





### IDI STRATEGIC PLAN 2018-2023

### ALIGNING INSTITUTIONAL CAPACITY TO OPPORTUNITIES

### VISION



A HEALTHY AFRICA FREE FROM THE BURDEN OF INFECTIOUS DISEASES

### MISSION

TO STRENGTHEN HEALTH SYSTEMS IN AFRICA WITH A STRONG EMPHASIS ON INFECTIOUS DISEASES THROUGH RESEARCH AND CAPACITY BUILDING



#### OVERARCHING APPROACHES



**CATALYTIC ROLES** TOWARDS ENDING EPIDEMIC CONTROL





AND PLATFORMS FOR ENHANCED PROGRAMMING



**HARNESSING BIG DATA** 



**TECHNOLOGY-LED PROGRAMME** INNOVATION

#### **ACTION AREAS**

HSS & PCT: Differentiated service delivery models (young people men of ages 20-40, MARPS, evaluations

RESEARCH: Implementation science, Health economics and research capacity building

LABS: Lab-based monitoring and research SYSTEM STRENGTHENING: Sub-grantee capacity CAPACITY BUILDING: Tailored training in support of new

approaches, models and policies



RESEARCH: Using existing research platforms and partnerships to provide data and build analytical capacity

LABS: Non-research product delivery

GHS: Building capacity on existing HIV programme platforms and

**CAPACITY BUILDING:** To support a broader range of health conditions

**HSS**: Population level data capacity

PCT: Longitudinal cohorts

**RESEARCH & GHS:** Surveillance and bioinformatics capacity

LABS: Data repositories

SYSTEMS STRENGTHENING: Data analytics, infrastructure and new programme development

CAPACITY BUILDING: Building of staff and partner skills in support of big data programming

ACADEMY: Embracing new technologies for better programme delivery and management in Drone technology, Application, development, mHealth, Artificial Intelligence and Blockchain





Talent Acquisition and retention: Prioritising the acquisition and retention of critical talent Management systems and infrastructure: Robust governance and support systems Automation: Improved efficiency, knowledge acquisition and data utilisation Resource management: Efficient use of resources to enhance competitiveness, value for money and institutional resilience Diversification of income streams: Across sources and programme areas in order to minimise dependence risks



Accelerating strategic partnership development: For rapid capacity building in key strategic areas Strategic collaboration: Local partner development and management Enhanced communication and utilization of programme results: Building capacity for documentation, publishing, communication and utilisation of IDI programme evidence and learnings











### From the Board Chair

The importance of our mission as a leading infectious diseases programme implementer and thought leader was never so evident as it has been this last year during the COVID 19 pandemic. The infectious Diseases Institute has proved itself to be a critical partner to the Government of Uganda in meeting health-system-wide challenges of emerging diseases. The Board, Management and the staff of the institute have every right to be proud of a contribution that has been especially visible and has justified its early investment in developing capacities beyond its traditional areas of programming.

I see in IDI, an institution that is not only focusing on today's excellence, but looking ahead to continually ask what can be done better and what new skills, tools and technologies it can bring to bear in solving emerging problems. I hope that our stakeholders, especially the Makerere University community, the Government of Uganda, our funding partners, fellow implementing partners and beneficiaries share my perception. I am confident that the forward-looking view, which IDI has so ably demonstrated this year will ensure that it remains relevant long into the future. Even as the world grapples with this pandemic, IDI pledges to continue its contribution to tackling it with passion and dedication.



### From the Executive Director

Without a doubt the year 2020 has been dominated by the emergence of the COVID-19 pandemic. Hardly anyone could have imagined that by June 2020, four months after the onset of the pandemic, this novel coronavirus would have infected over 8,000,000 million individuals, accounting for over 400,000 deaths globally and counting! Unfortunately, the toll of COVID-19 has not just been limited to lost lives, but to lost livelihoods as well. It is estimated that the current economic losses attributable to the pandemic stand at US\$3.5 trillion.

In the context of this "new normal", I am delighted that the IDI's contribution to the national COVID-19 response, aspects of which are vividly captured in this report, are readily visible. Our investment in the global health security space is already bearing significant dividends, and we should all be proud that we were ready to add value, when it mattered most!

COVID-19 has impacted other areas of health service delivery. As a leading implementing partner of comprehensive HIV/AIDS programmes in Uganda, we have anticipated and are working hard to mitigate the impact of COVID-19 on the very important goal of achieving HIV epidemic control. You will note in this report why the emphasis on catalytic roles towards these goals are highlighted.

I hope that as you go over this report, it will become very clear that IDI is living up to the mantra of our mothership (Makerere University): "We Build for the Future"!



Dr Andrew Kambugu The Sande-McKinnell Executive Director

"I am delighted that the IDI's contribution to the national COVID-19 response, aspects of which are vividly captured in this report, are readily visible. Our investment in the global health security space is already bearing significant dividends, and we should all be proud that we were ready to add value, when it mattered most!"





### Achievements and highlights of the year



**Peter Ahabwe Babigumira** Pharmacist. GHS

Peter was selected as a Fellow in the 2020 class of the Emerging Leaders in Biosecurity Initiative. He was selected out of an extremely impressive group of over 130 individuals who applied for the programme which is offered by The Johns Hopkins Centre for Health Security.



University of Turin investigators, partners on the IDI-led consortium CAPA-CT II. were the first to openly publish a method for quantifying remdesivir in blood for emergency use in the US and European Union for patients with severe forms of COVID-19.



**Andrew Kambugu** The Sande-McKinnell Executive Director

The Executive Director was named on the 29-member scientific group for the UN 2021 Food Systems Summit. This 2021 UN Food Systems Summit will be led by the United Nations Secretary-General, Antonia Guterres.



The PCT Programme was commended for its passion, unconditional commitment and dedicated service towards pharmacovigilance and a plaque was given to mark this honour.



**Agnes Kiragga Head of Statistics** 

Agnes was selected as one of the Next Einstein Fellows (NEF 2019-2021) from Africa. Dr Agnes in collaboration with Makerere University School of Public Health modelled the potential impact of imported COVID-19 cases in Uganda. A policy brief was developed and disseminated to Ministry of Health COVID-19 task team.



In August 2019, the Prime Minister of Uganda officiated at the launch of the National Action Plan for Health Security 2019 - 2023 under the slogan "Securing Uganda Against Health Threats". The plan, in whose development IDI played a great role intends to address the gaps identified during the Joint External Evaluation conducted in June 2017. in compliance with the International Health Regulations (IHR), 2005.



**Prof. Ponsiano Ocama** Senior Research Scientist

Is the Principal Investigator on IDI's first prime US NIH R01 grant to fund a 5 year project in collaboration with Johns Hopkins University. The project is titled: Clinical and immunological impact of Schistosoma mansoni infection and treatment on the course of chronic hepatitis B virus infection in Uganda.



Through IDI, Uganda received three pioneering laboratory machines to speed up the process of testing and treating patients for bacterial infections as part of the Fleming Fund Country Grant. One of the machines, a mass spectrometer MALDI-TOF, is the first of its kind in Uganda and identifies bacteria in just two minutes, compared with 18-48 hours for conventional testing.



**Charles Kabanda** Senior Grants Manager

Charles is the first US Certified Grants Management Specialist (CGMS) in Uganda having acquired his accreditation from the National Grants Management Association in Sterling, Virginia USA. This accreditation is aimed at managers of US government grants.





Vicent Kasita: Masters in Sociology (Makerere University)



Rose Nabantanzi, PhD Immunology (Makerere University)







## Catalytic roles in HIV care

Across the board IDI, has adhered to its commitment to strengthen health systems in the country. Over the past year most of this involved harnessing existing knowledge and capacity from IDI's HIV experience to deal with emerging infectious diseases.

#### CONTROLLING AND ELIMINATING HIV

In line with its catalytic role toward achieving epidemic control, the Institute continued to work through its Prevention Care and Treatment (PCT) and Health Systems Strengthening (HSS) programmes to make significant contributions to the national HIV response. With funding from CDC/PEPFAR, the IDI HSS programme is the lead implementing partner for comprehensive HIV/AIDS care and treatment services in Kampala and Wakiso districts and 19 other districts in the Mid-Western and West Nile regions of Uganda with provision of antiretroviral therapy (ART) support to over 320,000 HIV infected clients. The PCT programme's major focus is strengthening care and treatment pathways for patients with advanced HIV disease. In its role as a national referral centre, IDI received a large number of patients, either for evaluation and treatment or guidance to other facilities on proper management. Forty-five percent of the 8,000 patients treated at its flagship clinic in Mulago had complex clinical conditions with the majority related to advanced HIV disease. Notable achievements during the year include the following:

- •IDI contributed to writing the HIV prevention chapter in the National consolidated guidelines for HIV Prevention care and treatment.
- In collaboration with the National STD/Skin clinic at Mulago referral hospital, a dermatology sub-clinic was set up to boost evaluation and treatment of skin conditions of patients presenting at the clinic.



#### INTEGRATING NCD CARE

The institute is committed to integrating non-communicable diseases (NCDS) prevention, care and treatment into its services as part of its five-vear strategy.

In line with this commitment, the PCT clinic introduced a new cervical self-swabbing procedure for the human papilloma virus (HPV) DNA testing for HIV infected women. This test offers the advantage of







analysing for presence of the virus responsible for cervical cancer and allows focused follow-up of those found positive.

It also relieves the need for repeat annual screening and resources saved have been re-purposed for other activities.

### USING EXPERIENCE FROM HIV TO EXPAND ACCESS TO CARE FOR OTHER DISEASES

PACT - Karamoja (TB Prevention and Care):

Through its HSS programme, IDI began implementing a five-year USAID-funded TB project in Karamoja region with the title "USAID Programme for Accelerated Control of TB in Karamoja-(USAID PACT Karamoja)". The project will run till January 2025 and it is aimed at implementing interventions towards achievement of END TB strategy targets of

"I appreciate the hard work and diligent effort exhibited by the management team especially during these trying moments of Covid-19. The team has fast tracked and brought forw timely solutions for patient care."

Dr Noela Ocwaro - PCT

85% treatment coverage and 90% treatment success in the hard-to-reach, severely resource-constrained region of Karamoja.

#### **COVID19 AND HIV**

Being a key MoH partner in Global Health Security Programming, the Institute was well positioned to play a leading role in the fight against the novel corona virus COVID19 pandemic. One of its key contributions was in sustaining HIV services to avoid reversal of the gains made in this area, which continues to be one of the country's major public health concerns. The COVID-19 pandemic and ensuing lock down caused substantial disruptions to normal life and patient care. Access to services for chronic conditions remained a priority, triggering the implementation of various innovations that enabled the continuation of services for 9,000 patients in the flagship PCT clinic at Mulago and 320,000 PLHIV across the country. These included flexible facility services, temporary distribution points, home delivery using PLHIV and Key Population peers, deployment of social workers

from the Orphans and Vulnerable Children initiatives, involvement of community-based organisations, working with motorcycle taxis ("Boda bodas") as well as drug delivery at border points for cross border PLHIV. Other notable innovations included:

- Call centres and hot line support for pre-appointment calls, missed appointments, meeting emergency needs, adherence support and linkage to alternative health facilities for patients who were not in their home areas.
- Community delivery of Pre-Exposure Prophylaxis (PrEP) and HIV Self-Testing programmes by peers.
- Embedding IDI staff in district COVID19 Task Forces to provide support in monitoring prevention measures, facility-based training and reporting.
- Ongoing trainings in infection prevention and control and biosafety, as well as on-site mentorship for front-line circumcision and

lab staff in collaboration with IDI's Global Health Security programme

• Support for procurement of critical personal protective equipment (PPE) in line with funder guidance; implementation of screening and hand washing facilities at entrances and service delivery points.

The COVID crisis provided an opportunity to strengthen linkages between IDI's Health Systems Strengthening (HSS) and its Global Health Security Programme in the West Nile region of Uganda including joint roll out of Infection Prevention and Control (IPC) trainings in the Western and West Nile regions of Uganda.

#### **ENSURING BUSINESS CONTINUITY**

Transport support for critical frontline staff and enhanced facilities for remote access were provided to ensure business continuity during the lock down period.



**HSS IN NUMBERS - ANNUAL PROGRESS** 

Region	Number Tested	Positives identified	# on ART	% on ART	Viral Load (VL) suppression rates
Mid-Western Region (8 districts)	420,719	12,594 (3%)	64,481	100%	87%
West Nile Region (11 districts)	450,478	6,089 (1.4%)	40,117	100%	81%
Kampala Region (2 districts)	101,474	4,027 (4%)	206,174	99.8%	95%
Total (21 districts)	972,671	23,482 (2.4%)	310,772	99.9%	88%





# Applying existing capacity to

#### **PHARMACOVIGILANCE**

IDI pharmacovigilance capacity played an important role in national (and global) roll out of Dolutegravir and Isoniazid TB Preventive Therapy treatments. This year, this prompted the setup of a fully functional programme to monitor the effects of drugs being used by patients. The PCT programme received funding from CDC to support the Ministry of Health and the National Drug Authority (NDA) in creating pharmacovigilance capacity in regional referral hospitals countrywide. Through this support, the PCT team is training and mentoring facility staff on implementing and/or strengthening active pharmacovigilance



**CORE LABORATORY** 

The IDI College of American Pathologists (CAP) certified Core Lab continues to provide world class laboratory services to support clinical care, research and training, and external quality assessments (EQA)/Proficiency testing Schemes. This year, the lab's sample testing volume increased by 42% with 85 clinical trials and research studies running. The following achievements were also noted this year:

- Validation of over 20 new tests
- Achievement of record efficiency levels with an average turnaround time of two hours for all urgent and rapid tests combined.
- Hosted over 30 monitoring visits from various local and international agencies.
- Made partnerships with new laboratory researchers by signing MOUs with 35 new research projects running samples in the laboratory.
- The Laboratory trained 150 Makerere university students building the national

capacity in quality laboratory services.

- Successfully organized the inaugural laboratory open day to increase the lab's visibility and create a platform to share insights on the laboratory's sustainability. Various stakeholders from the Ministry of Health, network partners and researchers toured the lab and appreciated the depth and breadth of its services.
- The Core Lab has collaborated with the Ministry of Health and the Central Public Health Laboratories (CPHL) to strengthen laboratory services in both private and public laboratories in Kampala.
- •The Core Lab completed a rapid assessment for MoH endorsement as a potential back-up lab for COVID19 diagnosis. It acquired reagents to support COVID19 sample testing and protocol standardization. The Lab is positioning itself to support testing for a wide range of emerging and re-emerging infectious diseases.

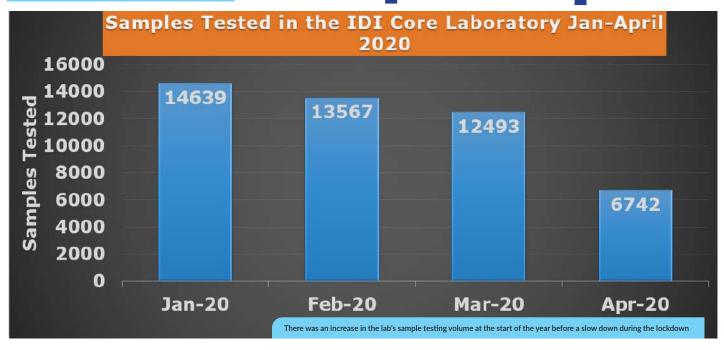
150

Makerere university students trained in good lab practice

Clinical trials are being run at the institute

**42%** 

Increase in the lab's sample testing volume







# improve programming





"The IDI lab has few equals on the African continent. Having this resource available gives a clinical researcher the confidence that the laboratory components of his/her study will be conducted with attention to quality. Having the laboratory details taken care of allows the clinical researcher to focus on the other aspects of research."

#### Prof. Jeff Martin, MD, School Of Medicine University of California, San Francisco

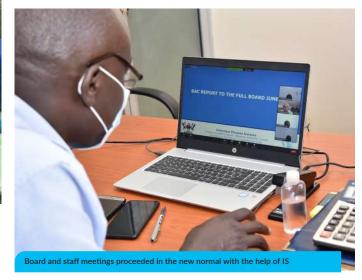
"This lab places great emphasis on quality of results and turnaround time; critical issues for all of us who use clinical and research laboratories. It has a commendable system of responding to feedback, whether positive or negative. They have a quick and clear email mechanism for taking comments and concerns regarding any quality related or turnaround time issues – this is highly appreciated"

Prof. Harriet Mayanja-Kizza, MD Faculty Of Medicine Makerere University

#### INFORMATION SYSTEMS

The IDI's Information Systems (IS) Software Development team worked with the global health security team to upgrade the Microbiology Laboratory Information Management system which is currently fully utilized at the Central Public Health Laboratory. They also provided end-user training to the central laboratory staff. This system benefits Ministry of Health through timely provision of accurate laboratory data to stakeholders.

In collaboration with the Monitoring and Evaluation Technical Support (METS) Program of Makerere University School of Public Health, the data management team added Safe Male Circumcision data to the national web-based health information dashboard where it can be accessed by the Ministry of Health and other stakeholders in real time. The source database for the SMC is hosted at IDI, and captures daily data collected by CDC-sponsored implementing partners from circumcision points throughout Uganda.









### TRAINING AND CAPACITY BUILDING (TCB) PROGRAMME

This year, the TCB programme trained 2,468 health workers, raising the cumulative number of trainees to 42,520 health workers since inception. New trainings conducted include:

- A competency- based HIV Testers' course for testers from health facilities in Kampala and Wakiso HIV project region in preparation for their certification by the Uganda Virus Institute (UVRI).
- Training to support the World Health Organization (WHO) level one malaria blood slide reader's certification. This led to certification of four laboratory scientists; the highest number to achieve level one in one External Competence Assessment course in Uganda.
- Training of laboratory staff in three laboratories in Acholi region (Anaka Hospital, Lalogi and Pajule Health Centre IVs) that are enrolled onto the SLAMTA supplemental programme

#### **TCB COLLABORATIONS**

- In partnership with the University of Minnesota, the team developed and ran its inaugural East African Clinical Tropical Medicine course for health workers, with a significant international attendance.
- IDI continued to serve as the Africa- based HIV-specialized host institution for the two-year Mark Wainberg post graduate diploma in HIV Fellowship funded by the International AIDS Society (IAS). The

Fellowship aims at improving the quality of HIV service delivery in resource-limited settings. Fellows spend one year in Europe and one year in Africa. IDI hosted the pioneer fellow Dr Shamim Ali.

• In collaboration with the Population Council IDI provided technical assistance to staff working for CDC-funded implementing partners to enhance provision of friendly services for key populations; areas covered included; gender and sexual diversity training, installation of audio computer assisted interviews at the hospital, implementation of the community scorecard and data visualization and dashboards.

The institute also embarked on the transformation of Ministry of Health priority classroom courses into online versions to ensure continued health worker capacity building in line with social distancing rules.

# **Tailored training**









### to support new approaches



Fraining on East African Tropical Medicine at the Uganda Virus Research Institute in Entebbe attended by Drs Paul Buyego and Elizabeth Katwesigye

2,468

health workers trained in various disciplines

#### **COVID19 RESPONSE**

With the declaration of the pandemic by WHO, IDI developed and conducted a COVID19based Infection Prevention and Control (IPC) training for employees of non-health care institutions. IDI also supported the development of the national curriculum for integrated disease surveillance and response including IPC that was rolled out in COVID 19 high-risk districts. IPC facility-based mentorship was piloted in Kasese district using an approach that was adopted by the Ministry of Health and rolled out nationally. In response to rapid changes in the COVID19 situation worldwide, IDI developed an e-learning web page that has provided easy access to simple factual information on COVID 19. In addition, IDI fully transformed the Advanced Treatment and Information Centre (ATIC) into a 24-hour service and expanded its capacity to receive multiple calls simultaneously as part of the response.

#### OTHER NOTABLE ACHIEVEMENTS

- Developed and conducted the inaugural Geospatial (GIS)/Geographical Positioning system (GPS) course for 13 trainees.
- Supported adherence to standard malaria treatment guidelines in 52 districts covered by the US PMI/Malaria Consortium supported MAPD project
- Supported the development of the National Guidelines for alcohol and harm reduction.
- Supported 5 regional implementation mechanisms to conduct hotspot mapping and programme-based key population size estimates.





# Research to provide data and

#### **RESEARCH**

The IDI research programme aims to consistently produce outstanding, internationally-recognized scholarship in infectious diseases that influences global policy and practice, with emphasis on Africa.

#### **INAUGURAL IDI SCIENCE FAIR**

IDI held its inaugural Science Fair on 12th February 2020 at the IDI McKinnell Knowledge Centre, with discussion themes ranging from "Influencing Global Health Policy and Practice in Infectious Diseases" to "Career Pathways and Opportunities in Scientific Research" as well as a "Meet the mentors" session. A total of 161 participants attended (86 in the plenary session and 75 in the panel discussion). Participants included researchers and policy makers from implementing partners, Makerere College of Health Sciences, Uganda Ministry of Health, Kampala Capital City Authority, Uganda National Health Research Organisation, National Institutes of Health Uganda and scientists from IDI (both established and emerging).

#### MULTI-SITE RESEARCH COORDINATION

The multi-site research coordination centre set up by IDI in 2018 demonstrated its ability to coordinate multi-country clinical trials by ensuring that sites recruit swiftly while optimising and following international and national research ethics standards and processes. This year, the coordinating centre made solid progress in implementation of 2 studies:

i) "High Dose Oral Rifampicin to improve Survival from Adult Tuberculosis Meningitis: A double-blinded Randomised Controlled Phase III Trial (HARVEST)." HARVEST is a multi-centre study being implemented in Uganda (IDI and Kiruddu Hospital), South Africa (Durban – Prince Mshiyeni Memorial Hospital and University of KwaZulu-Natal), and Indonesia (Bandung – Hasan Sadikin Hospital and Jakarta – Cipto Mangunkusumo Hospital).

ii) The Nucleoside And Darunavir/Dolutegravir In Africa (NADIA) study is a parallel group, open-label, multi-centre, factorial (2X2) randomised, controlled Phase IIIb trial. It

### **RESEARCH GRANTS WON DURING THE YEAR**





Quality Improvement Capacity for Impact Project - Human Resources and Services Administration (HRSA) through University of California, San Francisco

Multidisciplinary Approaches to Understanding the Safe and Effective Use of Medicines in HIV-Tuberculosis co-infection through the University Court of the University of St Andrews United Kingdom



Two-month Regimens Using Novel Combinations to Augment Treatment Effectiveness for Drug-Sensitive Tuberculosis (STOP TB/TRUNCATE-TB in collaboration with University of Singapore





Optimizing Malaria Treatment for HIV-Malaria co-infected Individuals by Addressing Drug Interactions between Artemisinin-based Combination Therapies, funded by EDTCP

Dual HIV and syphilis testing to increase testing and prevention uptake among male partners of HIV-positive pregnant women in Uganda (Kingasa Study) funded by NIH





DIAL-COVID: Remote mitigation through telephone symptom surveillance in refugee settlements in Uganda through the University of Washington

Peer delivered HIV self-testing, STI self-sampling and PrEP for transgender women in Uganda (PEER Study) funded by NIH



89

### research articles were published in this reporting period

investigates i) darunavir versus dolutegravir and ii) tenofovir versus zidovudine in second-line antiretroviral therapy regimens for the public health approach in sub-Saharan Africa. The study sites are in Zimbabwe (University of Zimbabwe Clinical Research Centre), Kenya (AMPATH Centre) and 5 sites in Uganda.

#### SCHOLARLY RESEARCH

Eighty-nine (89) research articles were published in this reporting period (cumulatively, 885). In this review period, the Research Capacity Building unit reached more scholars and Makerere University students including organizing the first ever training on "Operationalizing a Research Protocol" aimed to build capacity and technical skills among study coordinators within the Institute; a unique and evident gap.

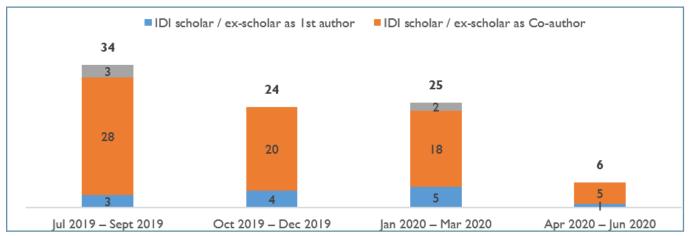
The unit also conducted the following courses targeting IDI and Makerere University scientists, faculty and PhD scholars in collaboration with





# build investigative capacity

#### NUMBER OF RESEARCH ARTICLES PUBLISHED IN THIS REPORTING PERIOD



University of California, San Francisco (UCSF) with facilitation by IDI scientists:

- A 3-month online designing clinical Research course facilitated by Dr Hellen Byakwaga,
- A 3-month online clinical Epidemiology course facilitated by Dr Miriam Laker
- A 3-month online epidemiology course facilitated by Dr Aggrey Semeere, focusing on core epidemiologic study designs

#### TRANSLATIONAL LABORATORY

Over the year the translational laboratory supported 36 research projects and performed 7,596 tests.

The lab also supported 17 trainees, mostly from Makerere University (3 post-docs, 6 PhD fellows, 3 MSc students and 5 trainees).

To improve quality and capacity to do a wider variety of tests, the laboratory acquired and installed the following:

- A Nitrogen gas generator which produces high quality nitrogen gas used in HPLC and Mass Spec
- An ELTEK temperature monitoring system which monitors temperatures of the freezers, fridges and incubators and sends out SMS alerts whenever the temperatures go outside the set
- Freezer works Base Edition software that offers the essentials for effective sample management and freezer inventory.
- A second back-up generator to ensure constant stable power supply to the delicate lab equipment and stored samples.

#### **DATA MANAGEMENT SERVICES**

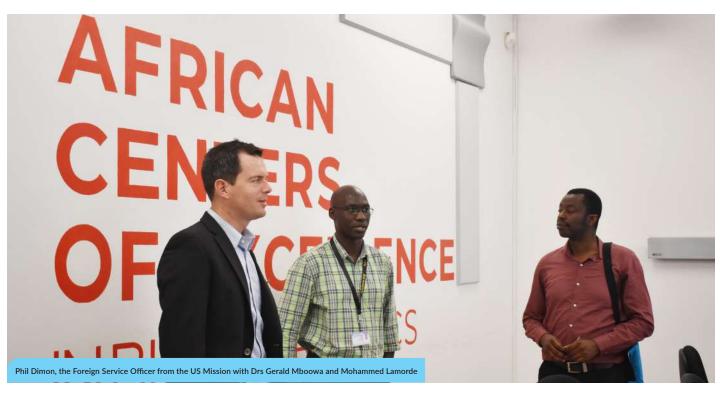
**Data Fax:** The Data Fax system is a high quality, reliable clinical data management system (Datafax/DFdiscover system) which is complaint to FDA regulations, which has supported the burgeoning research activity at IDI. The system is managed with support from the US NIH. In 2019, the Data fax unit celebrated 10 years of existence within the Institute. The US NIH Uganda representative expressed pride in the local capacity that has sustained and expanded the unit's services far beyond its original goals. Since inception, the DataFax unit has supported a total of 69 research projects spread out in sites in Uganda, sub-Saharan Africa, Asia and South America.











#### AFRICAN CENTRE OF EXCELLENCE IN BIOINFORMATICS & **DATA SCIENCES**

The ACE is a centre for Computational Biology and big data analysis which was established with the support of the US NIH Foundation and its partners. It has a dedicated high-performance computing cluster, a tele-learning centre, a collaborative room with collaborative spaces and a Virtual Reality room for the latest 3-D pedagogical and diagnostic approaches. It is the first of its kind on the Makerere campus and the region. In its second year of operation, the ACE continued to host a pioneer Bioinformatics graduate degree programme, various short-term training programs as well as to support research and development.

During the year, ACE staff won the following research grants

- Virtual Reality Technology for Optimizing Safety and Competence in Management of COVID-19 Patients led by Dr Daudi Jjingo from Makerere University Research and Innovations Fund - https://rif. mak.ac.ug/list-of-projects-awarded-under-the-special-mak-rifcovid-19-call/
- Assessing knowledge, attitudes, perceptions, and skills towards the use of face masks: A community-level perspective led by Dr Gerald Mboowa from Makerere University Research and Innovations Fund
- The Structured Operational Research and Training Initiative (SORT IT). Project title, "Trends in the antimicrobial resistance profiles in the surgical wards at Mulago National Referral Hospital, Uganda, (2014 to 2018)". Funded by the World Health Organization. Project period, June to August 2020

The ACE team also launched the Big Data Interest Group (BIG) in December 2019. This group brings together researchers, academics, and practitioners with an interest in applying big data approaches, to

solve problems that are relevant for developing country settings. It is intended to raise awareness within the regional research community on potential multidisciplinary application of computational technology and data sciences. The group now meets regularly and can be followed using the ACE twitter handle @AceUganda

KRA	Achievement
Number of publications	Cumulative total 885, of which 89 were during this reporting period
Number of active research projects	109 (i.e., 20 Clinical Trials, 66 Observational Studies, 21 Diagnostic Studies, and 2 Imple- mentation Science Projects)
Number of Masters/PhDs/Post-docs supported (financially)	26 (i.e., 2 Post-doctorates, 10 PhDs, and 14 Masters)
Number of research capacity building events hosted by IDI (CB events including seminars, research fora, workshops)	84 (i.e., 64 research fora, 13 soft skill trainings, and 7 short courses)
Number of research projects supported by Translational Laboratory	36
Support to Makerere (post-graduate scholarships to Makerere)	25 (i.e., 2 Post-doctorates, 9 PhD fellows and 14 Masters students)

#### **FUTURE PLANS**

- Finalising of the accreditation of IDI-Reserch Ethics Committee (REC)
- Strengthening the IDI research regulatory and monitoring framework through risk-based monitoring
- Expanding type of grant applications particularly in bioethics and bioinformatics

TEREGO DISTRIC





# Technology-led innovation



The Academy for Health Innovation, Uganda was formed after an MOU between the Ugandan Ministry of Health (MoH), Infectious Diseases Institute, Janssen, the pharmaceutical companies of Johnson & Johnson, and the Johnson & Johnson Corporate Citizenship Trust. The Academy operates within IDI through various multi-disciplinary projects and champions technology-led programme innovation in a bid to make sustainable healthcare accessible to all.

#### **CALL FOR LIFE**

This year, the Academy for Health Innovation focused on diversifying its flagship project, Call for Life (CFL). CFL is an mHealth tool that has continued to prove efficient in automated case surveillance of numerous high risk contacts for different infectious diseases. It uses interactive voice response (IVR) technology and initiates an automatic call at a patient's preferred time, to which the patient listens and responds by following instructions in the voice prompts. CFL was initially used in assisting HIV patients adhere to medication while reporting symptoms In spite of a few delays due to the COVID-19 pandemic, the system has been employed successfully for the following studies and projects;

Call for Life Youth - Assessing barriers, enablers of adherence among youth living with HIV in Kiryandongo Hospital

Call For Life TB - Determining the effect of CFLU-TB on TB treatment success:

Study initiation was done for 274 patients which proved to be an asset for the district during the response to COVID by supporting sensitisation and gathering of data from contacts in the guarantine centre. This ensured that there was follow up of symptom alerts from the contacts and calling of contacts for follow up of 14 days from the date of discharge from the quarantine centres.

Call for life PACT - The Academy also secured USAID funding to work with the Program for Accelerated Control of TB in Karamoja. Work is ongoing to register health workers

LOCAL GOVERNMENT HEADQUARTERS P.O. BOX 1, TEREGO ber of calls com 1105(38.2%) 873(30.2%) Rejected: 223 Unreachable: 460 Unacceptable status: 185 Connection Time-out: 05 Number of calls made "Busy' 385(13.3%) 508(17.6%) CFL-COVID team in West Nile



and patients on the system to aid adherence to medication and treatment success which is a burden in the region.

Call for Life COVID was initiated and content approved by the MoH. CFL was integrated with the ministry alerts management system for real-time response. The system was set up to have national language coverage of 9 languages; English, Luganda, Luo, Madi, Akarimojong, Ateso, Lugbara, Runyakitara and Swahili. The system is managed by IDI medical doctors that triage all generated alerts.

**CFL-COVID19** Quarantine implementation was initiated to respond to high-risk travellers and contacts of positive patients in over 10 districts, including Nebbi, Mabarara, Kagadi, Kalangala and Jinja. Post discharge calls were developed with the case management pillar

and CFL added to the COVID19 management standard operating procedures. The Academy also linked to a non-government organisation, Strong Minds to pursue psycho-social support for MoH with access to 8 regional COVID response centres.

The Academy registered 2 interns from Tanzania who are pursuing their Masters degrees in data sciences.

#### **FUTURE PLANS**

- Set up of the digital History of HIV exhibition to ensure continuity of the project amidst COVID-19 restrictions.
- Deploying drones to improve health logistics such as the distribution of HIV/AIDS drugs in Kalangala.





# Global health security and

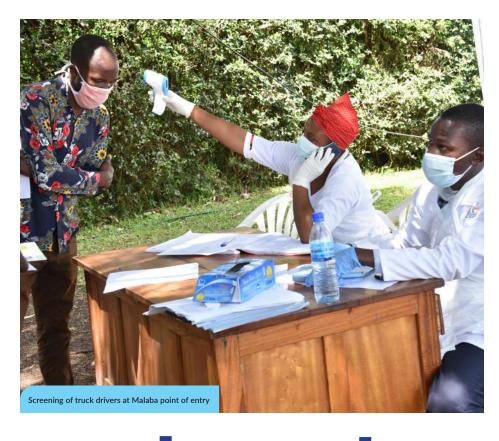
The IDI Global Health Security (GHS) programme scaled up its efforts to support the Government of Uganda's response to the COVID-19 outbreak. This was done by building on best practices and models developed in responding to previous outbreaks like Ebola Virus Disease (EVD). The programme also continued support fast-tracking of Uganda's capacity to comply with the International Health Regulations (2005) through implementation of the National Action Plan for Health Security (NAPHS) with huge strides made in the detection capacities of antimicrobial resistance.

Following the confirmation of the COVID-19 outbreak in Wuhan, China by the World Health Organisation (WHO) in January 2020, the IDI GHS programme with support from the Centres for Disease Control and Prevention (CDC) and Resolve To Save Lives (RTSL) complemented GoU's early proactive measures for timely detection and prevention. IDI provided sustained support throughout the evolving phases of the outbreak from short term rapid response support to long-term system strengthening.

#### RAPID EMERGENCY RESPONSE SUPPORT

Key IDI contributions include;

- IDI technical teams were embedded in the MoH response pillar sub-committees. These supported the adaptation of global guidelines to local context by training case management teams at the first clinical treatment sites (Entebbe Regional Referral Hospital, Mulago National Specialized Hospital) and the Uganda Peoples Defence Forces Medical Corps.
- •Support for border assessments and capacity building at Uganda's 53 designated points of entry; 3 Points of Entry (PoEs) of Elegu, Busia and Entebbe airport were provided with screening supplies, assorted equipment and additional buffer IPC supplies.
- IDI produced local alcohol-based hand rub (ABHR) at its production units in Kasese and Kasangati and availed it to frontline health workers.
- IDI provided logistics and human resource support for the National COVID-19 situation



**GLASS** priority samples cultured at 9 Regional **Referral Hospitals** 

5,321 23,940 323

media plates prepared by the media production unit at **UNHLS** 

**SMS** alerts sent through the e-IDSR, 52 for COVID-19

- The GHS programme supported MoH decentralization efforts through orientation of 75 districts and through mapping of early hot spots areas in order to implement comprehensive response interventions in the West Nile region, districts of Kyotera, Rakai and Buikwe. This led to control of transmission in these areas.
- IPC adherence support to quarantine sites in the Greater Kampala Area (including those that hosted returnees) to strengthen adherence.
- Training for safe and dignified burial teams to handle burial of community and facility related COVID-19 deaths in 10 districts in

the Mbale region.

- Employment of virtual technologies to rapidly roll-out trainings to facilitate surge at the capacity regional referral hospitals and hubs.
- Working with MoH, IDI rolled out trainings to 113/135 districts and 49 PoEs. A multidisciplinary national pool of 131 trainers was trained.
- Activation of sample collection at the 53 PoEs and supporting real-time reporting.

#### **COVID-19 SYSTEM STRENGTHENING SUPPORT**

System strengthening efforts were funded with support from CDC and Resolve To





# emerging disease response









Save Lives (RTSL).

**Infection Prevention and Control:** IDI developed and piloted an IPC training and mentorship programme for EVD in 2019. The programme was adopted by PEPFAR, GHS partners and MoH to influence behaviour change in health care workers and ensure safety of clients in response to COVID-19. The programme was expeditiously rolled out to 65 districts reaching over 9,911 health workers from 1,616 health facilities.

**Surveillance:** IDI Strengthened COVID-19 surveillance systems for early detection and reporting in 19 districts. Its 13-week mentorship programme strengthened district coordination structures, alert management systems and enhanced surveillance at health facilities and community-based disease surveillance 3,134 health workers and 2.261 VHTs were trained.

**Laboratory:** In support of the MoH decentralised strategy, IDI reinforced the development of the laboratory COVID-19 sample management and reporting mentorship strategy. This was rolled out in 28 districts in the West Nile and Mbale regions and Kampala City. 1,371 laboratory health workers from 500 targeted health facilities were trained using the structured mentorship strategy.





# 6,664

One Health samples transported through the National Sample Transportation and Referral System from West Nile

### SUSTAINING NON-COVID GLOBAL HEALTH SECURITY SUPPORT

Prevention of AMR: With support from the Fleming Fund and Mott MacDonald, IDI's AMR programming covered considerable ground with work in 4 regional reference laboratories, 9 regional referral hospitals and 5 regional veterinary laboratories. IDI partners with COVAB and Mbarara University. Notably:

- Uganda received ultramodern automated identification and antimicrobial susceptibility testing (AST) platforms, MALDI-TOF, BD PHOENIX and Epicentre, to speed up the process of testing and treating patients for bacterial infections. The mass spectrometer MALDI-TOF, the first of its kind in Uganda identifies bacteria in two minutes, compared with 18-48 hours for conventional testing.
- The National Animal Disease Diagnostics and Epidemiology Centre (NADDEC) microbiology laboratory was renovated to meet biosafety biosecurity standards. Vehicles were also provided to National Health Laboratory and Diagnostic Services (UNHLS) and NADDEC, the human and animal health national reference laboratories respectively to strengthen the one health sample transportation system. A sheep blood production unit was established at NADDEC.
- IDI supported the 4th National AMR conference to promote awareness and engage stakeholders including health workers, scientists, academicians and policy makers in the fight against AMR.
- •IDI was part of a 5-member consortium, which was selected to host the Fleming Fund Fellowship Scheme which aims to enhance professional development of key AMR practitioners in low and middle income countries. IDI will be host to 5 Tanzania Fleming Fund Fellows who will be mentored in one-health antimicrobial resistance and use surveillance.
- With funding from the United Kingdom Medical Research Council under the Liverpool School of Tropical Medicine, IDI through the



The handover of equipment to the MoH in support of One Health at points of entry across the country March 2020 and made possible with funding from Resolve To Save Lives



"Uganda has made progress in surveillance and other capacities at the Points of Entry. We appreciate all the support from Infectious Diseases Institute and Resolve to Save Lives that has ensured that the laboratories and clinics are now equipped."

Dr Jane Ruth Aceng, Hon. Minister of Health, Uganda; February 2020 during handover of point of entry equipment



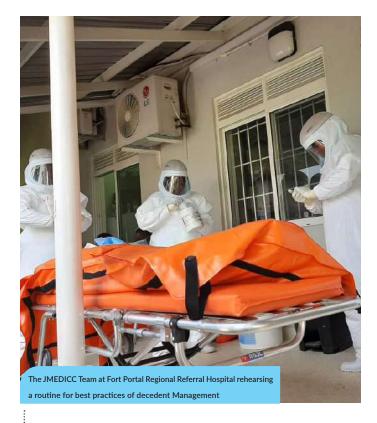
"One of the targets of improving emergency response in Uganda has been met through establishment of Mbale Regional Emergency Operations Centre. We commend efforts by Ministry of Health and Infectious Diseases Institute. As the World Health Organization, we pledge our full support"

Dr Yonas Tegegn Woldemariam, WHO Representative Uganda - during commissioning of the Mbale EOC in August 2020









Due to the infectiousness of the SARS-CoV2, healthcare workers have witnessed the consequences of substandard practice and appreciated the benefits of adhering to recommended practices. This has given us the necessary buy-in to advance best practices in infection control at all levels of healthcare delivery for now and beyond this pandemic."

#### Dr Rodgers Ayebare, Programme Coordinator Case Management Services



Drivers of Resistance in Uganda and Malawi (DRUM) consortium commenced a study to ascertain the drivers of antimicrobial resistance in the communities of Kampala and Hoima. The study seeks to establish the presence of extended-spectrum beta-lactamase (ESBL) producing E. coli and K. pneumoniae to inform a comprehensive understanding of transmission dynamics for pathogens associated with both community-acquired and nosocomial infections.

**NAPHS Acceleration:** RTSL provided critical resource's for IDI to support fast-tracked implementation of the National Action Plan for Health Security (NAPHS) through:

- Stationing an acceleration team at the Ministry of Health which provided technical support to GoU and worked with other GoU, partners to close International Health Regulation (IHR) gaps observed during the COVID-19 response.
- Supporting the formalization of border health structures in the MoH and capacity building efforts at points of entry (POE) to respond to public health emergencies and strengthen cross border collaboration for surveillance.
- Spearheading strengthening of the legal framework for IHR implementation including supporting the Regulatory Impact Assessment



for the Public Health Act amendment and providing legal counsel for drafting of the COVID-19 statutory instruments.

- Strengthening the coordination of NAPHS implementation by supporting the establishment of a steering committee with representation from various sectors contributing to the IHR.
- Strengthening Preparedness at sub-national level by contributing to GoU efforts to pilot the regional Emergency Operation Centre (EOC) concept in Mbale and Kampala areas.

**JMEDDIC:** IDI capabilities for clinical management and laboratory detection of especially dangerous pathogens have continued through the Joint Mobile Emerging Diseases Intervention Clinical Capability (JMEDICC) consortium funded through the US Department of Defence. The Observational Sepsis Study which has run since 2017 continued to provide a platform for development of health worker skills for optimal sepsis management which can be applied to management of patients with infections caused by especially dangerous pathogens. With over 3 years' experience in championing best practices in Advanced infection control measures for highly infectious diseases, the core JMEDDIC team supported a COVID-19 Treatment Unit mentorship programme at Arua and Mubende as part of efforts to optimise HCW occupational safety and incident surveillance.

**FUTURE PLANS:** In the face of the COVID-19 outbreak, the programme will continue to support GoU concerted efforts to combat and contain the outbreak. Special focus will be placed on interventions to maintain provision of essential health services in the face of the outbreak. The programme also seeks to expand the scope of AMR surveillance beyond the human and animal health sectors to include environmental health and consolidate efforts in strengthening Global Health Security capacities in line with the National Action Plan for Health Security priorities.





# Resource generation and use

#### STRATEGIC PLANNING

The 2018/2019 annual review of the strategic plan log frame was released in March 2020. The midterm review will follow in mid-2021.

#### **BUSINESS DEVELOPMENT**

Over 60 funding proposals were submitted in FY 2019/2020 with a 17% success rate. Many were in areas of strategic growth such as Global Health Security, Data Science and mhealth. Notably:

- IDI received eighteen new grants this year
- IDI received its first grant as a USAID prime contractor for the Program for Accelerated Control of TB in Karamoja (PACT- Karamoja). The grant was awarded after a unique USAID local organization network co-creation process. This was followed by a competitive express application process which saw IDI emerge the sole grantee out of 20 local applicant organizations.
- IDI secured over \$1,019,206 worth of grants and contracts to support the MoH's COVID 19 response effort in areas such as capacity building, IPC, telephone symptom surveillance, risk communication and social mobilisation.
- The following funders supported IDI for the first time during FY 2019/2020; USAID (as lead implementing partner), Research for Health in Humanitarian Crises, Nuclear Threat Initiative, Pharmacometrics Africa and Makerere University Research innovations Fund.

In FY 2020/2021, the Business Development and Grants teams will continue to seek new opportunities for diversification and to be responsive to emerging needs.

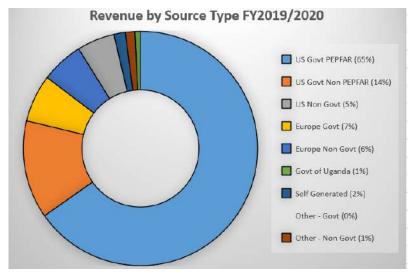
#### **GRANTS AND CONTRACTS MANAGEMENT**

IDI received positive results from more than five funder-specific institutional assessments in FY 2019/2020 (including those from USAID, the Fleming Fund, UK Research & Innovation and EDCTP. Changes to the Grants team were made to strengthen USAID-specific compliance.

#### **SUB GRANTING**

Twenty three new sub-grantees of various types (one government unit, one Karamoja- based NGO and 21 HIV Key Population-focused CBOs) were brought on board in FY2019/2020 bringing the total number of sub grantees to 101. The sub granting team successfully piloted an innovative strategy to build the capacity of organizations assessed to have weak internal systems by pairing them with those assessed to have stronger systems for joint project implementation. This enabled IDI to efficiently engage more small KP organizations which would otherwise not qualify for support.





"As a sex worker's community... Sub-granting and processes in context of key populations programming seemed to be a fairy tale... we can only say thank you so much IDI for standing out with your new model .... Thank you IDI for caring, and nurturing, strengthening and giving us the opportunity to grow."

#### Maclean Kyomya, Executive Director, AWAC

We are amazed at the agility, flexibility and innovativeness of the IDI team during the COVID-19 crisis in re-programming to meet the needs of People Living with HIV (PLHIV), adolescents and marginalized populations., As Iron sharpens Iron, IDI has been instrumental in the growth of AMS as an organisation."

Dr Pasquine N. Ogunsanya, Executive Director Alive Medical Services





Liabilities

# Financial Report 2019-2020

# INFECTIOUS DISEASES INSTITUTE LIMITED STATEMENT OF FINANCIAL POSITION AT 30 JUNE 2020

	2020 US\$	2019 US\$
ASSETS	·	·
<b>Non-current assets</b> Property and equipment	4,381,311	4,353,409
Right of Use Asset	123,791	-
	4,505,102	4,353,409
Current assets		
Inventories	325,835	173,291
Receivables and prepayments	8,015,860	8,775,829
Cash and cash equivalents	12,266,225	9,228,768
-	20.607.020	10 177 000
	20,607,920	18,177,888
Total assets	<u>25,113,022</u>	<u>22,531,297</u>
RESERVES AND LIABILITIES Accumulated surplus	13,955,112	14,234,724
LIABILITIES Non-current liabilities		
Retirement benefit obligation	535,856	1,159,690
Deferred Income	7,399,965	4,019,360
Lease Liability	89,611	-
	8,025,432	5,179,050
Current liabilities		
Trade and other	3,098,037	3,117,523
payables Lease Liability	34,441	-
-	3,132,478	3,117,523
Total Reserves and	25,113,022	22,531,297







### THE YEAR

























### **IN PICTURES**























# Leadership at the Institute

The Institute has innovative governance, with its own management and Board, but operating as an integral part of the College of Health Sciences at Makerere University. IDI is subject to rigorous internal and external audit by firms of international repute.

### **Board of Directors**

**Samuel Luboga** 

**Board Chairman** 

Milly Katana

**Director, Senior Support Services** 

Harriet Mayanja-Kizza

Professor of Medicine, College of Health Sciences, Makerere University

Sam Zaramba

Senior Consultant, Ear Nose & Throat Surgeon

Wilfred Griekspoor

Director Emeritus, McKinsey &

Company, Amsterdam, Netherlands

**Moses Joloba** 

Dean, School of Biomedical Sciences Makerere University

**Charles Ibingira** 

Professor of Medicine and Principal, College of Health Sciences, Makerere University

Philippa Musoke

Professor of Paediatrics, College of Health Sciences, Makerere University

Alex Opio

Public Health Consultant &

Researcher, Medireal

Samuel Kanakulya Lubinga

Executive Director, Singo United Investments

Yuka Munabe

Professor of Medicine, Division of Infectious Diseases, School of Medicine, Johns Hopkins University

Jeremiah Chakaya

Executive Director, Kenya Association for the Prevention of Tuberculosis and Lung Disease

**Umar Kakumba** 

First Deputy Vice Chancellor (Academic Affairs), Makerere University

### **Senior Management**

Andrew Kambugu

**Executive Director** 

Tom Kakaire

Head of Strategic Planning and Development

Sylvan Kaboha

Deputy head of Strategic Planning and Development

Susan Lamunu-Shereni

**Head of Finance and Administration** 

Milly Laker

**Deputy Finance and Administration** 

Mohammed Larmode

Head of Global Health Security Programme

**Andrew Mujugira** 

**Senior Research Scientist** 

Alex Muganzi

Head of Health Systems Strengthening Programme

Joanita Kigozi

Deputy head of Health Systems Strengthening Programme

**Isaac Lwanga** 

Head of Prevention Care and Treatment Programme

Barbara Castelnuovo

Head of Research

Stephen Okoboi

Deputy head of Research

Rosalind P. Ratanshi

Director of The Academy for Health Innovation, Uganda

John Bosco Kafufu

**Head of the Laboratory Programme** 

**Umar Sekabira** 

Head of Training and Capacity Building programme

**Walter Arinaitwe** 

Deputy head of Training and Capacity Building programme

**Richard Orama** 

**Head of Information Systems** 

**Richard Ssenono** 

**Deputy head of Information Systems** 



### **ACRONYMS**

AHD Advanced HIV Disease
API American Proficiency Institute
ART Antiretroviral Therapy/Treatment

ATIC Advanced Treatment and Information Centre

CAP College of American Pathologist
 CBO Community Based Organisation
 CCLAD Community Client Led ART Delivery
 CDC Centres for Disease Control and Prevention

CDC-MPEP Centres of Disease Control-Model Performance Evaluation Program

The College of Veterinary Medicine, Animal Resources and Biosecurity

CDDP Community Drug Distribution Points
CPD Continuing Professional Development
CPHL Central Public Health Laboratory

**CROI** Conference on Retroviruses and Opportunistic Infections

CSC Community Scorecard

EQA External Quality Assurance

GCLP Good Clinical Laboratory Practice

**GCP** Good Clinical Practices

GHSP Global Health Security Program
GLP Good Laboratory Practices
HCW Health Care Worker
HIVST HIV Self Testing

HPV Human PapillomavirusesHSS Health System Strengthening

IAPAC International Association of Providers of AIDS Care

IDIK Infectious Diseases Institute Kasangati
IPC Infection Prevention and Control
IPT Isoniazid TB Preventive Therapy
KHP Kampala HIV/AIDS Project

**KP** Key Populations

Laboratory Data Management Software

METS Monitoring and Evaluation Technical Support

MLIS Microbiology Laboratory Information Management System

**MoH** Ministry of Health

**MOU** Memorandum of Understanding

MRS Medical Record System
 NDA National Drug Authority
 NIH National Institutes of Health
 OVC Orphans and Vulnerable Children

PACT Programme for Accelerated Control of TB
PEPFAR The President's Emergency Plan for AIDS Relief

**PLHIV** People Living with HIV

**PMTCT B+** Prevention of Mother-to-Child Transmission

**PrEP** Pre-exposure Prophylaxis

QASI Quality Assurance and Standardisation for Immunology
SLAMTA Strengthening Laboratory Management Toward Accreditation
SLIPTA Stepwise Laboratory Improvement Process Towards Accreditation

SMCSafe Male CircumcisionTWGTechnical Working GroupUACUganda AIDS Commission

UKNEQAS United Kingdom National External Quality Assurance SchemesUSAID The United States Agency for International Development

VL Viral Load

**VMMC** Voluntary Medical Male Circumcision













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