



CIDRZ

for a healthy Zambia

Annual Report

2018

ACCESSIBLE QUALITY HEALTH SERVICES



Content

About	3
Management	9
Health Services	17
Training & Research	51
Finances	65
Governance	69
Partners & Donors	71

3
9
17
51
65
69
71

01

About



About

The Centre for Infectious Disease Research in Zambia (CIDRZ) is an independent non-profit Zambian company, registered as a nongovernmental organization that is committed to answering key research questions relevant to Zambia and the region. It supports the financial, and technical local ownership of high quality, complementary and integrated healthcare services within the Zambian public health system, and facilitates clinical, research and professional development training.

Through close and on-going collaboration with the Government of the Republic of Zambia, Ministry of Health and other line Ministries, and by partnering with multiple leading local and international universities, CIDRZ ensures that the latest research methodologies are used to answer locally-relevant questions to improve healthcare delivery. CIDRZ runs several fellowship programmes aimed at building capacity of Zambian researchers to participate in finding solutions to health challenges.

Achieving HIV Epidemic Control in Zambia – ACHIEVE.

Our alliances with various prominent, local and international universities, guarantees that cutting-edge research methodologies are applied to address relevant grass root enquiries which advance deliverables on healthcare. Pioneering implementation science, qualitative research, capacity building projects, clinical trials and health systems strengthening, has enabled CIDRZ to generate accurate analysis to inform policy which in turn fortifies local and international healthcare.

Our Activities

focus on these critical health areas:

- Women's Health
- Water, sanitation and hygiene
- Enteric Disease and Hepatitis
- HIV/AIDS prevention, care and treatment
- Tuberculosis diagnosis, treatment and control
- Maternal, newborn, child, and adolescent health
- Strengthening primary care, health systems and immunisation supply chains



We participate in finding solutions for health challenges.

Our Mission

To improve access to quality healthcare in Zambia through innovative capacity development, exceptional implementation science and research, and impactful and sustainable public health programmes.



02

Management





Letter from our CEO

Welcome to our 2018 Annual Report, which details our work in supporting Zambia's attainment of key health priorities in line with the country's Seventh National Development and Health Strategic Plans and the United Nations' Sustainable Development Goals. Below are some brief highlights with more detail in the pages that follow.

CIDRZ was born out of a desire to capitalize access quality health services and has developed a colossal footprint in Zambia, which continues to mushroom both regionally and internationally. This has allowed us to develop a robust efficient healthcare model that strategically positions CIDRZ, to cultivate credible platforms with which the increasing level of foreign direct investment into Zambia can partner for top-drawer select health services.

We remain appreciative for the continued support from our funders, partners, clients, employees and stakeholders, as we proudly announce 2018 an extraordinary healthcare achievement year in Zambia. Notable has been the tremendous support from PEPFAR through CDC in an effort to support government's quest to end the AIDS epidemic in Zambia. We overcame previous ordeals making healthcare accessible to an expanded footprint in Zambia.

As Centre for Infectious Disease Research in Zambia (CIDRZ), the Zambian healthcare service to all remains our key business.

The statistics in this Annual Report express a narrative of the continuous impact attained in strengthening the accessible health care service, which was boosted by our teams' innovation and excellence.

Our credence on health outcomes, is pinned on innovation, research, implementation and service delivery. We roll up our sleeves and blend with people at the grass-root level while working in tandem with stakeholders to ensure our services are customized to diverse community health needs. Our business is people and healthcare

services, and we leave no stones unturned. Through the Community ART for Retention in Zambia study (CommunityART), we developed differentiated service delivery (DSD) models to meet patient needs which address avoidable encumbrances on the health care system in Zambia. From the study findings, a toolkit that should be widely embraced was developed to assess local needs and preferences while scaling-up differentiated service delivery models in Zambia and other regions. We expanded our efforts in implementation of DSD models to 71 facilities benefiting 60,045 stable clients.

CIDRZ actively participated in the development, revision and implementation of the 2018 Zambia Consolidated HIV Guidelines on HIV prevention and treatment which was rolled out and implemented in the 706 CIDRZ-supported facilities with support from PEPFAR/CDC. This guaranteed that all HIV clients received quality services.

CIDRZ's experience in quality health care provision has exhibited our tenacity as we continue to grow from strength to strength. With support from Akeso Associates coupled with funding from the Bill & Melinda Gates Foundation, CIDRZ supported sites are not only the first, but unprecedented in Africa, to use the ShangRing no-flip method for voluntary medical male circumcision which was pre-qualified by the World Health Organisation (WHO) in June 2018.

Our experience in data management assisted in the development of quality monitoring guidelines and strategies such as: cohort monitoring guidelines for

eMTCT, e-first implementation strategies, DQMIS template, DSD guidelines and HVST monitoring tools. We continued to up-scale SmartCare, with 21 sites transitioned from using paper-based tools for reporting care and treatment indicators, bringing the total number to 127.

CIDRZ remains a reliable partner to the Ministry of Health (MoH). The CIDRZ Central Laboratory (CCL) has over the years supported the Zambia National HIV Care and Treatment Programme by providing timeous consistent routine and specialised tests. We have stood on impenetrable ground on our word on quality and excellence. Our state-of-the-art laboratory

equipment and systems remain remarkable due to our drive and robust management being consistent over the years.

In mid-2017, the laboratory CIDRZ was awarded accreditation to ISO 15189:2012 in the field of Hematology, Serology and Virology in mid-2017, fetching the status of first medical laboratory in Zambia to be endorsed by Southern Africa Development Community Accreditation Services (SADCAS). The International Organization for Standardization (ISO) standard – 15189, provides specific requirements for competence and quality of a laboratory sampling and carrying-out tests. It entails testing executed using both standard and

non-standard methods, and laboratory developed methods.

As we remain in perpetual pursuit of supremacy in health care, let's join together to build a bright and promising service offering as highlighted in the report. I thank you all for making 2018 a year of accessible quality.

Izukanji Sikazwe MBChB, MPH
CEO

Message from the Board Chairperson



With inequalities that exist in our country in all spheres of the social, economic and cultural lives of our people, CIDRZ has been part of the team in the health sector that has been driving the agenda of ensuring that this gap is reduced in the sector.

In line with the sustainable development goals objective, of covering diverse communities, CIDRZ has continued to drive its agenda by strategically working at an operational grass-root level, in the country to provide health services; -by working with the national, provincial and district government heads in charge of health to set the agenda of the healthcare sector in Zambia.

Our report demonstrates CIDRZs efforts in ensuring that all people know their HIV status, treatment administration if found positive, and adherence to HIV medication in perpetuum. This would not have been possible without the support from the United States Government through PEPFAR/CDC. CIDRZ supports efforts on reduction of maternal and infant mortality rates; prevention of enteric diseases, and accessible healthcare services for all

communities in Zambia including those in correctional services. All this work is well documented and depicts how far our growth, potential and proliferation into communities, strategically positions us credible platforms with which increasing levels of government can partner to address bottlenecks encountered.

CIDRZ research has shaped the health care services podium and flair in Zambia, by birthing an amenable approach to health care provision. This includes differentiated service delivery models which started as modest studies and now boast to be part of the national HIV programme.

On behalf of the Board of Directors, I would like to thank CIDRZ management and staff for the tremendous effort exerted to not only provide quality services but provide confirmation upon which the government can make strategic decisions to spur the health sector in Zambia.ions to spur the health sector in Zambia.

Bradford Machila LLB, LLM
Board Chairperson

Management

Provide Strategic Direction to the Organisation

CIDRZ has three stratum of management which consist of the Executive Committee (EXCO), Leadership Team and Management Forum.

Leadership Team

The leadership team comprises of Directors in various technical and operational departments within CIDRZ. All EXCO members are part of the leadership team.

Executive Committee



Dr Izukanji Sikazwe
Chief Executive Officer
and Director



Mr Emmanuel Qua-Enoo
BComm (Hons), MComm
(SA&Intl Taxation, CA(SA))
Deputy Chief
Executive Officer



Ackim Sinkala
ACMA, CGMA,
FZICA, MBA
Chief Financial Officer



Ronald Sinkala
Msc, LLB, ACIS, FZICA
Company Secretary



Anthony Musaluke
BEng D.I.C
Chief Operating
Officer



Dr Roma Chilengi
MBChB, MSc
Chief Scientific
Officer



Dr Carolyn Bolton-Moore
MBBCh, MSc
Chief Medical
Officer



Roselyne Raelly
FCIS, MBA
Director, Human
Resources



Dr Ranjit Warriar
BSc, PhD
Director, Biomedical
Research



Dr Mwanza Wa Mwanza
MBChB
Director, Clinical
Care



**Dr Mwangelwa
Mubiana-Mbewe**
MBChB, MBA
Director, Paediatric HIV
Treatment & Prevention



Dr Monde Muyoyeta
MBChB, PhD
Director, TB
Programmes



Dr Sharon Kapambwe
MBChB, MPH
Director Reproductive,
Maternal, Newborn &
Child Health



Dr Theodora Savory
MD
Director, Monitoring
and Evaluation



David Ojak
Director Central
Laboratory



Dr Michael Herce
MD, MPH, MSc
Director Implementation
Science



Emmanuel Lumbwe
MSc, CIA, CFE
Director, Internal
Audit

Management Forum

The Management Forum is responsible for internal communications within CIDRZ and plays a critical role in bridging the gap between senior management and staff. The forum assists the organisation to find functional innovative solutions to strategic and short term challenges CIDRZ encounters.

Members Include:

1. Angela Mulaisho
2. Barbara Kaswaya
3. Boniface Phiri
4. Brenda Kayumba
5. Bupe Sichalwe
6. Cheryl Rudd Mallaghan
7. Clement Moonga (Vice Chairperson)
8. Dr. Albert Manasyan (Chairperson)
9. Daniel Banda
10. Dr. Daniel Mwamba
11. Dr. Mary Kagujje
12. Dr. Mashini Illunga
13. Dr. Natalie Vlahakis
14. Dr. Oscar Mwiinde
15. Elizabeth Makeche
16. Gerald Muche
17. Gordon Mwanza
18. Helen Bwalya Mulenga
19. Hope Bunda (Secretary)
20. Imasiku Lubasi
21. Inonge Simushi
22. John Daka
23. John Sinyangwe
24. Kaunda Kaunda
25. Kombatende Sikombe
26. Kudakwashe Mucheka
27. Lane-Lee Lyaboola
28. Lawrence Muuma
29. Mabvuto Phiri
30. Mpande Mwenechanya
31. Mwansa Lumpa
32. Physiwell Sikateyo
33. Sharma Shailendra
34. Stanley Mwale
35. Taniya Tembo

03 Health Services



Achieving HIV Epidemic Control Zambia

With support from PEPFAR and CDC, CIDRZ works closely with the Ministry of Health towards the attainment of the ambitious 90:90:90 targets. We merely initiated 72% of our targeted new positives onto treatment at a population level in Lusaka, but nonetheless, successfully identify over 90% of the estimated people living with HIV; who were introduced to treatment thus meeting the first two 90s. In as much as we did not succeed in meeting the last 90, we worked closely with the sites and communities to scale up viral load testing which we intend to continue with in 2019.

CIDRZ successfully placed:

- Over 70 clinical and laboratory staff in various sites, supported additional shifts from MoH staff, and trained an additional 162 staff.
- An additional 171 clinicians in public facilities and 104 clinicians in private facilities were oriented in the HIV consolidated guidelines to support surge campaigns
- 50% of eligible clients in various differentiated service delivery (DSD) models. This has significantly reduced the number of patients accessing services through 'traditional' clinic visits.
- Successfully scaled up index testing to all sites with a yield of about 22%.



ACCESSIBLE QUALITY HEALTH SERVICES



Prevention of Mother to Child Transmission of HIV

Increased Uptake of HIV and Syphilis Counselling, Testing and Treatment

We used a family centred approach to achieve the programme goals which encouraged partners and biological children to be tested for HIV.



Build Health Care Provider (HCP) Capacity in 100% of Priority Districts to Provide PMTCT Services

CIDRZ provided training, onsite mentorship, and orientation series on review of the National Consolidated Guidelines, mHealth (sms technologies for dry blood spot (DBS) result reporting).

Some of the achievements include the following:



- Support of 706 health facilities
- Total antenatal clinic (ANC) attendance of 180,096 (99%) pregnant women against expected pregnancies of 181,539
- 176,994 (99%) of the attendees had a known HIV status, 103% against the target of 172,459
- Identified 18,627 HIV-positive, 74% against the target with positivity rate of 11%. Of the 18,627 positive women, 15,887 (86%) were on ART, an achievement slightly below the target of 90%

CIDRZ trained:



- 176 peer treatment supporters and 160 MOH psychosocial counsellors in PMTCT services
- 61 HCP in long-acting reversible contraceptives
- 58 HCPs from 18 Lusaka sites in HIV-exposed infant Cohort monitoring and these participated in the pilot of mother-infant pair (MIP) Cohort Monitoring

Integration of HIV Services in MNCH and Other Departments to Improve Access to HIV Diagnosis, Care, and Treatment for Pregnant and Breastfeeding Women (PBFW), and Their Infants

In collaboration with the District Health Office, HIV services were successfully integrated at all service points, including family planning, postnatal, under-five clinic, nutrition corner and outreach services and Child Health Week. CIDRZ also took a leadership role in scaling up same day Test and Start.

Improved Early Infant Diagnosis (EID) Sample Transport and Result Reporting to Increase EID Testing by 90%

To address this, CIDRZ:



- Reduced the turnaround time for early infant diagnosis (EID), by addressing gaps with DNA PCR testing, DBS sample handling, result reporting, and expedited treatment initiation for HIV-positive infants and young children
- Mentored HCPs and Treatment supporters on EID and DBS sample collection
- Trained and equipped all cellular network-accessible sites with our mHealth-based electronic DNA PCR result reporting system that transmits EID testing results to the facility and allows community agents to trace the mother

“
**WE USED A
FAMILY CENTRED
APPROACH TO
ACHIEVE THE
PROGRAMME
GOALS**”

HIV Voluntary Counselling and Testing

Provide HIV Testing Services (HTS) Across a Wide Range of Community and Facility Settings, Reaching at Least 500,000 Individuals



Key to achieving the UNAIDS 90:90:90 is ensuring that 90% of the people know their HIV status before they can be linked to treatment; and have their viral load suppressed. As such, CIDRZ with PEPFAR/CDC support:

- Supported the provision of HIV testing services (HTS) to 1,881,744 clients in 706 sites against an annual target of 500,000, and
- 78,366 HIV-positive clients were identified with an overall linkage of 95% against an annual target of 90%.

Targeted testing strategies were rolled out to increase testing yield and numbers of positives identified, which included:

- Integrating HTS into all entry points in health facilities. We increased the number of testing points through service integration, increased number lay counsellors, and messaging focused on the importance of test and start.
- Scaling up index testing and targeted high-volume sites often with multiple testing points. Overall, 33,698 contacts were tested. Of these, 3,058 (9%) tested positive.
- Rolling out of HIV self-testing (HIVST) in 2018.

Provide education through community mobilization to promote clinical services uptake

- We engaged more than 40 radio programmes on leading radio stations talking about adolescent health, HIV and AIDS, TB, PMTCT, VMMC and other public health related issues.

Education on the need for people to know their HIV status forms part of the covre activities that CIDRZ conducts. In 2018, CIDRZ:

- Supported community mobilization which in turn promoted uptake of clinical services. This was disseminated through drama performance groups, radio and television programmes.
- Scaled up HTS activities by testing within workspaces such as factories, construction sites, security companies and fishing camps.
- Opened four 'Key Population' (KP's) friendly clinics in Lusaka Province where KP's can access services.



Providing Quality Care to HIV Positive Clients

Improving Linkages to Care



To optimize test and treat services and accelerate ART uptake and linkage to care,

CIDRZ created extra clinical work space through the provision of 13 pre-fabricated structures, distributed 70 private enclosed tents, re-organised existing clinical spaces and adjusted patient flow to improve efficiency and reduce patient waiting times.

In addition to routine health system strengthening activities, CIDRZ allocated 39 extra clinical staff for the surge campaign, employed an additional 162 Peer Educators, and supported at least 3 dedicated Health Care Workers (HCWs) and Psychosocial counsellors to accelerate linkage and ART initiation for all positive clients in all 60 CIDRZ-supported high-volume facilities. CIDRZ continued to provide technical support and hands-on mentorship to the 816 peers aiming at increasing linkage to treatment.



- CIDRZ, with the support of PEPFAR/CDC, rolled out and implemented the new 2018 Zambia Consolidated HIV Guidelines in the 706 CIDRZ-supported facilities to ensure that all HIV clients received quality services.
- Provided hands on mentorship targeting newly hired staff using an integrated approach to address all gaps noted in the continuum of care.



Ensuring Fair Treatment For All

Key to achieving the UNAIDS 90:90:90 is ensuring that 90% of the people know their HIV status before they can be linked to treatment; and have their viral load suppressed. As such, CIDRZ:

Improved Access to Prevention, Care and Treatment

- Supported and scaled up implementation of Test and Treat at all 706 health facilities, which accomplished an initiation of 74,524 clients on ART representing 72% of the newly enrolled clients target
- CIDRZ exceeded the Lusaka Surge target, achieving 113% of the target; oriented 171 HCWs in public sector facilities and trained 104 HCWs in private sector facilities in line with the Surge campaign strategy for Lusaka
- Scaled up diverse differentiated service delivery (DSD) models to 71 facilities
- 60,045 stable clients are currently enrolled in DSD models and 137,148 of 161,917 clients identified as stable patients received Multi-Month scripting of ART.

Fast Tracking HIV Stable Patients has Decongested ART Clinics

Health Strengthening Systems is a critical component in Zambia and HIV has been recognised as one of the major public health problems in the country. HIV treatment has continued to scale up in most health facilities which has led to an increase in demand for HIV services thus leading to congestion in health facilities. In order to decongest ART clinics, Centre for Infectious Disease Research in Zambia (CIDRZ) with support from the United States President's Emergency Plan for AIDS Relief (PEPFAR) and partnership of U.S. Centers for Disease Control and Prevention (CDC) has been implementing Differentiated Service Delivery (DSD) models which include the Community Adherence Groups (CAGs) which has benefited 12 558 people, the Adherence Groups (UAGs) with 1741 people, Health Post/Fast Track Dispensations with 37 640 beneficiaries, Scholars' model which has 2073 people and the newly introduced

community pharmacy dispensation model which has 237 people.

In achieving this, the six months drug dispensation model to stable patients has been introduced, where stable patients are identified from the pharmacy then sent to a separate room that is away from the ART clinic for their drug refill. Fast Track Dispensation model had been giving the three months drug dispensation to the patients in the past.

ART Pharmacist In-Charge Mrs. Nhoma Hachizo expressed happiness that the six months dispensation has been introduced, "I am glad that we now have the six-month dispensation, this will enable us to work more effectively where we will have enough time to enter information in the daily report register and also interact more with the patients and deal with problems they are facing with the drugs they are taking. Previously we never had enough time to do our reports due to the congestion we used to have at the facility, we used to have more than 150 patients per day. Mostly you will be attending to the patients and not have enough time to interact with them on how they are coping with the drugs they are taking."

CIDRZ Senior Research Pharmacist Muhau Mubiana explained how the dispensations will be done during the orientation for the stable patients at Chilenge 1st Level Hospital.

"The six months drug dispensation is one of the ways under Fast Track to decongest the ART facility and also to increase work efficiency among the workers. Stable patients should be identified, isolated and referred to the fast track dispensing point where the pharmacy technologist assigned shall prepack and deliver the prepacked medicines to the patients in order to decongest the facility. We are using the Standard Operating Procedure (SOP) in the model which describes how stable client are enrolled into fast track model and how the ARVs are pre-packed for patients and dispensed to the patient at the Fast track."

Improve Retention in Treatment

CIDRZ's experience in working with HIV clients on ART has shown that while many can be put on treatment, not all are retained on treatment over a period of time as some drop out for varied reasons. This is a challenge in as far as ensuring adherence and viral load suppression is concerned, in essence, CIDRZ introduced novel ways to address this challenge by:

- Providing phones and talk time on a monthly basis to facility In Charges and Peer educators in all supported facilities to call back patients late for their appointment
- Supported monthly community sensitisation activities and intensified community follow ups for patients late for their appointment. 52,462 patients who missed their pharmacy and/or clinical appointments were followed up, and 17,395 patients (33%) returned to care; of the remaining 35,067 patients; 4,839 (%) were reported as self-transfers, 1,119 (%) were reported dead, and the rest had either promised to come back or were not traced

The main contributing factor remains high dropout amongst those diagnosed and initiated on treatment on the same-day but this was mitigated through patient-peer pairing who follow-up the patients for three months or until at the time they can adhere independently.

Improve Scale up of Viral Load Testing and Achieve 90% Suppression for all on Treatment

In the absence of a cure for HIV, adherence to lifelong ART treatment is key to reducing and preventing HIV transmission amongst or between sexual partners. This is because with viral load suppressed, the chances of transmitting the virus diminishes. To achieve this, CIDRZ collaborated with District Medical Office staff to:

- Provide technical support and training of facility staff on guideline-adherent viral load collection
- Strengthen documentation in patient files and Smart Care
- Mentor staff on the use of VL guidelines; and monitor viral load clinical and laboratory processes in all the 706 supported facilities

CIDRZ received a total of 74,517 suppressed (<1,000 c/ml) VL results; 24% of the annual target of 313,185. This target was not achieved due to low VL testing throughout the country including CIDRZ Central Lab, however, the capacity for testing has been increased.

Expand ART Services to Reach Key Populations (KPs)

CIDRZ formulated strategies that facilitate an inclusive approach to provision of essential services, targeting KP's with HIV services.

- Test and Treat services were increased among KPs by reaching 354, representing 150% of the annual target, 59 were found HIV positive and 56 were linked to care
- In collaboration with CDC and the University of Maryland, 84 people were trained in providing KP friendly services

In 2018, CIDRZ:

- Increased the number of facilities providing KP's friendly service
- Conducted eight testing drives to hot spots
- Provided mass sensitisation and screening for HIV and STIs targeting KPs and their clients and children
- Delivered prevention services, such as condom distribution (5,760 distributed to brothels and individuals), VMMC, and cervical cancer screening
- 539 clients were initiated on Pre-Exposure Prophylaxis (PrEP)

Paediatric Care and Support

Improve Paediatric HIV Case Finding to Identify 90% of Children Living with HIV

- Paediatric test drives focusing on index testing were conducted in 175 sites
- 87 Peers and 36 HCWs were trained in index testing
- 135 peers and 83 HCWs were mentored in Provider Initiated Testing and Counselling
- Supported HIV testing during Child Health Week at 89 facilities during which 1,288 DBS were collected, and 14,480 children were tested, 75 were positive and 58 were started ART. The remaining 17 are being followed up

Support Provision of Paediatric HIV Prevention, Care and Support Services

To achieve this objective, the programme conducted:

- Onsite orientations on early infant diagnosis; oriented 704 Health Care Workers (HCW)
- 55 caregiver support group visitations, reaching 1579 caregivers
- Monthly community sensitizations to increase the uptake of paediatric HIV prevention, care and support services reaching 5454 community members

FOR A HEALTHY ZAMBIA



On Retention of Paediatric HIV Exposed and Infected Children, CIDRZ

Tracking of HIV exposed infants with a final HIV infection status determined; introduced baby-mother pairing; supported paediatric specific clinic days which created a child-friendly environment. Six trainings in adherence and disclosure counselling were conducted

Support Equity of Access to Disadvantaged Children

In partnership with the Expanded Church Response, CIDRZ supported HIV testing of 10, 674 Orphans and Vulnerable Children.

CIDRZ actively participated in the development, revision and implementation of the 2018 national guidelines on HIV prevention and treatment.

Improve Adolescent HIV Prevention, Care and Treatment Services to Address the Risk of New HIV Infections within this Population

CIDRZ supported community sensitisation on availability of youth friendly health services in high volume facilities.

- 12 facilities were oriented towards adolescent one stop shops (274 adolescents and 134 HCW)
- 18 new youth friendly spaces were established; some sites had youth friendly spaces revamped. The programme established Differentiated Service Delivery (DSD) services in 40 sites. Weekend and after hours HTS and ART services were implemented in high volume sites; 9816 adolescents accessed HTS, 90 tested HIV+; 62 were initiated on ART



Achieving TB Epidemic Control in Zambia

CIDRZ accomplished epidemic control of TB by engaging in different activities and engagements which include:

Increased TB Case Detection in PLHIV

CIDRZ supported sites notified 13,107 TB patients during the financial year. Of these 57% were TB/HIV co-infected. Activities to support TB case detection included the recruitment of 327 peers and treatment supporters to support community and facility TB activities, and strengthened TB screening among PLHIV. Of the 313,581 people currently on ART, 96.9% were screened for TB. During 2018, CIDRZ:

- Supported both active facility and community TB case finding activities including but not limited to TB case finding during World TB day, National Health Week, Kuomboka Ceremony, and TB case finding month
- Conducted trainings on TB and TB/HIV targeting Health care workers (HCWs), community health workers and community leaders
- Supported the digital X-ray machines at Lusaka Correctional Facility Clinic, Chanda South clinic and Kanyama 1st level hospital
- Conducted contact tracing through the CHW's. Enablers including 104 bicycles, 364 gumboots, 364 raincoats, 364 umbrellas, 145 cooler boxes and 100 back packs were given to the CHW. 88% of the bacteriologically confirmed TB cases were contact traced; of the contacts, 2% were diagnosed with TB

- Strengthened the TB courier system through integration with the HIV courier system in rural centres and provision of bicycles in urban centres
- Provided paediatric TB supplies to hospitals in Western, Eastern, Lusaka and Southern provinces

Maintain High Rates of HIV Testing Among TB and Presumptive TB Patients

Of the presumptive TB cases, 73% had a documented HIV status, positivity was at 48%. There was a consistent improvement in documentation of HIV status for presumptive TB cases. Of the TB cases notified, 96% had a documented HIV status. CIDRZ ensured that 95% of the TB/HIV co-infected patients were initiated on ART.

To Prevent TB Through the Scale up of TB Preventive Therapy (TPT) and Infection Prevention and Control Interventions, CIDRZ:

- Supported uptake of Isoniazid Preventive Therapy (IPT) in supported sites. Of the 71,393 TxNew, 35% were initiated on IPT, a slight improvement from last year's 30%. This low performance is attributable to policy level and supply chain factors, monitoring and evaluation factors; and fears and misconceptions about IPT. Despite the low uptake, there has been a general improvement over the months

- Enabled infection control clinical meetings in 29 health facilities in Western province and at Levy Mwanawansa Hospital
- In collaboration with the clinic and district staff, developed infection control plans for 8/9 facilities in Shibuyunji, 10/18 facilities in Rufunsa and in 5 high volume sites in Southern Province
- Installed 120 wall fans in 68 facilities to help improve mechanical ventilation in poorly ventilated rooms.
- Supported renovation of Kanyama TB corner; Ngombe TB corner and Maternal and Child Health waiting area; George Clinic laboratory; Ngwerere TB corner, and Nakambala Urban container to improve cross ventilation

To improve Multi Drug Resistant (MDR) TB Outcomes, Surveillance, Referral for Treatment and Diagnosis of TB

CIDRZ equally provided training in Fluorescent Microscopy (M) for 47 laboratory staff, and GeneXpert Technology at 12 facilities, targeting 20 laboratory staff. The TB department also conducted data quality assurances (DQAs) and technical services support (TSS); Oriented data associates on TB indicators and registers; distributed TB registers; and supported 9 facilities and 1 district TB data review meetings in SP and Chongwe respectively.

- 111 MDR TB patients in Lusaka district received food hampers monthly. Each food hamper contained: Mealie meal, Cooking oil, Eggs, Milk, Soya chunks, Kapenta, beans, groundnuts and butternut.
- A total of 79 Rifampicin resistant cases were detected of which 66(83.5%) were linked to treatment



Voluntary Medical Male Circumcision

The Voluntary Medical Male Circumcision programme provided direct support delivery for staff supplies and equipment. CIDRZ through PEPFAR and CDC support operated 30 static sites in Western, Eastern and Lusaka provinces with targeted outreach activities occurring at the occasion to an eligible group of clients who have been mobilized.

15 sites through MoH providers were also supported; and overall, 40,417 circumcisions were conducted in 2018 against the target of 18,208.

Under VMMC, 39,542 (98%) clients were tested for HIV and linked all 172 HIV positive clients to ART care and treatment.

CIDRZ hosted Lusaka District Health Office partners' planning and review meetings; two international delegations from Namibia and Zimbabwe to learn best practices in VMMC service, and ShangRing training.

We are excited because CIDRZ sites are the first in Africa to use the ShangRing no-flip method, pre-qualified by WHO in June 2018. Akeso Associates, with funding from GATES Foundation, sponsored master trainers for training 25 successful ShangRing trainer of trainers (TOT). We commenced ShangRing Active Surveillance on 27 August 2018.



Health Systems Strengthening

1

1. Strengthening Pharmaceutical Services

The Pharmaceutical Services Department continued to build capacity in MOH staff to strengthen supply chain, pharmaceutical patient care, Quality Pharmaceutical data capturing and commodity management across supported sites and provinces.

Service Delivery of HIV prevention, clinical/laboratory services have created demand, improved accessibility and enabled quality care.

CIDRZ supported drug potency through improved storage conditions by procuring/

installing 74 air cons, 117 fridges, 50 room and 50 fridge thermometers. We relocated/refurbished pharmacy prefabs at Kanyama and Chawama first level hospitals. We also expanded storage at Chongwe urban clinic from 9m2 to 49m2 to accommodate adequate supplies, commodity security and efficient logistics management in the district.

CIDRZ trained & mentored Provincial, District and facility staff to strengthen pharmaceutical care and commodity management. Collaboration with MSL was enhanced to troubleshoot facilities that routinely recorded low stocks.

Medical Stores Limited and the district lab teams by ensuring that lab commodities and HIV testing kits are consistently available in all facilities through timely submission of usage reports.

Support in quality assurance and improvement continue in supported sites by enrolling more facilities in the HIV and CD4 Proficiency testing programmes.

Currently, 24 Laboratories have been enrolled for CD4 EQA, and 192 testing sites in HIV Proficiency testing. 52 and 21 MoH Laboratory Technologists were trained in Good Clinical Laboratory Practices and Quality Management System, respectively. Further, 60 MoH staff were mentored on specimen management and laboratory stock management. 12 MoH Laboratory Technologists were trained in lab eLMIS; printed and distributed technical and management Standard Operating Procedures and offered technical assistance

2. Ensuring capacity of Laboratories to Provide Effective Services at Facility Level

CIDRZ provided clinicians with essential diagnostics for decision making. In Lusaka Province, the CIDRZ Central Laboratory (CCL) tested ART/PMTCT samples from supported facilities without laboratories. The organisation has continued to provide backup testing services to transitional laboratories in an event of equipment breakdown and reagent stock out.

In 2018, the following tests were analyzed: 129,974 Chemistries; 70,544 CD4 counts; 38,176 Full Blood Counts; 80,227 Viral Load; and 15,278 Early Infant Diagnosis.

To help improve reliability and quality of Provincial Health Office laboratory services, CIDRZ strengthened coordination between

3

3. Strategic Information Significant to Quality Programming

CIDRZ closely monitored its facility performance through weekly, monthly and quarterly reports, with a special emphasis on index testing and linkage. Performance findings are shared with programme and facility teams to address the gaps identified. Data review meetings are held in facilities, through documentation and the frequency with which they are held in facilities is radically strengthened.

4. Women Cervical Cancer Programme; Addressing Challenges of Cancer in Zambia

With support from Pink Ribbon and Red Ribbon, the cervical cancer (CaCx) prevention programme worked closely with Ministry of Health (MOH) and the Ministry of Chiefs and Traditional Affairs (MOCTA), and other implementing partners to strengthen and expand access and uptake of cervical cancer screening in both urban and rural parts of the country.

The programme continued to: Expand community awareness and promotion of cervical cancer prevention. 400 traditional leaders were equipped with basic cervical cancer messages for continued sensitisation within the various chiefdoms. CIDRZ conducted village based screening in

where 17 Laboratory Technologist were mentored on commodity management. CIDRZ built testing capacity for CD4, Hematology and Chemistry testing in partnership with leading hospitals. To enhance sample transportation/referral and result return systems, CIDRZ has been providing logistical support including fuel for motor vehicle and motor bikes to facilitate viral load and DBS samples courier.

Additionally, 26 centrifuges were distributed to provincial laboratory hubs to help in VL specimen separation prior to being couriered to PCR Labs as part of the viral load scale up response.

To reduce on turnaround times (TAT) for provision of Laboratory results, CIDRZ has started fast tracking all critical result (Positive DBS and >1000 copies VL) to programmes by Email just after testing.

Using its experience and data, CIDRZ assisted in the development of quality monitoring guidelines and strategies in so far as: cohort monitoring guidelines for eMTCT, e-first implementation strategies, DQMIS template, DSD guidelines and HVST monitoring tools.

CIDRZ continued to scale up SmartCare, with 21 sites transitioned from using paper-based tools for reporting care and treatment indicators, bringing the total number of sites using SmartCare to 127.

rural far flung areas, and 5000 women were screened through five (5) rural drives.

Increase secondary level capacity for cervical cancer treatment. The programme supported training for 8 Medical Doctors, 3 Medical Licentiates and 1 clinical officer in treatment of advanced cervical cancer lesions using Loop Electro-surgical Excision Procedure (LEEP), and Equipment was purchased and installed for 4 additional LEEP centers that were established.

Increase district-level cancer screening and treatment services. In collaboration with MoH, 96 nurses and clinical officers were trained in cervical cancer screening using VIA and treatment with Cryotherapy and thermal ablation in Lusaka, Luapula and Southern Provinces.

Over 53,000 women were screened during this financial year with over 1000 receiving treatment with cryotherapy or thermal ablation.

Elton John Juvenile Offenders' Health (EJJOH) Project

With support from the Elton John AIDS Foundation (EJAF), CIDRZ is implementing the Elton John Juvenile Offenders' Health (EJJOH). This project was designed to provide a comprehensive package of intervention tailored towards the needs of incarcerated juveniles in 11 of the 87 of Zambia's correctional facilities, and two approved schools for juveniles across the country.

The project aims to reduce illness and death, while improving the quality of life of incarcerated juveniles as well as reduce their risk of acquiring HIV through provision of holistic adolescent friendly HIV prevention and social services. In addition, the project supports mental health services as well as legal services to unorderd (remanded) juveniles to expedite case disposal.

CIDRZ under the TB department commenced implementation of this project on the 1st February 2018 and achievements which:

- Engaged and obtained stakeholders' buy-in from the Zambia Correctional Service (ZCS) Command
- Formed strategic partnerships with CELIM and UBUMI to provide nutritional support to inmates found with any of the ailments being screened by EJJOH
- Revamped and trained Prison Health Committees (PrHCs) in 12 out of 13 targeted juvenile holding facilities from which 203 PrHC members (64 juveniles, 80 adult inmates and 59 officers) were trained, to help run and sustain planned project activities
- Symptomatic based TB screening was done on both old and new inmates and identified 1002 presumptive TB cases
- Conducted baseline sensitisation and mass screening for HIV, TB, Hepatitis B, malnutrition, Mental Health and STI's (Syphilis) in 3 of the 13 targeted facilities. A total of 2,495 (138 Juveniles, 2,339 adult inmates, 15 correctional officers, 3 circumstantial children) tested for HIV
- 684 inmates (138 juveniles) tested for syphilis
- 168 inmates (138 juveniles and 30 adults) were screened for mental health
- All those found with health issues were referred for specialised treatment
- 138 Juveniles from the 3 correctional facilities were tested for Hepatitis B



Addressing Challenges of HIV Treatment and Care through Differentiated Service Delivery Models

for detailed analysis of this study, visit:
<http://www.cidrz.org/toolkits/commart-toolkit/>

Over the years, some patients on ART, disengaged from care for different reasons among them: fewer clinic staff to attend to the increasing number of people that needed the services; crowded clinics; long travel and waiting times, and inflexible schedules that interfere with work and other obligations. This has led to fatal consequences on the health of these patients.

To address these challenges, the Ministry of Health with support from the Centre for Infectious Disease Research in Zambia (CIDRZ), and funding from the Bill and Melinda Gates Foundation (BGMF), developed the Community ART for Retention in Zambia study (CommunityART), which sought to develop varied bespoke service delivery models to meet patient needs and reduce unnecessary burdens on the health care system in Zambia.

The CommunityART programme was implemented in Eastern, Lusaka and Southern, Provinces starting in 2015 with the intention to:

- Determine the acceptability, appropriateness, and feasibility of differentiated HIV service delivery models in Zambia
- Evaluate the effectiveness and efficiency of these models
- Develop a toolkit that can be widely adapted to assess local needs and preferences and scale-up differentiated service delivery models in Zambia and other regions

The CommunityART study Implemented and evaluated the following differentiated service delivery models:

- Streamlined ART Initiation (START)
- Health care worker managed groups i.e. Urban Adherence Groups (UAGs)
- Client Managed Groups i.e. Community Adherence Groups (CAGs)
- In-Facility Managed Model i.e. FastTrack

The Project Targeted:

- ART naïve clients and who meet the Zambian HIV guidelines for treatment initiation at the time
- Stable ART clients, defined as
- HIV-positive adolescents and adults who were 14 years and above; and had been on ART for at least six months
- These clients should have had CD4 count of at least 200cells/mm³ in the last 6 month. * if this was not available, the clinician at the facility should determine whether patient was stable; and lastly
- The client should not have been acutely ill

Study Findings

- The CAG model was well received by the participants who desired to remain in the model. Professional health workers also shared this view and, expressed interest and willingness to continue supporting the CAG model at their facilities once the study came to an end
- Similarly, the UAG model was well received among the various stake holders
- Fast Track model received mixed feelings from professional health workers, with some seeing no time-savings for patients or convenience for health workers as Fast Track patients still accessed other clinical services along with patients receiving standard of care
- START model received mixed reactions from various stakeholders but overall, most said that it was a good model which had the potential to save the lives of many people by removing the need to wait for laboratory results before starting treatment

Generally, all four DSD models received widespread approval from all stakeholders. Streamlined ART initiation, (START) received strong support from patients, community members, HCWs and policy makers because it was aligned with Option B+ and the newly endorsed Universal Test and Treat (UTT) policies and secondly; illustrative of a caring government, eager to bring ARVs closer to patients. The other 3 DSD models, FastTrack, CAG and UAG received strong support from most stakeholders due to reduced decongestion and travel. Patients recounted reduced costs and stress of balancing treatment with work and family obligations. In all four models, some patients reported insurmountable poverty and food insecurity.

Community ART Toolkit

The toolkit for the Community ART study is available at <http://185.17.252.60/cidrz/commart-toolkitv4/> and was launched during the study dissemination meeting in September 2018. The toolkit aims to provide evidence-based guidance to HIV/AIDS, health systems specialists and practitioners who wish to implement the four differentiated care models of FastTrack, START, CAG, and UAG. The findings comes from mixed methods and experiential data, workshops on client and health-provider experience. It avoids duplicating information by providing extensive links to various websites including differentiatedcare.org and C-QUIN.

More uniquely, the toolkit includes study materials – protocol, monitoring tools, job aides, standard operating procedures and abstracts/publications; that can be adapted by other researchers.



Patient Centered Care

How do we help facilities focus on their local barriers, adapt and shape health care practices at/around the facility, to needs of specific communities?

As a follow on to the BetterInfo study, Bill & Melinda Gates Foundation has funded another project: Leveraging Patient-Centred Care to Improve HIV Outcome in Zambia (PCC). This will be a phased approach targeting ~ 60,000 patients on ART; 6 CIDRZ supported districts which will involve 40 health facilities.

The PCC study will offer timely & dedicated attention to harnessing the power of the local patient experience & principles of patient-centered care; layered onto an existing fully-funded PEPFAR/CDC award for HIV prevention, care and treatment. This will be led by diverse teams with a track record of successfully delivering timely programmes & innovations within the context of a sturdy Zambian organization.

The PCC uses patient experience-oriented approach by:

- **leveraging** existing health systems improvement activities;
- **enhancing** synergies with strategies to promote differential care
- **and focusing** on improvement efforts at facility level.



CIDRZ piloted the first year study start-up to lay the foundation for successful implementation. The team established the study calendar and internal Scientific Committee to manage learning outputs.

Specifically, the study has achieved the following:

- Developed user stories, cases and intentions, monitoring how they will interact with Public Health Patient Experience Management System (PPEMS)
- Conducted structured interviews with intended users and key stakeholders to better understand technical literacy, preferences, and any perceived barriers to use
- Developed technical requirements to guide software configuration
- Conducted a landscape analysis of the Zambian National Health Information System (HIS) architecture to ensure PPEMS development will align with National strategies and systems
- Constructed a detailed data model based on validated tools and survey instruments, characterizing data capture, workflow, and skip logic
- Constructed a business process model that outlines how captured data will flow through the system, system components, and data exchange
- Developed a user interface and workflow mock-ups to guide system configuration
- Developed a detailed costing model to compare the financial impacts of various design choices, both for the study and for national scale
- Conducted an existing platform technical and feature review to avoid custom development, platform selection, maximize use of existing technology, and minimize program cost and complexity

The Study Advisory Committee was formally constituted and includes:

- **Dr. Consity Mwale** - Lusaka Provincial Medical Officer
- **Dr. Jelita Chinyonga** - Director, Quality Improvement Directorate – MoH
- **Professor Sekelani Banda** - Director, MOH Training Directorate
- **Dr. Nzali Kancheya** - Associate Director of Programs, CDC Zambia Country Office
- **Dr. Ashwin Budden** - PCC Human Centered Design (HCD) Consultant, and
- **Dr. George Sinyangwe** - USAID Zambia Country Office

Reproductive, Maternal, Newborn Child Health



ACCESSIBLE QUALITY HEALTH SERVICES

CIDRZ has a broad portfolio of programme and research projects that seek to address maternal, neonatal and child health ranging from perinatal health, post-partum haemorrhage, cervical cancer, and family planning. In partnership with the Global Network for Women and Children Health Research, CIDRZ conducted the very first RCT evaluating the impact of the Essential Newborn Care protocol on perinatal outcomes in Zambia by training both skilled and unskilled birth attendants.

CIDRZ is implementing several programmes and conducting studies to help strengthen and improve on the provision of RMNCH services which include:

PREEMI: Preterm Resources, Education, and Effective Management of Infants

With support from ELMA Foundation, the PREEMI programme provides technical assistance in maternal and newborn health through onsite coaching and mentorship, capacity building, provision of medical supplies and equipment. This initially started in Lusaka district and eventually

spread its activities to Rufunsa, and Luangwa Districts (Lusaka Province) and Lundazi, Mambwe, Chadiza, and Chipata districts (Eastern Province). Through collaboration with the Saving Mothers Giving Life initiative, the PREEMI programme creates Kangaroo Mother Care (KMC) rooms in General Hospitals in Southern, Luapula, Eastern, and Lusaka provinces.

The programme supported and co-piloted the development of the National Essential Newborn Care Training Guidelines and contributed to the development of the National Kangaroo Mother Care Guidelines. Additionally, in close collaboration through the Ministry of Health Child Health Unit, the programme conducted a partners mapping exercise leading to the creation of a partners' database and a training database fully managed by MoH.

CDC Detect: Point of Care HIV-1 Diagnosis to Improve Rates of ART Initiation Amongst Infants

The CDC Detect study is the first of its kind to conduct a field evaluation of the Aleré™ q HIV - 1/2 Detect testing platform using a novel Point of Care (POC) HIV Community Model. Working in six health facilities within Lusaka District, the study aims to inform the scale up of this novel model, and to estimate the effects of the POC Early Infant Diagnosis (EID) Community Model on EID testing positivity; HIV-positive infant case finding, ART linkage, initiation and 3-month retention among HIV-infected infants/young children.

Diagnostic test accuracy of a mobile colposcope (Gynocular™), HR-HPV testing, and VIA for detection of high-grade squamous intraepithelial lesions of the cervix in women living with HIV

WHO guidelines on comprehensive cervical cancer (CaCx) control, currently recommend visual inspection after application of acetic acid (VIA) as a primary screening test for cervical cancer in low and middle income countries (LMICs). This involves inspection of the cervix with the naked eye after application of 5% acetic acid. This approach has several limitations. First and foremost, VIA is reported to have lower sensitivity and specificity leading to high numbers of false negative and positive test results of Cervical Intraepithelial Neoplasia (CIN). Left untreated, CIN can progress to cervical cancer.

Our study will implement colposcopy telemedicine, which has greater effectiveness and functionality than the current standard of care screening services in Zambia. The Gynocular study is a first of its kind clinical trial to determine the diagnostic accuracy of the novel colposcope (Gynocular™) in routine programmatic settings in Lusaka, Zambia and validate the Swede score among HIV-infected women.

Cardboard Cot or Incubator in Neonatal Thermoregulation (CCot): A Randomized Crossover Trial (2018 – 2019)

Hypothermia of the newborn infant has long been recognized as potentially life-threatening. Neonatal hypothermia is extremely common worldwide, with prevalence ranging from 32 to 85%, including tropical countries with high ambient temperature. Currently, the leading cause of global neonatal death is complications from preterm birth. To reduce neonatal hypothermia, WHO recommends a set of interlinked procedures called the “warm chain” (the WHO thermoregulation protocol) to be followed after birth. The “warm chain” includes warm delivery rooms, immediate drying, skin-to-skin contact as continuously as possible, early breastfeeding, delayed bathing and weighing, appropriate bundling, keeping mother and baby together, warm transportation, warm resuscitation, and training/raising awareness. Even with this protocol in place, hypothermia is still a frequent problem associated with increased mortality in infants. The increased proportion of childhood deaths that occurs during the neonatal period indicates the crucial importance of the reduction of these deaths if countries are to achieve Sustainable Development Goal (SDG) 3.

With support from the Chiesi Foundation, the C-Cot study is an innovative cardboard cot lined with a reflective polyester film (e.g. Mylar) that the study designed. This cot provides a way to keep babies warm at a better rate with each cot costing less than \$1.00. Our study will provide an opportunity to obtain both quantitative and qualitative data around the acceptability, feasibility, and cost-benefit of using the cardboard cot for management of neonatal hypothermia in Lusaka, Zambia.





04

**Training &
Research**

CIDRZ Central Laboratory

Central Laboratory: Quality Tests, Excellent Results

CIDRZ became the first medical laboratory in Zambia to be accredited by Southern Africa Development Community Accreditation Services (SADCAS).

The CIDRZ Central Laboratory (CCL) has over the years provided quality laboratory services founded on robust quality management systems and state of the art laboratory equipment. Our collaboration with different working groups consisting of research, programmes and clinical care have led to acknowledgement and recognition at both national and international levels.

With these positive strides and continuous improvements in the quality of laboratory services CCL offers, the laboratory was awarded accreditation to ISO 15189:2012 and

became the first medical laboratory in Zambia to be accredited by Southern Africa Development Community Accreditation Services (SADCAS). The International Organization for Standardization (ISO) standard – 15189, provides specific requirements for the competence and quality of a laboratory to carry-out tests, including sampling. It covers testing performed using laboratory developed methods and both standard and non-standard methods. This international standard is currently the most sought after for quality standard for medical laboratories worldwide.

The Central Laboratory was awarded accreditation to ISO 15189:2012 in the field of Hematology, Serology and Virology in July 2018. This external review is based on international standard certified internal quality management and documentation system and has strengthened the

laboratory's resolve to be a competent, reliable leader in both research and diagnostics services in Zambia. "Accreditation in accordance to ISO 15189 strengthens community confidence in results and helps improve patient care. It provides continuous staff education and attracts professional reference due to accuracy and competence. Many countries are embracing accreditation as a mandatory action in regulated areas. The benefits of accreditation help governments meet their responsibilities and safeguard the public and protect the environment as well as in promoting trade. Accreditation is about policy makers embracing best practice in national development plans/programmes while making it part of the business culture. It is about making accreditation work for economic and social development. A worthy investment indeed, which requires visionary leadership and commitment. It is about goal congruency and teamwork. I am happy that CIDRZ has all these qualities hence the accreditation achievement" (Ms. Maureen Mutasa, CEO, SADCAS)

The laboratory leadership submitted an application for expansion of accreditation to include; flow cytometry, TB, serology, and clinical chemistry to complete a full laboratory scope. These testing scopes will be added for review and accreditation at the next visit scheduled for February 2019.

The laboratory's other area of strength includes participation in annual external quality assessment audits by the U.S National Institutes of Health (NIH), Division of AIDS (DAIDS).

These external audits are conducted by a third party on behalf of DAIDS to ensure patient safety in international laboratories participating in different clinical trials across the world. We are very proud to be part of this cohort of laboratories audited internationally by DAIDS. We have had excellent audit reports over the last eight years. We continue to improve our quality and operation systems to ensure competence as a laboratory that serves national and international interests. The CCL diverse excellent testing menu and high-quality output has continued to receive local and international recognition. Besides obtaining the SADCAS ISO 15189 accreditation, CCL also got the following recognition:

- The Biomedical Society of Zambia awarded CCL for the overall performance in the implementation of laboratory quality management systems
- CCL was also recently recognized for its excellent achievement in ISO accreditation by the African Society for Laboratory Medicine (ASLM) at the December 2018, biannual Conference in Abuja, Nigeria

The CCL has also over the last decade successfully participated in external quality assessments (EQA), receiving standard samples from several international organisations with a mandate to provide assessment of laboratories based on risks. We continue to receive samples from the College of American Pathologists, One World Accuracy, National Health Laboratory Services of South Africa and the UK National External Quality Assurance Services (UK NEQAS). These samples are prepared and tested in the same manner as patient samples. Once results are submitted to the provider, each laboratory is compared to a peer of thousands of laboratories. Our collaboration with Ministry of Health (MoH) has grown stronger over the years. The CCL has continued to support the Zambia National HIV Care and Treatment Programme by providing quality routine and specialised tests.

Based on our expertise to validate the performance of test methods and equipment, the CCL has worked with the MoH to verification of the same suitability of use. Once verification

is complete, the central laboratory leadership present all reports to the national laboratory technical working group for adoption for national use. Methods verified include:

- The Point of Care Instrument for early Infant diagnosis (ALERE Q)
- WANTAI HIV 1 & 2 Rapid Test Kit; adopted by the national HIV rapid testing programme
- Hologic PANTHER, a high through put equipment for viral load testing, which has now been rolled out nationally
- Roche Cobas 4800, also a high output equipment for viral load testing that is used nationally



CCL Provides Capacity Building, Knowledge Transfer

The laboratory has continued to work with different partners including teaching institutions to provide a stable solid backbone for practical teaching of medical and biomedical students from different universities. The students in most cases have been on a 3-month placement basis to enable them learn from senior scientists at the lab. The lab also continues to support out of service Techs through the placement programme. Techs work with experienced scientists to gain experience based on departmental mentorship programmes.

Laboratory Services

CCL prides itself in building trust and confidence among its clientele and partners. Organising events such as the laboratory open day is one way of helping the public understand its functionality as it continuously improves access to quality services.

Our scope of services include:

- Virology and Molecular Biology: Early Infant Diagnosis, HIV Viral Load, Hepatitis Viral Load, HIV Drug Resistance Testing, and Gene Sequencing
- Clinical Chemistry: Infectious disease (Hepatitis) & Hormones, Liver function tests, Renal function tests, Electrolyte, Lipids, and tumor markers (PSA)
- Clinical Microbiology: Microbiological identification and drug susceptibility tests using the BD Phoenix 100 and BD BACTEC 9120 for TB blood culture. The lab also has BSL III TB laboratory that provides TB lab tests

Providing Capacity to Provincial Laboratories Through Innovation

The CIDRZ Laboratory Innovation for Excellence (LIFE) project is a 5-year PEPFAR funded initiative to close the gaps in scaling up HIV viral load (VL) and HIV early infant diagnosis (EID) testing in Eastern, Lusaka, Southern and Western Provinces of Zambia. The project is a collaborative effort between CIDRZ, Association of Public Health Laboratories (APHL), the Wits Health Consortium (WHC), and the global health consultancy group (GHC). The VL/EID testing cascade involves multiple steps, which require sample stabilization at a laboratory within 24 hours of collection, stored frozen, transported to a testing facility and results transported back after process.

Currently in its first year, the project has identified gaps in the VL/EID courier system, sample stabilization, testing facilities, and results return on a per-site basis in the four provinces. We are on the clock working to narrow those gaps by providing personnel, equipment, solar power, technical support, documentation systems, vehicle and motorbike fueling and their maintenance, rider training, point-to-point electronic tracking of sample transport and result return. The project has initiated the idea of the VL/EID courier dispatcher, who is a single point of contact for sites that have not received their expected sample pickup and GPS tracking of each motorbike or vehicle used for courier. The strengthening of the sample transport, stabilization, and result return systems is a critical aspect of controlling the HIV epidemic and furthering the goals of a new uninfected generation.

Welcome David Ojok

New CIDRZ Central Laboratory Director



David has worked with CIDRZ Central Laboratory for the last four years as Head of Laboratory QA/QC and has been central in establishing, coordinating, and monitoring lab Quality Management Systems (QMS) programmes at the Central Laboratory. He has 15 years' experience in the operations and QMS of clinical and research laboratories. Before moving to CIDRZ Central laboratory, he worked as Lab Shift Leader at Makerere University and Johns Hopkins University Core Lab (MU-JHU Core Lab) at Makerere University. He has vast experience implementing and monitoring of both College of American Pathologists

(CAP) and ISO 15189 QMS. He is a vetted nominated representative for accreditation, ISO 15189 Lab Technical Assessor, and an advisory committee member on the Medical Laboratories Accreditation Programme for SADCAS. He has experience working with Division of AIDS National Institutes of Health (DAIDS/NIH) clinical trial Networks including HIV Vaccine Trials Network (HVTN), International Maternal Paediatric Adolescent AIDS Clinical Trials Network (IMPACT), PROMISE, Microbicides Trial Network (MTN), and AIDS Clinical Trial Group (ACTG).

He is currently pursuing his PhD studies in International Public Health.

Health Systems Strengthening

For Better Health

Through the Primary Care and Health Systems Strengthening (PC/HSS) department, CIDRZ has been working with the Ministry of Health's Child Health and Nutrition Unit, supporting many activities and initiatives within the Expanded Programme on Immunisations (EPI), including new vaccine introduction and supply chain system design, as well as a myriad of other primary care/HSS projects in WASH and infection prevention and control.

Following last year's system design results, on how to improve the country's immunisation supply chain and to efficiently get potent vaccines to every child at the right place and time, CIDRZ has partnered with Government and other EPI partners; to spearhead the development of a national strategy to optimise the country's EPI. The strategy incorporates the system design work, along with initiatives to address other challenges the country faces such as unknown coverage rates, inaccurate and untimely data, poor vaccine management practices and inequities in vaccine administration, with a focus at the lowest levels.

The department has diversified and expanded its funding base in 2018, with Gavi a global key player in vaccine awarding it a grant. The grant is aimed at technical assistance to Government, to improve immunisation services through targeted support, working to build capacity and transfer skills, with the aim of improving coverage and equity.

The three key objectives of this grant are to:

- Strengthen management and governance capacity,
- Strengthen and support capacity building of the immunisation supply and cold chain, and
- Support coordination and functioning of national EPI activities

Among other key support include:

- CIDRZ seconding a National EPI logistician, who is seconded to the Child Health Unit and supports national vaccine quantification and forecasting, and all other national vaccine and supply chain related duties
- Development of the country's application to GAVI for national roll-out of the HPV vaccination which was approved in 2018, and is slated for introduction June 2019
- Technical support during the submission of the national Cold Chain Equipment Optimisation Platform (CCEOP) application requesting \$11.5m in funds for cold chain expansion across the country

While core activities for the PC/HSS department have revolved mainly around immunisations, the department also works to support other cross cutting areas which include:

- Expanding into emergency relief response with the cholera outbreak this past year
- Working more broadly with cervical cancer while engaged with the HPV vaccine introduction.

Hepatitis

Generating Evidence to Address Hepatitis Challenges in Zambia

With support from International Epidemiological Databases to Evaluate AIDS in Africa (IeDEA), CIDRZ continued its work on the clinical epidemiology of HIV-Hepatitis B virus coinfection through the IeDEA Hepatitis Cohort. This study has directly helped the Zambian Ministry of Health to formulate treatment guidelines which has informed World Health Organization policies.

IeDEA Hepatitis Cohort is a prospective cohort study of >1,000 HIV-infected adults in Lusaka urban district who started antiretroviral therapy in 2013 - 2015. Among this group, >300 have chronic hepatitis B coinfection. The cohort receives standard ART but is closely monitored by the study every 3 - 6 months up to 4 years. The study runs up to 2021.



1. Alcohol and HIV

Within the cohort, 40% of patients have reported drinking substantial amounts of alcohol (mainly Opaque and Lager beers but also Kachasu, Kajilijili, and spirits). During follow-up many patients fail to reduce their consumption despite counseling that is provided in ART clinic. Some patients underreport their alcohol intake, and this was discovered by detecting alcohol metabolites in urine among cohort participants who had self-reported being abstinent. This is important because it suggests that drinking among patients taking ART could be higher than what is reported.

2. High rates of hepatitis B functional cure

Like HIV, Hepatitis B is a lifelong infection. In the field of Hepatitis B, it is called 'functional cure' when the body's immune system clears the virus from the bloodstream (and only the liver reservoir remains) allowing patients to stop taking treatment. Unfortunately, functional cure occurs in only 1% per year in most research studies. Within the IeDEA Hepatitis cohort, we have documented a strikingly high rate of functional cure (~10%) among HIV patients with HBV coinfection. We believe that the immunological boost coming from taking ART is helping the body not only fight HIV but also to take control of HBV.

3. Hepatitis B therapy as HIV prevention

Several antiretroviral drugs for HIV can also treat Hepatitis B virus. In a 2018 case series published in Hepatology, a leading liver journal, we assessed the use of hepatitis B therapy with ARVs as HIV pre-exposure prophylaxis (PrEP) in patients at the University Teaching Hospital.

HIV Vaccine Trials Network

CIDRZ Contributing to Global Efforts Towards Developing an HIV Vaccine

Given the impact that the HIV pandemic has had on Zambia's social and economic spheres, CIDRZ remains at the forefront in the search for cutting-edge solutions. CIDRZ is actively engaged with the global HIV Vaccine Trials Network (HVTN), and has been involved in the following clinical trials:

HVTN 111: A phase 1 clinical trial to evaluate the safety and immunogenicity of HIV clade C DNA and of MF59-adjuvanted clade C Env protein, in healthy, HIV-uninfected adult participants.

HVTN 120: A phase 1/2a clinical trial to evaluate the safety and immunogenicity of ALVAC-HIV (vCP2438) and of MF59- or AS01B-adjuvanted clade C Env protein, in healthy, HIV-uninfected adult participants. Participants enrolment was completed, and the study is in follow up phase until November 2019.

HVTN 705: a multicenter randomized double-blind placebo controlled phase 2b efficacy study of a heterologous prime/boost vaccine regime of Ad_Mos4 HIV and aluminum phosphate adjuvanted Clade C gb140 in preventing HIV infection in women aged between 18 and 35 in Sub-Saharan Africa. The study was initiated and the recruitment process is still underway, but is expected to be concluded by the end of March 2019. The HVTN 705 study is presently the most advanced effort in the world hoping to demonstrate whether this state of the art mosaic technology-based vaccine can protect individuals from HIV infection. CIDRZ is very proud to be making such contributions which if successful will make a huge difference to the HIV pandemic.

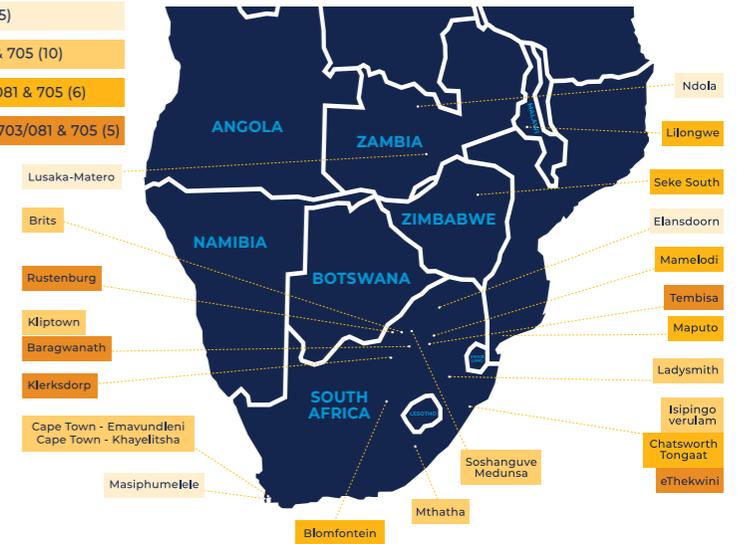
KEY

705 (5)

702 & 705 (10)

703/081 & 705 (6)

702, 703/081 & 705 (5)



HVTN 705 in Brief

- Community Outreach team identified communities where we have recruited successfully
- The study was activated in August 2018; 31 out of the targeted 150 participants have enrolled to date
- Retention rate is currently 100%
- Proposed completion of enrolment is March 2019

Enteric Vaccine Research Unit

CIDRZ has a newly established Enteric Vaccine Research Unit whose goal is to provide a platform for coordinated development and deployment of state-of-the-art technologies and analysis. This can be effectively utilised for vaccine discovery, and early development and testing of clinical products.

The unit has added, to its portfolio, three of the top five aetiological agents of childhood diarrhoea namely (i.e. Enterotoxigenic E coli (ETEC), Shigella and Salmonella) from the two (Rotavirus and Vibrio Cholerae) it had been working on in the past. Some studies were commissioned in 2018 and focused on:

1. Increasing the effectiveness of licensed vaccines

- A randomized controlled trial of two versus three doses of Rotarix vaccine for boosting and longevity of vaccine immune responses in Zambia (ROVAS-2). This study aims at trying to adapt the current dosing regimen of the Rotarix given at 6 and 10 weeks to a three-dose regimen with an added dose at 9 months of age. We will evaluate both the magnitude and longevity of immunogenicity in the second year of life
- A randomised controlled trial comparing to vaccination regimen of oral cholera vaccine, the standard two dose given 14 days apart and the experimental two doses but given at 6 months following the first dose of the vaccine. We will evaluate age-specific serum vibriocidal titers in participants to determine if the delayed dosing

- regimen is comparable to the standard regimen. The implication will be having an alternative dosing schedule which can be deployed in outbreak situations and humanitarian crises

2. Determining safety, reactogenicity, immunogenicity and efficacy of new vaccines

- A phase IIb An Open-label, Randomized, Controlled, Single Centre, Phase IIb Study to Assess the Immunogenicity, Reactogenicity and Safety of Three Live Oral Rotavirus Vaccines, ROTAVAC®, ROTAVAC 5CM and Rotarix® in Healthy Zambian Infants. This is the first trial to be done on Africans to determine if this vaccine could be an option to the current licensed Rotarix™ used in the national immunisation programme



- A Phase 1 age descending placebo controlled clinical trial to examine the safety, tolerability, and immunogenicity of an oral inactivated ETEC Vaccine (ETVAX®) with dmLT adjuvant in healthy adults and children in Zambia. This study is the first one that will use data from endemic countries as a basis for its licensure unlike other vaccines that were first tested and licensed using data from developed countries
- A Phase 3 double-blind, randomized, active comparator-controlled, group-sequential, multinational trial to assess the safety and efficacy of a trivalent P2-VP8 subunit rotavirus vaccine in prevention of severe rotavirus gastroenteritis in healthy infants. This study will test a new candidate vaccine for use in neonates which is an injectable vaccine aimed at circumventing the challenges low efficacy and immunogenicity in developing countries faced by oral rotavirus vaccines

3. Developing a Model for Evaluating New Vaccines Aimed at Accelerating Vaccine Development

The unit is currently a recipient of two pump priming grants from the HICVAC network to set up a model for evaluating new rotavirus vaccines while the other one is set for evaluating new typhoid vaccines. These models are collectively called Human Infection Challenge Models and have advantages of requiring few subjects in shorter periods of time to evaluate candidate vaccines. The unit is currently developing at both clinical and laboratory capacity to set these models in preparation for actual testing of candidate vaccines.

4. Additional Laboratory Capacity

- Evaluating and validating a rapid diagnostic assay for ETEC and shigella. We are validating a test that can be used in resource limited setting and has a ~60minute turn-around time from sample collection to results. We hope that this will strengthen the current surveillance system for the two pathogens and help with management of diarrhoea associated therein
- The unit has also added to its vaccine evaluating assays the Vibriocidal assay. This test will help determine and quantify the functional immune responses to oral cholera vaccine in the both local and regional studies because our laboratory is the only one in the region to have this capacity



The Fellowship Programme

CIDRZ continues to build the next generation of African and International research; and public health leaders. For the 2018/19 stream, we are pleased to host seven CIDRZ HealthCorps, and two Global HealthCorps Fellows.



**Dr. Nsofwa Sukwa
(Zambia)**

Enteric Diseases and Vaccines Research

Dr. Sukwa is a medical officer who holds a Bachelor of Science (BSc) in Biomedical Science, MBChB and MSc. Nutrition & Dietetics with particular interest and passion in child health and nutrition. As a CIDRZ HealthCorps Fellow, Dr Sukwa is attached to the Clinical Trials Group.



**Tikulirekuti Banda
(Zambia)**

Paediatric HIV

Tikulirekuti holds a Bachelor of Arts in Development Studies and Sociology from the University of Zambia and is currently studying for her Master's degree in Public Health, Health Policy, and Management. She has been involved in a collaborative project evaluation exercise between John Hopkins, the University of Zambia's Health Policy Department and CIDRZ TB department assessing the cost-effectiveness of TB REACH tuberculosis interventions at George Clinic. She also worked as a Monitoring, Evaluation and Learning Officer for Sustainable Agriculture Programme focusing on empowering women with economic and leadership skills. Tikulirekuti joined CIDRZ as a Global HealthCorp Fellow in the Paediatric HIV Department.



**Cynthia Phiri Mubanga
(Zambia)**

Enteric Diseases and Vaccines Research

Cynthia holds a Bachelor of Science (BSc) in Biomedical Sciences from the University of Zambia and a Master of Science (MSc) in Infectious Diseases from the London School of Hygiene and Tropical Medicine. Prior to the fellowship, she worked as a laboratory scientist in the Virology Laboratory at the University Teaching Hospital. As a CIDRZ HealthCorps Fellow, Cynthia is with the Enteric Diseases and Vaccines Research team.



**Rakesh Kumar Saroj
(India)**

Analysis Unit

Rakesh holds a PhD in Health-Statistics from the Institute of Medical Science, India; a MSc from the Institute of Medical Science, India and Master of Population Science from the International Institute for Population Sciences, India. He has worked as Assistant Professor while doubling as a Statistician at Meenakshi Mission Hospital, India; Monitoring and Evaluation Officer at National AIDS Control Organisation, and Futures Group International and a Statistician at DUVASU University in India. He is currently working with the CIDRZ Analysis Unit



**Mwila Lundamo
(Zambia)**

Qualitative Research

Mwila holds a Master of Philosophy (Mphil) in International Health from the University of Bergen, Norway and a Bachelor of Arts in Sociology and Development Studies from the University of Zambia. He has worked for the University of Zambia as a part time tutor in Social Science Research Methods, and Statistical Methods for Social Sciences. As a CIDRZ HealthCorps Fellow, Mwila works with the social qualitative research team.



**Aybüke Koyuncu
(USA)**

Analysis Unit

Aybüke recently completed her Masters in Public Health in Epidemiology and Biostatistics at the University of California, Berkeley. She worked as a Research Assistant and Data Analyst on projects in Zimbabwe, Tanzania and Nepal focusing on women's sexual and reproductive health and the prevention of mother-to-child transmission of HIV. As a CIDRZ HealthCorps Fellow, Aybüke works with the analysis team.



**Paul Elish
(USA)**

Monitoring and Evaluation

Paul holds a Bachelors degree from Yale University in Biology and Latin American Studies. He worked as a Research Assistant with an NGO in Lima, Peru, on data collection and analysis for studies evaluating patient adherence to TB and HIV treatment in prison and public hospitals. He also worked as a research analyst at a health care consulting firm in Washington, DC, where he conducted research on the US health care system and advised US hospitals on business strategy. As a Global HealthCorp Fellow, Paul works in the M&E, and Implementation Science departments.



**Branishka Lewis
(Bahamas)**

PMTCT Programme

Branishka has an Msc in Public Health from the University of London and an Associate Degree in Nursing from the College of the Bahamas, Bahama. She has worked as a registered nurse with the Department of Public Health in Bahamas and as a PMTCT Coordinator at the National HIV Centre in Bahamas. Branishka has also participated in trainings related to HIV. As a CIDRZ HealthCorps Fellow, she is attached to the PMTCT Programme.



**Tukiya Kanguya
(Zambia)**

Qualitative Research

Tukiya has a background in environment and holds a Bachelors Degree from the University of Zambia. After completing her studies, she was awarded a Commonwealth Scholarship to pursue an MSc in Public Health at the University of Southampton in the United Kingdom. She also worked as a Researcher for the University of Southampton and where her research focused on "Understanding the Needs of Street Beggars in Southampton and Clinton Health Access Initiative as an Intern. As a CIDRZ HealthCorps Fellow, Tukiya works with the social qualitative research team.

Audited Financials by Deloitte

CIDRZ has continued to undergo rigorous evaluation by NGOSource and has been granted the "Equivalency Determination Status" which equates to a U.S. 501(c) (3) charity based on the strengthening of its financial practices, governance and management. Earning this status makes it easier for donors to confidently consider CIDRZ as a grantee for its credibility and efficiency.

Audited Balance Sheet		
	2018 Kwacha	2017 Kwacha
ASSETS		
Property, Plant and Equipment	24,093,103	22,399,373
Current assets	134,716,417	100,011,427
TOTAL ASSETS	158,809,520	122,410,800
TOTAL EQUITY AND LIABILITIES		
Reserves and grants	72,937,681	62,283,630
Long-term payables	7,345,676	8,190,676
Current liabilities	78,526,162	51,936,493
TOTAL EQUITY AND LIABILITIES	158,809,520	122,410,800

Note - Exchange Rate: 9.6 Kwacha : US \$1

Audited Schedules for Financial Report for the Period Ended 30 Sept 2018			
	2018 Kwacha		2017 Kwacha
Programme income	339,389,959		291,410,495
Programme expenses	(345,876,325)		(297,560,100)
Operating (deficit)/surplus	(6,486,366)		(6,149,605)
Other income	55,752,169		68,533,508
Administrative expenses	(51,923,988)		(57,434,895)
Results from operating activities	(2,658,185)		4,949,008
Finance costs	13,312,237		(10,067,297)
(Deficit)/surplus for the year	10,654,052		(5,118,290)
Other comprehensive income for the period			
Items that will not be reclassified to surplus			
Transfer of excess depreciation	198,286		171,739
Total comprehensive (deficit)/surplus for the period	10,852,338		(4,946,551)

CashFlow			
	2018		2017
	Kwacha		Kwacha
Cash flows from operating activities			
Surplus/(deficit) for the period	10,654,052		(5,118,290)
Adjustments for Non Cash Items	(3,299,367)		12,504,050
Net cash used in operating activities	24,565,642		(8,872,652)
Cash flows from investing activities	(11,163,523)		(21,713,146)
Net increase/(reduction) in cash and cash equivalents	20,756,804		(18,081,748)
Cash and cash equivalents at 1 October	62,537,186		91,524,993
Exchange gains /(losses) on cash and cash equivalents	11,864,225		(10,906,060)
Cash and cash equivalents at 30 September	95,158,215		62,537,185

Programme income	2018 Kwacha
ACHIEVE	285,436,482
GATES PCC	7,652,176
CHOLERA CONTROL AWARD	4,004,931
CDC DETECT	3,751,468
ELTON JOHN	2,869,510
leDEA	2,591,298
TB REACH	2,558,731
VILLAGE REACH	2,513,959
MAC PMTCT	2,506,845
LIFE	2,243,885
NIH – CTU	2,238,338
CDC B-PLUS	2,231,919
Z CHECK	1,995,969
PREEMI	1,852,704
HVTN	1,824,959
SHARE	1,796,869
DOVE	1,544,836
TB AERAS	1,402,137
TASP	1,374,052
ROTAVAC TRIAL	1,236,934
LIVER FIBROSIS	1,026,674
CHASE	725,383
BACTIVAC	684,847
STAND	62,570
OTHER PROJECTS	3,262,483
	339,389,959

Governance

Comprised of skilled individuals with expertise in government, non-profit management, business, research, public health, and community programming, our Board is governed by a ratified Charter, and is supported by a certified Secretary in accordance with the Companies Act of 2005. Meeting quarterly as a group, the Directors also sit on specific sub-Committees: Finance and Audit, Research and Programmatic Performance, Human Resources and Operations, Business and Investment Development and Nomination.



Bradford Machila
LLM



Dr Chipepo Kankasa
MD



Dr Kevin Marsh
MD



Dr Charles Holmes
MBA



Beatrice Grillo
CA



Christopher Mubemba
MSc



Kondwa Sakala-Chibiya
LLB



Patrick Wanjelani
CA



Kabaye Mwale
CA



Dr Michael Saag
MD



Charles Mpundu
MBA

Finance & Audit - Chair, Patrick Wanjelani

Oversees financial reporting process, selection of auditors, and receipt of internal and external audit results. CIDRZ Director of Internal Audit reports directly to this committee.

Members: **Mr Kabaye Mwale, Beatrice Grillo**

Research & Programmatic Performance - Chair, Dr Chipepo Kankasa

Provides high-level strategic oversight/scientific guidance to research and healthcare activities to ensure alignment with the Ministry of Health strategic direction. This committee includes representatives from MoH, Ministry of Community Development and Social Welfare; and the Network of People Living with HIV as non-executive directors.

Members: **Dr Kevin Marsh MD, Dr Mike Saag MD**

Human Resources & Operations - Chair, Christopher Mubemba

This committee ensures that organisational procedures are effective, appropriate, robust, ethical and legal.

Members: **Beatrice Grillo, Charles Mpundu, Kondwa Chibiya-Sakala**

Business & Investment Development - Chair, Charles Mpundu

Evaluates CIDRZ revenue projections, business opportunities and practices.

Members: **Kondwa Chibiya-Sakala**

Nomination Committee - Chair, Bradford Machila

Recommends suitable individuals for appointment to the Board, ensuring a balance of skills, experience and independence; and considers CIDRZ senior level succession planning.

Partners and Donors in 2018

- Aeras
- Alere
- American Institutes for Research (AIR)
- Barclays Bank Zambia
- Bill & Melinda Gates Foundation
- Broadreach
- Centre for the AIDS Programme of Research in South Africa (CAPRISA)
- Chiesi Foundation
- Churches Health Association of Zambia (CHAZ)
- Columbia University
- Comic Relief
- Department for International Development UK (DFID)
- Elton John AIDS Foundation (EJAF)
- Elizabeth Glaser Paediatric AIDS Foundation (EGPAF)
- ESTHER Foundation
- European & Developing Countries Clinical Trials Partnership (EDCTP)
- European Union (EU)
- FIND
- Fogarty Global Health Fellowship
- GAVI Alliance
- Global Health Corps
- HIV Research Trust
- HIV Vaccine Trials Network (HVTN)
- International Epidemiologic Databases to Evaluate AIDS (IeDEA)
- International Maternal, Paediatric, Adolescent AIDS Clinical Trials (IMPAACT)
- Johns Hopkins University
- London School of Hygiene and Tropical Medicine (LSHTM)
- M·A·C AIDS Fund
- Medical Research Council (MRC)
- PATH
- Pharmaceutical Society of Zambia
- Pink Ribbon Red Ribbon
- Roche Molecular Systems
- Sanitation and Hygiene Applied Research for Equity (SHARE) Consortium
- Scandinavian Biopharma
- Swiss Cancer League
- TB Alliance – Global Alliance for TB Drug Development
- The ELMA Foundation
- The ELMA Vaccine & Immunizations Foundation
- The University Teaching Hospital (UTH)
- Thrasher Research Fund
- Tides Foundation
- U.S. Centers for Disease Control and Prevention (CDC)
- U.S. National Cancer Institute (NCI)
- U.S. National Institute of Allergy and Infectious Disease (NIAID)
- U.S. National Institute of Child Health and Human Development (NICHD)
- U.S. National Institutes of Health (NIH)
- U.S. President's Emergency Plan for AIDS Relief (PEPFAR)
- United Nations Children's Fund (UNICEF)
- United Nations Office on Drugs and Crime (UNODC)
- United States Agency for International Development (USAID)
- University of Alabama (UAB)
- University of Bern
- University of Maryland, Baltimore (UMB)
- University of Oxford
- University of Rochester
- USAID DISCOVER Health (formerly SHARe II)
- VillageReach
- WaterAid Zambia
- Wellcome Trust
- Zambia AIDS Related Tuberculosis Project (ZAMBART)
- Zambia Emory Research Project (ZEHRP)
- Zambian Center for Applied Health Research and Development (ZCHARD)



CIDRZ

for a healthy Zambia

+260 211 242 257 - 9

info@cidrz.org

www.cidrz.org

ACCESSIBLE QUALITY HEALTH SERVICES