracted with vendor for the production of the panels, as well as distribution and compilation of reports.

Training & Mentorship

Provided biomedical engineers with training and ongoing mentorship related to GeneXpert machines and refrigeration.

Collaborated with Kenya Bureau of Standards to facilitate trainings on equipment calibration.

GHSA

Document Development

Hosted the NPHL Operational Planning meeting with 28 participants in attendance.

Developed the NPHL Operational Plan 2017-2018.

MOZAMBIQUE

PEPFAR

Evaluation & Accreditation

Provided ongoing SLMTA training to laboratories around the country and trained SLMTA Master Trainers. Continued mentoring, coaching, and training to prepare for SLIPTA/WHO audits.

Informatics

Collaborated with a vendor to implement LIS at health facilities across Mozambique. Currently 12 laboratories are equipped with LIS.

Implemented an application to submit VL test requests and receive VL results from laboratories that conduct VL testing. More than 65 sites have been equipped with this LIS application.

Provided training and technical support for LIS users to sustain and maintain the systems.

NIGERIA

PEPFAR

Evaluation & Accreditation

Supported the establishment of a public health laboratory network by providing strategic map development, defining structure roles and level of service for network laboratories, forming administration structure of the network, and evaluating training needs of staff.

An APHL senior technical advisor provided expertise to CDC and Government of Nigeria in public health laboratory network strengthening.

Developed a central laboratory database at the MH to store all laboratory data from LIS-equipped laboratories. Built capability to run web based reports that will become operational in 2018.

Began development of a dashboard of Mozambique’s HIV VL data for reporting on key performance indicators to meet WHO 90/90/90 goals.
SENEGAL

GHSA

Training & Mentorship
Provided ongoing AMR technical assistance to strengthen laboratory capacity through the development and implementation of laboratory activities, including direct service delivery and building comprehensive national laboratory services.

SIERRA LEONE

PEPFAR

Document Development
Developed guidelines, operating procedures, a co-infection testing algorithm, clinician-laboratory bench aid and quality manual to direct activities.

Evaluation & Accreditation
Improved audit scores by at least one star from baseline by holding workshops in SMLTA and ACILT accreditation.

Quality Systems
Integrated HIV-TB testing at 50% of APHL-supported facilities.
Generated inventory management framework to address stocking issues.
Introduced point-of-care testing (POCT) and collection of samples rolled out to all APHL-supported facilities.
Performed backup testing for emerging infectious diseases and VL tests annually. POCT supported the treatment of HIV-TB comorbidities leveraging GeneXpert equipment.
Improved diagnostic capacity and monitoring of multidrug-resistant (MDR) and extensively drug-resistant TB (XDR) by monitoring inpatient tests at the TB reference laboratory.
Provided technical expertise to assist in fully activating MDR-culture and drug susceptibility testing.
Activated national EQA/proficiency testing to five regional hospital laboratories.

Training & Mentorship
Trained four staff on basic diagnosis performance of TB culture for MDR/XDR program, two to support POCT TB analysis, and two HIV laboratory scientists on VL testing and early infant diagnosis.
APHL in-country team trained National Quality officers.

GHSA

Document Development
Reviewed, updated and approved specimen management SOPs and guidelines for five sites (Central Public Health Reference Laboratory, Ola During Children’s Hospital, Princess Christian Maternity Hospital, Moyamba and Kambia).
Developed an SOP for reporting and validation of results by the Central Public Health Reference Laboratory in accordance with MoH and Sanitation Services recommendations and international standards.

Sierra Leone: Laboratory technician Alhaji Kamara gives a laboratory tour at the Ola During Children’s Hospital
**TANZANIA**

**PEPFAR Informatics**

Supported and maintained LIS in four zonal and one national laboratory for all tests conducted by these laboratories.

Developed service Level Agreements in conjunction with vendor and distributed to four zonal laboratories. This will facilitate ownership of the LIS by each laboratory and ensure users are able to receive appropriate support directly from the vendor once the activities are transitioned to the MOH.

Trained two database administrators hired by MOH to be responsible for overseeing and troubleshooting LIS.

Scheduled visits, in conjunction with MOH, to monitor training and use of the LIS, functionality of hardware, operations of the virtual private network and required data flow, and the performance of instrument interfaces as they captured data directly from laboratory analyzers.

Collaborated with the Clinton HIV/AIDS Initiative on a VL dashboard using OpenLDR data.

Collaborated with different LIS providers to facilitate submission of laboratory data to the central laboratory data repository.

**GHSA Informatics**

Successfully completed an integration of the Sample Referral System and LIS, so requests captured at lower-level laboratories can be sent electronically to the LIS at testing laboratories and completed test results can be returned electronically from the LIS to the Sample Referral System.

Introduced the Mirth integration engine as a tool for submitting data from disparate LIS to a centralized laboratory data repository, the OpenLDR.

A generic dashboard was developed for the MOH to measure result-positivity rates and turnaround times. Use of the dashboard began with microbiology data, with the ability to add on other laboratory tests as needed.

Established role-based access to this dashboard, enabling laboratories to view individual data, while MOH can view data across all submitting laboratories.

**Training & Mentorship**

Provided a three-day BSC training workshop for ten biosafety officers from facilities throughout Tanzania. On the third day nine new students—laboratory safety officers from GHSA-supported regions in Tanzania—participated in a BSC training given by the original ten biosafety officers.

Provided BSC certification mentorship for four participants, in partnership with the Eagleson Institute.

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**UGANDA**

**PEPFAR Document Development**

Supported the recently-formed Uganda National Health Laboratory Services by assisting in the creation of multiple documents: a national laboratory strategic plan, national laboratory policy, business plan, organizational chart, business charter and operational/implementation plan.

**GHSA Training & Mentorship**

Provided four weeks of microbiology mentorship and support.

Facilitated the year-long Emerging Leader Program with 14 participants, which concluded with a week-long workshop in February 2017.
UKRAINE

PEPFAR

Training & Mentorship

Worked closely with the Ukrainian Center for Public Health to provide technical expertise to the Ukrainian laboratory community on various aspects of quality management systems, including HIV testing strategies, algorithm validation and laboratory network management and development.

Twinning

Delivered technical assistance on quality management systems, specifically around HIV testing strategy and algorithm development through a twinning relationship with Florida State’s Bureau of Public Health Laboratories.

VIETNAM

PEPFAR

Informatics

Completed comprehensive training to facilitate the transfer of ownership and knowledge of the country’s LIS (called OpenELIS) from Global CyberSoft to the MOH.

GHSA

Training & Mentorship

Facilitated a twinning relationship between the Hawaii State Public Health Laboratory (HSPHL) and the Government of Vietnam, specifically the National Institute of Hygiene and Epidemiology (NIHE). As part of this relationship, APHL:

• Collaborated with CDC Vietnam and the Government of Vietnam to provide a didactic workshop on the use of the Trioplex assay, a test used to detect Zika, Chikungunya and dengue virus RNA.
• Conducted a training on risk assessment to establish a culture of biosafety in four national institutes (NIHE, PI Nha Trang, PI Ho Chi Minh and Tay Nguyen Institute for Epidemiology and Hygiene). The three-day workshops focused on intrinsic laboratory QMSs, development of a biosafety manual, implementation of biosafety plans and biological risk assessments.
• Supported one person from NIHE to attend a Biosafety Officer Training put on by APHL at HSPHL.
• Facilitated an exchange visit to HSPHL for representatives from NIHE and CDC Vietnam, which focused on sharing best practices and lessons learned by laboratory experts, and discussing the connection between laboratory testing and epidemiology.

ZAMBIA

PEPFAR

Document Development

Supported MOH in updating national laboratory policies, guidelines and work plans.

Developed a national laboratory strategic plan and an operation plan for the MOH.

Evaluated expiring strategic plans and formulated new laboratory strategic plans.

Informatics

Supported the implementation of LIS at provincial laboratories across Zambia; the system will capture VL testing results and transmit them to both care providers and the central laboratory database. Currently 11 laboratories are equipped with LIS.

Zambia: APHL installed solar panels at 13 hospitals in Zambia, an expansion of the solar program that began in there 2016. Prior to solar panel installation, the hospitals experienced frequent equipment breakdown and delays in testing turn-around time. Since the installation, they have had no disruptions in laboratory operations, even when power is off.
Implemented an application for small health facilities to electronically submit VL testing requests, through the LIS, to VL testing laboratories and then receive the VL results. Five sites have been equipped with this application.

**Quality Systems**

Increased the capacity of VL testing sites to provide quality testing and to scale up viral load testing capacity in four provinces.

**Training & Mentorship**

Facilitated training of MOH and laboratory staff on biosafety cabinet certification.

**Transport**

Developed a viable specimen-transport system for VL testing sites.

Developed a plan of action for Lusaka that will be replicated in other sites in coming year.

**ZIMBABWE**

**PEPFAR**

**Document Development**

Supported the Ministry of Health and Child Care (MOHCC) in updating the national laboratory policies, guidelines and work plans.

Aligned PEPFAR agenda with national policies and strategic plans to better achieve the goals set out by the WHO 90/90/90 initiative.

**Evaluation & Accreditation**

Audited laboratories to ensure quality VL testing standards.

Conducted periodic MOHCC site supervisory visits and CDC monitoring visits to supported sites.

Assisted SLMTA auditors to retrospectively assess the country’s labs and examine past-versus-present performance capabilities.

**Informatics**

Responsible for data management for the proficiency testing program, which has been implemented at 1,500 sites since in the program began at the end of 2016.

**ZAMBIA & GEORGIA (USA)**

**Twinning**

APHL facilitated a twinning partnership between the US state of Georgia’s Department of Public Health Laboratory and Zambia’s MOH. This relationship and the exchange of best practices between the organizations will help support the establishment of a national public health lab in Zambia.

Provided a VL data management solution to meet reporting guidelines.

**Quality Systems**

Developed the capacity to offer quality-assured VL testing at six “super labs” by providing mentorship, service and maintenance contracts to ensure uninterrupted VL testing.

Maintained technical and financial support for quarterly VL Technical Working Group meetings.

Conducted EQA rounds every three months; sample panels were sent to laboratories to assess their ability to test and properly identify specimens. The EQA department visited laboratories who failed and took corrective action to address any shortcomings.

**Training & Mentorship**

Mentored laboratory staff through daily coaching and worked diligently with labs to reach accreditation.

**Transport**

Increased specimen transportation capability and capacity by mapping key VL referral sites, expanding the referral network by updating GIS visual maps and purchasing a fleet of 36 motorbikes to ensure specimens are transported in a timely, routine and safe manner. APHL mentors coordinate with drivers to locate the referral centers when transporting specimens.

Developed and capacitated district hospital laboratories in PEPFAR priority districts to become VL sample collection hubs by purchasing centrifuges, cooler boxes, motor bikes and back-up power supplies.
Association of Public Health Laboratories

The Association of Public Health Laboratories (APHL) works to strengthen laboratory systems serving the public’s health in the US and globally. APHL’s member laboratories protect the public’s health by monitoring and detecting infectious and foodborne diseases, environmental contaminants, terrorist agents, genetic disorders in newborns and other diverse health threats.

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