Annual Report

2023 - 2024

Laying a Foundation for Stronger Public Health Systems for a Healthy Zambia

CIDRZ
for a healthy Zambia

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A Zambia and a region, in which all people have access to quality healthcare and enjoy the best possible health.

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Our Vision

A Zambia, and a region, in which all people have access to quality healthcare and enjoy the best possible health.

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.

Our Core Values

Accountability
Our staff members embody ownership and embrace accountability for their contributions and decisions.

Equality
CIDRZ fosters a culture of fairness and equal opportunity.

Honesty
Our staff members consistently uphold integrity and transparency in all their activities.

Productivity
Our team strives for excellence and consistently delivers high-quality results.

Respect
We nurture a workplace culture where all individuals, including partners and stakeholders, are valued and their differences are celebrated.

Transparency
Our organization embraces open communication and fosters an environment for constructive, open, and honest problem solving.

Who We Are

The Centre for Infectious Disease Research in Zambia (CIDRZ) is an independent non-governmental organisation committed to answering key research questions relevant to Zambia and the region. CIDRZ supports local ownership of high quality, complementary, and integrated healthcare research and services within the Zambian public health system and facilitates clinical, research, and professional development training.

CIDRZ has over twenty years of ongoing collaboration with the Government of the Republic of Zambia (GRZ) and its ministries. Our longevity and success are in great part attributed to our deep relationships with leading local and international universities, foundations, and partner organizations. CIDRZ ensures that the latest research methodologies are used to answer locally relevant questions to improve healthcare delivery. CIDRZ also supports fellowship programmes for Zambian scientists and researchers focused on building the knowledge and skills needed to drive evidence generation to support health policy development.

Over the past two decades, our focus areas have evolved organically, shifting from primarily an HIV (Human Immunodeficiency Virus) focus to encompass other infectious diseases such as enteric pathogens, which contribute significantly to morbidity and mortality particularly for children and the immunocompromised. At CIDRZ, we aim to serve diverse populations that are most vulnerable to illness or poor outcomes. We use our skills in social and behavioural change, health systems improvement, laboratory work, and supply chain management to enhance the delivery of health services. As we look ahead, we plan to expand our efforts to anticipate and tackle new global health threats, with a focus on monitoring Antimicrobial Resistance, fortifying our lab capabilities, and expanding our vaccine portfolio.

Board Chair and CEO Statement

Mr. Charles Mpundu
Board Chairman

Izukanji Sikazwe
Chief Executive Officer

As we reflect on the past year, we are filled with immense pride for the Centre for Infectious Disease Research in Zambia's (CIDRZ) remarkable progress. Despite the challenges faced, our dedicated team has demonstrated exceptional resilience in advancing research, innovation, and healthcare delivery.

Through our strategic partnership with the Government of the Republic of Zambia, CIDRZ has continued to make significant strides toward improving health outcomes for all Zambians. Our research initiatives have led to impactful discoveries in the fight against infectious diseases, and our community outreach programs have expanded, delivering essential healthcare services to the most vulnerable populations.

Our collaborations with the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), the United States Agency for International Development (USAID), the Centers for Diseases Control and Prevention (CDC), the National Institutes of Health (NIH) and many other partners, have been pivotal and have enhanced our capacity for technical support, direct service delivery and research interventions. This has helped us to align our efforts with global health priorities while leveraging expertise to maximise impact.

Through our collaboration with the CDC, CIDRZ's Transitioning and Integrating Laboratory Services (TRAILS) project supported the Ministry of Health (MOH) in developing and implementing the National Multi-Pathogen Diagnostic (NMPDP) Framework, which aims to enhance patient-centred care through improved molecular and microbiology diagnostics in Zambia. The NMPDP framework encompasses a robust laboratory network, biobanking, and a quality management system, providing a comprehensive guide for policymakers, funders, partners, and hospital management involved in microbiology and molecular biology within clinical and public health settings, complementing national protocols and guidelines.

Through the same project and with additional funding from the Association of Public Health Laboratories (APHL), CIDRZ also installed solar power backup systems in 136 health facilities across Zambia, ensuring continuity of service in areas affected by power instability.

The United States Department of Defense HIV/AIDS Prevention Project (DOD/DHAPP) trained Defence Force of Zambia (DFZ) Unit Commanders and DFZ Health Facilities in charge of Stigma and Discrimination and SmartCare Pro. The training sensitised the unit commanders and facilities in charge of the critical issues of Stigma and discrimination, emphasising the need to address these barriers to improve access to health services for uniformed staff in their military camps. Further, the project trained Defence Force Medical Services (DFMS) Pharmacy and Laboratory staff, empowering them with crucial Electronic Logistics Management Information System (eLMIS) skills, thereby strengthening inventory management and the quality of supply chain reports in DFZ health facilities.

> **We are confident that CIDRZ will continue to deliver and pursue our vision of a Zambia where everyone has access to quality healthcare and enjoys the best possible health.**

In the area of immunization, CIDRZ, with support from Gavi, the Vaccine Alliance, contributed to the success of the Measles-Rubella Supplementary Immunisation Activities (MR SIA) campaign.

We are also proud of our USAID-sponsored Empowered Children and Adolescents Program (ECAP III) project, which transformed the lives of 184 beneficiaries across six districts in Zambia by equipping them with skills and sewing machines. This initiative enhanced community livelihoods by equipping participants with the tools to create sustainable income sources.

Further addressing public health issues, CIDRZ, through its various projects played a key role in the national response to the cholera outbreak by donating assorted Personal Protective Equipment (PPE) and Infection Prevention Control (IPC) supplies to MOH.

CIDRZ, through the USAID-sponsored Tuberculosis Local Organization Network (TBLON) Project, once again proved its commitment to creating awareness and debunking the misconceptions and myths surrounding TB by reaching over 1.6 million people with TB messages through a Tuberculosis National Interschools Singing Competition held in partnership with the Ministry of Health and the Ministry of Education across ten provinces in Zambia.

Similarly, the Enhancing Sexual Reproductive Health, Menstrual Management Among Adolescents Including Differently Abled Adolescents (ESMADA) project partnered with the MOH to host an exciting Inter University Debate featuring six top universities in Zambia to scale up awareness on the rise in new HIV infections among adolescents.

These and many other interventions are a testament to CIDRZ's steadfast commitment to enhancing health services in Zambia and realise the vision of a healthy Zambia. We are particularly proud of our team's adaptability and commitment to excellence. Despite the ongoing challenges posed by the global health landscape, we have maintained our focus on delivering high-quality research and healthcare services. Our ability to innovate and respond swiftly to emerging health threats has been a testament to the dedication and expertise of our staff.

Looking ahead, we remain committed to our vision of a healthier Zambia. We will continue to invest in cutting-edge research, strengthen our healthcare systems, and advocate for policies that support sustainable health improvements. Together, we can build a future where infectious diseases are effectively controlled, and every Zambian has access to the healthcare they need.

Board of Directors

Mr. Charles Mpundu
Chairperson

Mrs. Beatrice Grillo
Deputy Chairperson & Chair of Finance and Audit Committee

Prof. Micheal S. Saag
Director & Chair Research and Programme Committee

Eng. Basil Nundwe
Director & Chair of Investment & Business Development Committee

Mr. Bradford Machila
Director

Eng. Dr. Christopher Mubemba
Director and Chair of HR & Operations Committee

Dr. Lisa Kombe Mulenga
Alternate to Director Bradford Machila

Dr. Chewe Luo
Director

Dr. Charles Holmes
Director

Mr. Patrick Wanjelani
Director

Ms. Doris Tembwe
Director

Secretariat

Dr. Izukanji Sikazwe
Chief Executive Officer

Mr. Ronald Sinkala
Director Legal & Company Secretary

Profiles of the Board of Directors

Mr. Charles Mpundu

Title: Chairperson

Experience: 25+ years in private and public sectors, including leadership in profit and non-profit organizations.

Education: MBA (Durham University, UK), BSc Actuarial Science (Cass City University), Oxford University Leadership Program.

Affiliations: Actuarial Society of Zambia (President), Institute of Actuaries (Affiliate), Institute of Directors (Member).

Key Responsibilities: Provides strategic leadership and governance oversight

Mrs. Beatrice Grillo

Title: Deputy Chairperson & Chair of Finance and Audit Committee

Experience: 40+ years in economics and financial management, focusing on non-profits and human rights.

Education: BA Economics (University of Zambia), Advanced Diploma in Financial Management (Emily Woolf College, UK).

Affiliations: ACCA & ZICA Fellow, CIDRZ Vice Chair.

Key Responsibilities: Oversees financial governance and audit functions

Prof. Micheal S. Saag

Title: Director & Chair of Research and Programme Committee

Experience: 34+ years in infectious diseases, virology, and molecular biology.

Education: BSc Chemistry (Tulane University), MD (University of Louisville), Fellowship in Infectious Diseases (UAB).

Affiliations: Associate Dean at UAB, Director of UAB Center for AIDS Research.

Key Responsibilities: Leads research and program development initiatives

Eng. Basil Nundwe

Title: Director & Chair of Investment & Business Development Committee

Experience: CEO, senior partner, and portfolio manager with expertise in engineering, investment, and management consulting.

Education: BEng (Zambia), MSc Structural Engineering (Heriot-Watt), MBA (Golden Gate), Project Investment Appraisal (Harvard).

Key Responsibilities: Investment strategy, project management, operational leadership, and financial structuring for growth.

Mr. Bradford M. Machila

Title: Director

Experience: 30+ years in legal and governance roles, serving on various corporate boards.

Education: LLM & LLB (University of London), ZIALE Certificate.

Affiliations: Law Association of Zambia (LAZ), International Bar Association (IBA).

Key Responsibilities: Advises on governance and legal compliance.

Eng. Dr. Christopher Mubemba

Title: Director & Chair of HR & Operations Committee

Experience: 30 years in energy sector leadership.

Education: MSc Engineering (University of Manchester, UK), BEng (University of Zambia).

Affiliations: Engineering Institution of Zambia (Fellow), Institution of Engineering and Technology (UK).

Key Responsibilities: Oversees human resources and operational efficiency.

Dr. Lisa Kombe Mulenga

Title: Alternate to Director Bradford Machila

Experience: 20+ years in public health policy, program planning, and evaluation.

Education: MPH (University of the Witwatersrand), MBA (University of Pretoria), MBChB (Humboldt University, Germany).

Key Responsibilities: Supports strategic planning and health policy oversight

Dr. Chewe Luo

Title: Director

Experience: 38+ years in global health, epidemiology, and tropical medicine.

Education: PhD in Child Health & Epidemiology (University of Liverpool, UK), MMED in Pediatrics (University of Zambia).

Affiliations: Fellow of the Royal College of Physicians, Edinburgh.

Key Responsibilities: Provides leadership in global health strategy and research

Dr. Charles Holmes

Title: Director

Experience & Key Responsibilities: Medical doctor and global health leader with 25+ years of experience in research, clinical medicine, and infectious diseases. He specializes in health innovation, policy development, and program implementation. Currently serves as Co-Director of the Georgetown Center for Innovation in Global Health.

Education: MD (Medical Doctor), Associate Professor in Medicine.

Mr. Patrick Wanjelani

Title: Director

Experience: 30+ years in banking, finance, audit, and risk management.

Education: MBA (Oxford Brookes University, UK), ACCA (Thames Valley University, UK).

Affiliations: ACCA & ZICA Fellow, Former ZANACO Chair, CIDRZ Finance & Audit Committee Chair.

Key Responsibilities: Provides financial oversight and strategic risk management.

Ms. Doris C. Tembwe

Title: Director

Experience: 25+ years in commercial, corporate, and finance law.

Education: LLM in International Commercial Law (University of Salford, UK), LLB (University of Zambia).

Key Responsibilities: Advises CIDRZ on legal and regulatory compliance.

Dr. Izukanji Sikazwe

Title: Chief Executive Officer
Experience: Public health expert, global health leader, and Kofi Annan Foundation Fellow.

Education: MPH (Michigan State University, USA), MBChB & BSc.HB (University of Zambia).

Affiliations: Zambia Medical Association, International AIDS Society.

Key Responsibilities: Leads the strategic and operational management of CIDRZ.

Mr. Ronald Sinkala

Title: Director Legal & Company Secretary

Experience: 25+ years in finance, risk management, and corporate law.

Education: MSc Finance & Risk Management (London School of Business & Finance, UK), LLB (University of Zambia), ZICA Chartered Accountant.

Affiliations: ZICA Fellow, LAZ Member, ICSA (UK) Member.

Key Responsibilities: Ensures legal compliance, corporate governance, and risk management at CIDRZ.

Executive Committee

Dr. Izukanji Sikazwe
Chief Executive Officer

Nana Appiah Qua-Enoo
Deputy Chief Executive Officer

Ackim Sinkala
Chief Financial Officer

Dr. Carolyn Bolton-Moore
Chief Medical Officer

Ronald Sinkala
Company Secretary

Mwansa Lombe
Human Resource Director

Leadership Team

Dr. Anjali Sharma
Senior Research Technical Advisor

Cheryl Rudd
Dir. Primary Care and Health Systems Strengthening

Clara Muyatwa Sakataka
Head - Procurement and Stores

Emmanuel Lumbwe
Dir. Internal Audit

Jill Morse
Dir. Strategy and Business Development

Dr. Michael Hearce
Dir. Implementation Science

Dr. Monde Muyoyeta
Dir. Tuberculosis

Mukwenya Banda
Dir. Information, Communication and Technology

Dr. Mwanza Wa Mwanza
Dir. Clinical Care

Dr. Mwangelwa Mubiana Mbewe
Dir. Child and Adolescent Health

Prof. Samuel Bosomprah
Senior Technical Advisor & Head of Analysis

Dr. Theodora Savory
Dir. Monitoring and Evaluation/COP ACHIEVE & PROUD-Z

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LARGE OR CROSS CUTTING PROJECTS

- USAID Controlling HIV Epidemic for Key and Underserved Populations (CHEKUP I)
- USAID Empowered Children & Adolescents Program III
- Provincial Ownership to Uplift Delivery of HIV Services in Zambia
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  - Data Modernization Initiative
  - Elimination of Mother to Child Transmission
  - HIV Surveillance
  - Infection Prevention and Control
  - High Risk Population service delivery
  - Mental Health Services for PLHIV
  - Men's Clinic and Health Promotion
  - MORE -ZM DHIS2
  - Public Health Surveillance
  - HIV Prevention
  - Positive Infant Audit
  - Silent Transfer Deep Dive
  - Smart Care Support
  - Telemedicine
  - Voluntary Male Medical Circumcision
- Strengthening Zambia Defense Force HIV/AIDS Prevention Program (DHAPP)
- USAID Zambia Integrated Health

USAID Controlling HIV Epidemic for Key and Underserved Populations (CHEKUP I)

Funder:

United States Agency for International Development (USAID)

Time Period:
Oct 2021 - Oct 2026

During FY24, USAID CHEKUP I reached 155,363 priority populations, including adolescent girls and young women (AGYW) aged 10-24 years and their sexual partners, adolescent boys and young men, mobile population groups, young men aged 25-34 years, 18,960 key populations (KP) and discordant couples, were reached with HIV services.

As part of HIV prevention, 837,546 condoms (829,181 male and 8,365 female) and 454,348 lubricants (to key populations) were distributed. At the end of September 2024, viral load coverage among KP stood at 86% and viral suppression rate of 97%. Similarly, USAID CHEKUP I started 13,769 AGYW and 4,329 KP on pre-exposure prophylaxis (PrEP).

In the Determined, Resilient, Empowered, AIDS-free, Mentored, Safe (DREAMS) program, 70,789 AGYW completed the DREAMS primary package of HIV prevention. To reduce the risk of unwanted pregnancy, 23,033 AGYW accessed family planning services at 37 DREAMS centres across the 7 DREAMS districts.

Further, to change gender norms and mitigate the risk of sexual and gender-based violence, 8,755 young boys aged 9-14 years were sensitized through the Coaching Boys into Men programme. We also improved child-parent communication with 6,488 parents/caregivers of AGYW who completed participation in the Healthy Homes Parenting Program (HHPP).

USAID CHEKUP I leveraged existing community structures to deliver different services and succeed in its programmes. These community structures included the Ward Development Committees (WDC), Neighbourhood Health Committees (NHCs), religious groups, churches, and government and community schools. For instance, apart from the 37 DREAMS centres, DREAMS Stepping Stones sessions were conducted in government and community schools, as well as churches.

USAID Empowered Children & Adolescents Program III

Funder:

United States Agency for International Development (USAID)

Time Period:
Sep 2020 - Sep 2025

The Empowered Children and Adolescent Program III (ECAP III) aims to mitigate the impact of HIV and improve the health and well-being of Vulnerable Children and Adolescents (VCA) through the delivery of high-impact, evidence-informed and age-appropriate interventions customized for each VCA sub-population using a family-centred approach. At the close of FY2024, ECAP III supported 94 health facilities in four Lusaka Province districts (Chilanga, Chongwe, Kafue & Lusaka), focusing on routine services such as case finding, treatment retention, and viral load (VL) monitoring for Children and Adolescents Living with HIV (C/ALHIV). Services across PEPFAR domains (Schooled, Healthy, Safe & Stable) were provided to both VCAs and caregivers at the community level, with caseworkers ensuring that individual case plans were regularly updated to reflect changing needs and circumstances.

USAID ECAP III reached 91,408 beneficiaries through PEPFAR OVC programmes, achieving 102% of its annual target. Of these, 87,584 beneficiaries participated in the comprehensive programme (101% of the target), while 3,824 completed sessions in the HIV preventive model (135% of the target). To improve the proportion of VCAs with known HIV status, the programme continued supporting MoH efforts towards Know Your Child Status Campaigns. This effort led to 1,931 index clients accepting index testing services and subsequently providing 4,947 eligible contacts aged below 20 years, with 29 testing positive and linked to care and treatment.

At the close of FY24, 10,228 CALHIV were enrolled on the USAID ECAP III comprehensive programme. Out of these HIV-positive VCAs, 88% were eligible for viral load testing, and 87% had documented VL results within the past year. Remarkably, of the C/ALHIV with documented VL results, 97% achieved viral suppression, highlighting the programme's effectiveness in improving their health.

During the FY24 reporting period, the USAID ECAP III project had no COVID-19-related activities due to a lack of direct funding.

Provincial Ownership to Uplift Delivery of HIV Services in Zambia

Funder:

The Centers for Disease Control and Prevention

Time Period:

Sep 2021 - Sep 2025

In FY24, CIDRZ, with funding from CDC/PEPFAR, provided technical assistance to the Lusaka Provincial Health Office (LPHO) to achieve significant milestones in the management of Advanced HIV Disease (AHD) and Non-Communicable Diseases (NCD) among people living with HIV (PLHIV). These efforts were crucial in enhancing the quality of HIV care by addressing co-existing health challenges.

Under AHD, screening efforts between October 2023 and September 2024 saw 22,836 newly initiated ART patients undergo assessments. 12% had CD4 counts below 200 indicative of AHD, 26% had above 200, and 62% had unknown CD4 counts at the time of screening. Lusaka Urban recorded the highest screening numbers, with 77% of total clients across the province. A hub-and-spoke model was introduced, where 11 hospitals were designated as hubs and 18 health centres as spokes. This model was later extended to all health centres and posts in the province. The distribution of AHD registers, comprehensive staff training across all districts, and routine technical support visits supported the success of the AHD programme. These interventions ensured timely diagnosis and treatment of AHD, improving patient outcomes.

In the NCD programme, integrating hypertension and diabetes screening within ART services was a key achievement. By July 2024, 93% of PLHIV had undergone blood pressure checks, with 6% found to have elevated levels; 97% of these patients received appropriate management within ART clinics. 72% of PLHIV had their Body Mass Index (BMI) documented, and 7% were diagnosed with diabetes, of whom 93% were initiated on treatment. These results reflect the successful integration of NCD care within HIV services, ensuring comprehensive patient care.

Digital platforms, such as DHIS2, facilitated data collection and monitoring, with 163 facilities reporting NCD-related data. This integration of AHD and NCD indicators into HIV programmes has not only improved patient care but also strengthened health system efficiency through enhanced data-driven decision-making.

Cervical Cancer

Zambia has the second highest burden for cervical cancer in the world, with an incidence of 71.5 per 100,000 (Globocan, 2022). About 3,640 cases are reported annually, and more than half of them die from the disease. Because the disease is highly preventable and screenable, the cervical cancer prevention programme at CIDRZ has supported the MOH from inception (2006) in implementing and scaling up quality cervical cancer (cacx) screening services countrywide. For FY24, the programme continued to prioritize women living with HIV (WLHIV) in all ART clinics in Lusaka and Western Provinces. Women without HIV who sought screening were offered the service.

In Lusaka province, CIDRZ provided Technical Assistance (TA) in cacx to all the 214 ART clinics, where 48 are established screening and 15 Loop Electro-surgical Excision Procedure (LEEP) centres, and the rest collect HPV samples while 74 VIA, 149 HPV screening and 19 LEEP centres in Western province.

The CIDRZ cervical cancer programme procured 57 cameras, 46,800 HPV tests essential for screening, 8 LEEP machines and 38 thermal ablators for treating precancer lesions. These procurements and IEC materials were distributed to four provinces including Lusaka, Western, Eastern and Southern provinces.

The programme also supported the training of nurses and doctors in VIA, HPV and LEEP. Further, 132 Community Based Volunteers were trained in basic cacx messages and HPV self-collection to increase awareness, screening uptake and coverage. We also conducted TSS, mentorship, and quality improvement visits. Cervical images were reviewed for accuracy and appropriate disposition.

During the reporting period. quarterly joint CIDRZ/LPHO/DHO data review meetings and data quality audits were conducted to improve accurate reporting. Through these strategies, Lusaka province screened 46,256 women from a target of 50,000 (93%), where 1,816 were positive for precancer and 1753 (97%) received treatment. Western province screened 13,349 (79%) where 623 women screened positive and 449 (97%) received treatment for precancer.

Data Modernization Initiative

The Data Modernization Initiative (DMI), funded by the American Rescue Plan Act (ARPA), is a two-year programme to enhance Zambia's public health data systems and develop workforce training programs. In FY24, the initiative made significant progress in four areas: launching the Zambia Data Governance Framework, developing an M&E framework for the Ministry of Health's digital strategy, advancing reporting system integration and focusing on workforce development in health informatics. Another key achievement was the launch of the Zambia Data Governance Framework, providing comprehensive guidelines for data sharing, access, and use to ensure responsible health data management across the sector.

To support the Ministry of Health's (MOH) 2022-2026 Digital Health Strategy, the initiative developed an M&E framework, now handed over to the MOH for completion. This tool will enable the MOH to track progress toward digital health goals, allocate resources efficiently, and align efforts with strategic objectives. The initiative also concentrated on reporting system integration by creating an integration layer to automate data transfer from partners' systems to the Health Management Information System (HMIS). This layer allows the PEPFAR-supported MORE-ZM reporting system to transfer data to the HMIS. Tested and set to be piloted in 2024, this approach will be replicated for other systems needing to push data to the MOH HMIS, representing an important step toward consistent reporting among partners and the MOH.

Under the workforce development focus area, CIDRZ developed a health informatics competency framework, forming the basis for new curricula at the University of Zambia and Lusaka College of Nursing and Midwifery. These programmes aim to create professionals capable of leveraging health data, equip nurses to improve service delivery and establish a foundation for data-driven decision-making in the health sector. Overall, FY24 accomplishments significantly contribute to ongoing efforts to advance a data-driven health system.

Elimination of Mother to Child Transmission

CIDRZ is providing TA in the elimination of Mother to child Transmission (eMTCT) to the Lusaka Provincial Health Office (LPHO) in 202 facilities, across six districts. Through this support, antenatal attendance increased to 94% (87,970 out of 94,006), testing at antenatal booking was 93%, and ART initiation exceeded targets at 111%. However, the programme faced challenges with infant indicators, reporting early infant diagnosis at 91% and exposed infants' final outcome rate of 84%, while the transmission rate remained within the acceptable range of 1-2%.

To address these challenges, CIDRZ provided technical support to provincial/district teams through PMTCT cohort monitoring training and onsite mentorship. CIDRZ was pivotal in capacity building, conducting 10 cohort monitoring trainings (269 healthcare providers). To ensure the quality of services across all health levels, CIDRZ and LPHO closely monitored the trainees for hands-on practice, enabling them to orient other staff members. Further, CIDRZ facilitated biannual joint mentorship sessions on comprehensive PMTCT services across all six districts, mentoring 296 healthcare workers and 176 support staff. This mentorship focused on system strengthening, tracking mother-baby pairs, and improving documentation and reporting on HIA2.

CIDRZ also supported LPHO in assessing Smartcare utilization in 18 facilities in Lusaka. Capacities within LPHO were also strengthened in the utilisation of supplies like computers, network, and power back-up. Further, 370 MCH nurses under LPHO were provided with onsite mentorship and trained in Smartcare.

HIV Surveillance

The HIV surveillance programme has supported the Ministry of Health since its inception in 2020. Consisting of case-based surveillance, recent HIV infection surveillance (recency), and mortality surveillance programmes, the programme continues to inform different aspects of the HIV care cascade. In FY24, the CBS dashboard successfully migrated to a new platform to conform with MOH interoperability guidelines. This was successfully showcased to different levels of stakeholders with ongoing system improvements.

To meet the public need for a centralized access point for information about MoH-led HIV surveillance programs, CIDRZ created a surveillance website that provides information with varying levels of access to be hosted on the MoH website. There have also been continuous efforts to understand the factors influencing the challenges associated with unofficial, or silent transfer of HIV care and to identify gaps in HIV care for men.

Further, CIDRZ successfully supported mortality surveillance activities and is actively working with the MoH and ZNPHI to develop the mortality surveillance guidelines, verbal autopsy and SRS IT systems. Recency continued to be implemented across 27 districts in six provinces, with 641 actively reporting recency sites in September 2024, an increase of 11.8% from September 2023. Southern Province continues to lead in recency activities, having activated almost all health facilities in its participating districts.

Apart from health facility related challenges including trained HCW attrition, power outages and the delayed delivery of recency test kits due to central stockouts, we also found that substance and alcohol misuse are important contributing factors to HIV transmission in all assessed communities.

Infection Prevention and Control

CIDRZ, with funding from CDC CARES, successfully supported the Ministry of Health in developing and finalising the infection prevention control technical guidelines. These guidelines are a benchmark for national public health security and are part of CIDRZ's strategy to support health system strengthening. Additionally, CIDRZ collaborated with the World Health Organization (WHO) to support the development and launch of the Infection Prevention Control 2022-2032 national strategic plan. This document and the technical IPC guidelines will empower healthcare providers to uphold standards promoting IPC compliance at all levels.

Further, CIDRZ supported the validation, printing, and dissemination of the two documents to all 10 provinces, with trainers of trainers training in each province represented by at least 5 participants. CIDRZ efforts will now focus on building capacity for all Healthcare providers to reduce and eliminate hospital-acquired infections.

High Risk Population service delivery

To enhance access to comprehensive HIV prevention services for high-risk populations, CIDRZ ProudZ aims to build capacity in community organisations to deliver, in collaboration with the Provincial Health Office (PHO), high-quality life-saving HIV care to high-risk populations.

During the reporting period, the CIDRZ ProudZ reached 21,574 (113%) high risk people with prevention efforts. 10,694 (127%) individuals were tested for HIV, 2,743 (176%) positive cases linked to care and 7,963 (117%) negative clients receiving comprehensive prevention services, including 7,889 (143%) individuals on PrEP. One drop-in centre also started offering CAB-LA, enrolling 18 clients. New services, such as the Common Elements Treatment Approach (mental health counselling), cervical cancer screening, and voluntary medical male circumcision (VMMC), further improved service delivery.

CIDRZ has implemented activities to build sustainable programme capacity, including technical support, mentorship, onsite orientations, data review meetings, and training in Chongwe, Chilanga, and Lusaka districts, where the high-risk population project is implemented. A total of 108 staff from community organisations received training in safe Index testing and sexual violence, alongside 20 Ministry of Health staff and 27 CIDRZ staff. Additionally, 105 healthcare workers were sensitized in high-risk population services.

The ProudZ project collaborated with the Drug Enforcement Commission (DEC), the National AIDS Council (NAC), and the Ministry of Health (MOH) to develop 13 information and education materials for medically assisted therapy (MAT) sensitization. The Ministry of Home Affairs also conducted onsite visits to drop-in centres to inform clients about available support.

The Prison Technical Assistance (TA) programme collaborated with the Lusaka Provincial Health Office to deliver comprehensive HIV prevention services across all correctional facilities in Lusaka. Through this partnership, 9,227 inmates were reached with HIV prevention interventions, and 6,719 inmates received HIV testing services. Furthermore, 462 inmates were initiated on pre-exposure prophylaxis (PrEP). Crucial health outcomes among inmates included a remarkable 100% viral suppression rate attributed to ongoing HIV and other health-related interventions. The programme also facilitated the training of 24 Zambia Correctional Service healthcare workers in managing advanced HIV disease and implementing the Zambia HIV Consolidated Guidelines. Additionally, 205 inmates were trained as peer educators to promote healthier behaviour and support service delivery within the correctional settings.

CIDRZ enhanced data management and reporting capabilities by installing SmartCare systems at correctional facilities in Mwembeshi. To improve coordination among stakeholders implementing in the correctional facilities at the national level, CIDRZ supported the organisation and hosting of the annual Prison Health Advisory Committee (PHAC) meeting, which was held in Mansa.

Mental Health Services for PLHIV

CIDRZ has continued to collaborate with the Ministry of Health (MoH) to scale up the Common Elements Treatment Approach (CETA) programme, offering mental health services across four provinces in Zambia: Lusaka, Western, Eastern, and Southern. This initiative targets recipients of care (RoC) with co-morbid conditions, including mental health disorders, that hindered their adherence to antiretroviral therapy (ART). The expansion of mental health services has been crucial in improving the holistic care provided to these individuals, many of whom had complex health challenges.

During 2024, CIDRZ expanded the number of sites providing CETA services from 39 to 62, representing a 59% increase. The number of trained counsellors also increased by 58%, from 71 to 112. These strategically placed counsellors have been pivotal in increasing access to CETA and mental health support.

Further, 1,436 (72%) out of the 1,991 clients eligible for CETA, completed the programme, demonstrating high engagement and success rates. Active client engagement remains strong, with 200 clients actively receiving CETA at any given time.
The initiative's success can also be attributed to CIDRZ's commitment to capacity building and data-driven approaches. Joint technical supervision was conducted, ensuring consistent service quality. CIDRZ provided IEC materials and updated DHIS2 indicators, which streamlined data management and reporting.

One of the key milestones during 2024 was CIDRZ's involvement in developing a National Mental Health package with MoH, which is set to be launched in Quarter Four. This collaborative effort demonstrates CIDRZ's leadership in shaping national mental health policies and ensuring sustainable and standardized care nationwide.

As CETA/MH services continue to expand, the impact on individuals living with HIV and mental health disorders is transformative. By addressing mental health needs, CIDRZ has not only improved ART adherence but also enhanced the overall well-being of hundreds of Zambians.

Men's Clinic and Health Promotion

CIDRZ collaborated with LPHO & Teledoctor to produce and run 17 Radio and TV awareness programmes on Radio Phoenix, Millenium Radio and Diamond TV. Topics covered included Prostate Cancer Screening and Treatment, TB in Men and the general population, Men's Clinic Initiative, Pre-mature Ejaculation, STIs in Men, and PrEP and PEP. Others were Male Infertility, Mental Health in Men, Benign Prostatic Hyperplasia, Erectile Dysfunction- Adolescent Health, Breaking the Stigma Around Men's Health, Male Involvement in Maternal and Child Health, How Can Nutritional Deficiencies Affect Men's Overall Health and Well-being, including their Sexual health and fertility.

In addition, CIDRZ, working with LPHO, started running a 13-series Men's Health Programme on ZNBC TV 1 and ZNBC Radio 4. Further, we launched a virtual intervention on WhatsApp for males that provides self-screening, HIV prevention messaging, and links to the nearest men's clinic.

Similarly, CIDRZ supported LPHO in reaching out to more than 200 men in the Rufunsa gold mines area and to over 200 men during a national camp for the Pentecostal Assemblies of God Zambia. Other successes included the production of 5,000 IEC posters and job aids to improve health promotion among men and 5,000 posters and job aids on NCDs and AHD management.

To further raise awareness of men's health issues, 17 community engagement meetings were held to sensitize the community to various health issues, including poor health-seeking behaviour in men. We also supported the establishment of 66 Men's Clinics (4 in Luangwa, 8 in Rufunsa,14 in Kafue,9 in Chilanga,9 in Chongwe and 22 in Lusaka District).

During the Joint Mentorship and TSS to men's clinics, 915 MoH staff were mentored, while 407 HCWs were trained in male-friendly services and Male Reproductive Health. We also facilitated the training of another 530 Clinicians in Advanced HIV Disease and Integration of NCDs in ART and OPD.

CIDRZ participated in all SBCC TWGs from NAC, including the Condom Programming TWG, HTS TWG, and the Stigma and Discrimination TWG, which was formed in June 2024.

MORE-ZM DHIS2

Throughout FY24, the MORE-ZM project made significant strides in strengthening health data reporting and analysis across CDC-supported provinces. A key achievement was implementing MER 2.7 updates in the MORE-ZM DHIS2 system, ensuring accurate and seamless reporting in DATIM. We added Advanced HIV Disease (AHD) and Non-Communicable Disease (NCD) cascades to DHIS2, empowering Provincial Health Offices to report on these critical health metrics more effectively. The automated monthly BOB reporting tool, a core component of the MORE-ZM Reporting App, was widely adopted by key partners, including the Lusaka (LPHO), Southern (SPHO), Western (WPHO), and Eastern (EPHO) Provincial Health Offices. This tool significantly enhanced the efficiency of data reporting by the partners to CDC, enabling more timely and accurate submission of MER key programme performance indicator reports.

A notable milestone was deploying a MORE-ZM DHIS2 instance at the University Teaching Hospital (UTH), enabling PEPFAR reporting. Both UTH and the Center for International Health, Education, and Biosecurity (CIHEB) Zambia were successfully onboarded to use the automated BOB reporting tool, extending its reach to all CDC stakeholders.

The programme also tested the SmartCare MER Parser tool, which automates the extraction and processing of MER data from the SmartCare (Legacy/Plus) system, supporting accurate and timely MER indicator reporting. CIDRZ also provided hands-on orientation during the MORE-ZM boot camp to ensure partners could effectively use this tool.

The automated BOB reporting tool was adapted to align with CDC's reporting templates, ensuring comprehensive data compilation. The Action Tracker ODK, a tool used to capture and track action items arising during activity implementation, was upgraded to allow users to modify and track action items, promoting accountability.

Finally, we enhanced the Data Analytics Platform (DAP), a comprehensive tool used to analyse and visualise large volumes of health (MER, Activity, DQA and SQA) data to support decision making.

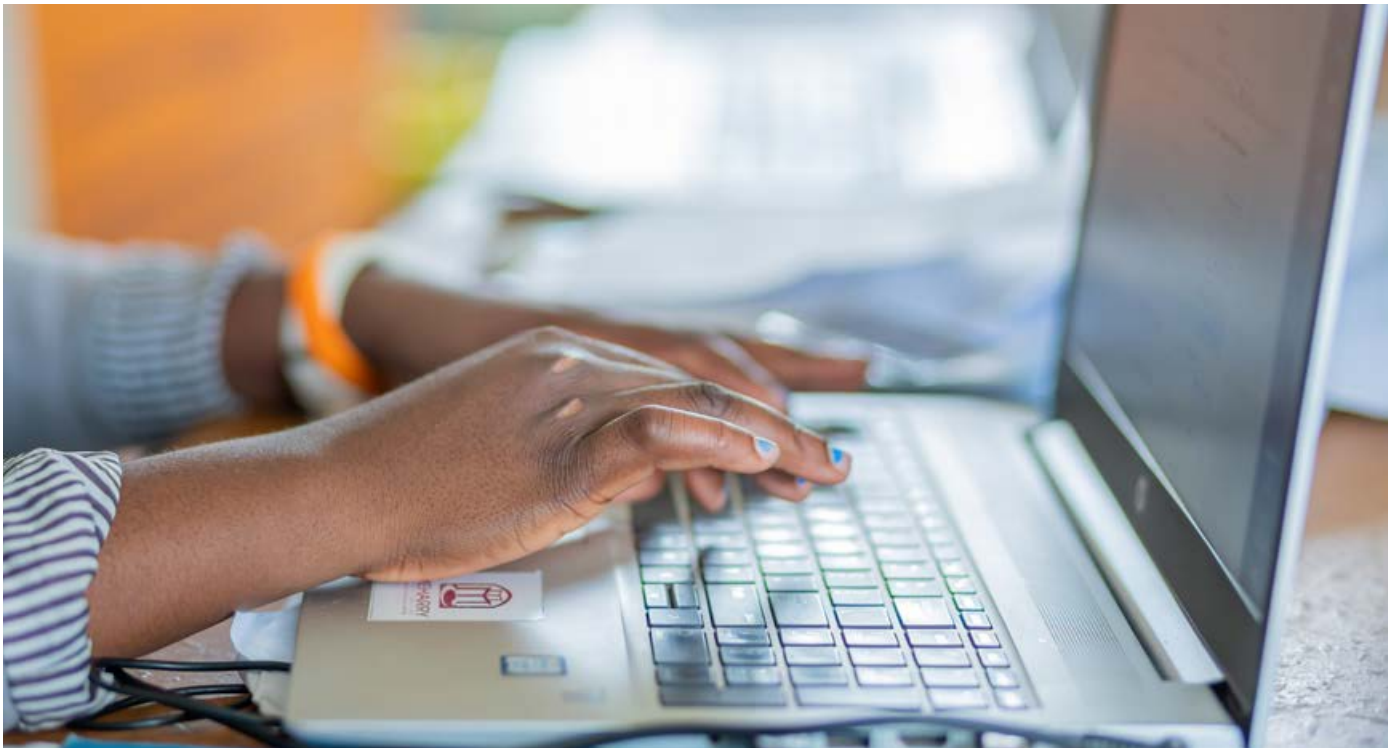
Public Health Surveillance

In 2024, CIDRZ enhanced public and animal health surveillance by establishing real-time disease tracking and response systems, thereby strengthening Zambia's capacity to protect health through early detection and intervention. CIDRZ enhanced surveillance systems by implementing data collection tools, integrating analytics, and setting up rapid response notifications. Further, we enhanced network infrastructure to allow remote sites to connect to the central server, providing access to these data collection tools.

Collaborating with the Ministry of Fisheries and Livestock (MFL), the Zambia National Public Health Institute (ZNPHI), and the National Influenza Center (NIC), we provided training on the developed data collection tools.

For animal health surveillance support, we automated data management and built capacity for the MFL ICT team. We developed a user manual, trained 164 veterinary officers, deployed 145 tablets, and procured a server to host the Zambia Animal Health Information System (ZAHIS) locally, expanding its rollout to more districts. We also collaborated on a manuscript assessing ZAHIS's impact on the animal health sector.

For Influenza-like Illness and Severe Acute Respiratory Infection (ILI/SARI) surveillance, we upgraded infrastructure to enable rapid testing. We also supported the NIC team in managing the ILI/SARI system independently and collaborated on a manuscript detailing its impact on influenza surveillance in Zambia.



HIV Prevention

During the past fiscal year, CIDRZ, provided technical assistance on targeted case-finding strategies through data-driven interventions to sites with identified gaps and in response to identified Recent Infection Hotspots. Through mentorship and technical supervision, CIDRZ supported community distribution of HIVST Kits through differentiated service delivery models, enhanced the Social Network Strategy in adolescents and young people and ensured Safe and Ethical Index Testing in all supported districts. CIDRZ offered training and capacity building to LPHO testers in proficiency testing, tester certification, 88 counsellors in Advanced Counselling Skills Training, PrEP Training for 120 Adolescent Providers and CAB-LA training for 50 health providers and 41 community workers.

Successes in the year under review included enhanced screening of 80% of those tested HIV negative through Increased PrEP initiation in MCH and OPD, reaching 142% of the set PrEP Initiation target by the end of the FY.

CIDRZ supported the development of the PrEP guidelines and successfully introduced Long-Acting Cabotegravir (CAB-LA) at Matero Main Clinic, in addition to the continued improvement of documentation and reporting of PrEP through DHIS2 and MORE- ZM. CIDRZ also supported the LPHO in planning, implementing, and monitoring a PrEP surge. This surge was to increase PrEP uptake, address the low-risk perception of HIV acquisition by at-risk populations and bust PrEP-associated myths and misconceptions. In the coming year, we will continue to innovate and address PrEP continuation, which has historically remained low.

Positive Infant Audit

During FY24, the Positive Infant Audit study created a centralised electronic data collection tool and set out to collate data from various facilities in Eastern, Lusaka, Southern and Western Provinces. Desk reviews on HIV-infected infants and their mothers have been conducted since 2020, but the data has not yet been comprehensively analysed across the provinces. The CIDRZ SI unit set out to work together with the MOH provincial M&E and PMTCT teams to collect this data into the centralised database. Seven Technical and Supervisory Support visits were carried out in the Eastern, Southern and Western provinces. Seventy-four (74) health facilities were visited in the three provinces, while multiple visits were conducted in Lusaka province. At the end of the year, data on 1120 HIV-positive infants was collected from 207 health facilities. The preliminary analysis is currently underway and is expected to provide valuable insights to the stakeholders.

Silent Transfer Deep Dive

In 2024, CIDRZ collaborated with CDC and MoH to conduct the silent transfer deep dive. The activity was driven by Recency surveillance data that revealed that 40% of clients reported as new HIV clients had a suppressed baseline viral load, indicating they were not treatment naïve. The focus of this activity was to explore the reasons why patients on antiretroviral therapy (ART) may not disclose their treatment status when coming for HIV testing.

We interviewed 55 "newly" diagnosed individuals who were found virally suppressed using point of care (POC) machines (GeneXpert) from seven health facilities (four in Lusaka Province and three in Southern Province). 10 clients disclosed to counsellors that they were on ART during the post-test counselling. Another six clients made this disclosure during the interview. From the client's perspective, the decision to retest and disclose medication history reflected both emotional and practical concerns. Common reasons for silent transfer across participants included confirming HIV status, health concerns, fear of disclosure and gendar specific triggers for men and women.

Forty-one (41) healthcare providers (both lay and professional healthcare providers) were interviewed and commonly suggested the following to help reduce silent transfer: Regular training and refresher courses for all HCPs involved in HIV care; emphasizing counselling skills; increasing the efficiency of HIV service delivery by recruiting more staff; publishing brochures in local languages to educate clients on HIV services; client privacy; confidentiality; trust; empathetic care; improving the attitudes of HCPs; providing gender and age-matched HCP; maintaining a humble attitude; avoiding distractions during consultations; and fostering environments that encourage client disclosure.

The programme is using recommendations from this deep dive to develop interventions that will be shared and used to improve service provision and mitigate silent transfers.

Smart Care Support

The Strategic Information (SI) Department provided technical assistance in developing the PEPEFAR MER Indicator version 2.7 reports, dedicated to monitoring specific performance indicators critical for informing the HIV programme in the SmartCare electronic health records (EHR) system. In this fiscal year, the PEPFAR MER indicators transitioned from version 2.6.1. These reports addressed essential aspects of healthcare and were refined to seamlessly align with Zambia National Consolidated HIV Guidelines 2022, ensuring compliance and effectiveness. The SI Department supported the development of the HIV Self-Test reporting cascade, data collection tools and SOPs, and its inclusion in the standard HIV testing algorithm in SmartCare.

We assisted the Lusaka Provincial Health Office in establishing 15 model sites across all Districts of Lusaka Province to improve the utilisation of SmartCare in the provision of Reproductive, Maternal, Newborn and Child Health (RMNCH) services, which is burdened with over 20 paper-based registers. Further, the SI Department played a pivotal role in advancing programme monitoring and evaluation, clinical decision support, healthcare seeker management, and research by providing reports and insights from SmartCare data to projects and programmes within the organisations and partners within the health sector in Zambia.

We also provided mentorship and training in the deployment, technical support, maintenance and use of SmartCare for administrative, support and point-of-care users.

Telemedicine

Following the negative impact on public health programme services, including TB services, by the COVID-19 Pandemic in 2020, CIDRZ implemented remote patient follow-up for TB treatment and prevention through a differentiated service delivery model (DSD) offering clinical monitoring and psychosocial support while minimizing contact with health facilities.

The project was implemented between February 2022 and March 2023 and was funded through the Centers for Disease Control and Prevention's COVID-19 Response International Task Force - CARES funding.

CIDRZ presented project findings to the National TB and Leprosy Programme (NTLP) during a dissemination meeting. The project results revealed high variability in performance outcomes across the five participating facilities (George, Kalingalinga, Kamwala, Mahatma Gandhi, and Livingstone Central Hospital) based on patient population characteristics (e.g., no permanent residence, home-based care, referral centre) and whether or not the facility had TB champions. Following the project findings, CIDRZ made recommendations to the NTLP, underscoring the need for TB programmes to consider variability in patient population characteristics in determining the level and location of care when implementing differentiated service delivery models (DSD) in TB treatment and prevention.

The results also highlighted the effectiveness of phone follow-ups in enhancing the TB programme's outreach and treatment support. Observations revealed that recipients of care (ROCs) are more responsive to phone calls than SMS messages. In addition, project results showed that regular monthly follow-ups facilitated better monitoring and reporting of adverse effects, suggesting that this could be maintained if DSD became routine in the TB programme. The findings from five health facilities involved in the project revealed that the DSD model had similar or better completion success to historical performance with the standard of care. While DSD models have been widely adopted in HIV programmes, DSD is a relatively new and exciting approach for TB treatment and prevention programmes.

Voluntary Male Medical Circumcision

In 2024, CIDRZ continued supporting Provincial Health Offices (PHOs) to increase Voluntary Medical Male Circumcision (VMMC) coverage. 90% of the supported sites achieved their annual targets, while 90% sites achieved 80% coverage among the priority age group of 15–29-year-olds. The WELS provinces (Western, Eastern, Lusaka and Southern) achieved their annual targets by 31 August 2024 with 248,072 (148%) clients circumcised, from a target of 167,163. Further, 225,369 of the key age group (15-29) years were circumcised, representing 91% of the total circumcised.

CIDRZ supported PHOs to increase demand for VMMC services through national, and traditional events by providing the surgical truck, resulting in high awareness levels and service provision. This helped reduce the client's long-distance travel time. This is evidenced by the achievement of annual targets for Luangwa and Rufunsa. Other demand generation activities and approaches conducted included sports galas, a proven crowd puller, Road Shows, distribution of IEC materials in the community, IPC (Interpersonal Communication (IPC) approaches and education through entertainment using the PA system.

Additionally, CIDRZ supported and conducted Human Centred Design (HCD) training to enhance the capacity of MoH staff. The trained staff included VMMC Provincial Leads, District coordinators, VMMC Providers, Mobilisers, and Counsellors, who are often the initial point of contact for males seeking VMMC services. Other training conducted included ShangRing courses for VMMC Providers (one in EP, one in WP, and two in LP) and one in the conventional method for Chongwe, Rufunsa, and Luangwa. Furthermore, the CIDRZ team led the first ever Department of Defense (DOD) ShangRing training in which 23 military medical Providers were trained.

Strengthening Zambia Defense Force HIV/AIDS Prevention Program (DHAPP)

Funder:
US Department of Defense HIV/AIDS Prevention Program (DHAPP)

Time Period:
Sep 2023 - Sep 2027

This is a cooperative agreement to provide direct service delivery and technical support to the Zambia Defence Force HIV programme. It aims to strengthen capacity and improve health systems to work towards sustainability and achieve transition.

During the first half of 2024, the Defense Force HIV Prevention Program (DFPP) focused on programme set-up, including recruitment of key programme positions and project staff in the five regions (mentorship networks). The rest of the year saw an increase in activities, including training, workshops and site visits by both the provincial teams and the headquarters team. The project established the weekly situation rooms to monitor key indicator performance and deliberate on remedial measures. The programme also conducted site improvement through monitoring and supervision (SIMS) activities in all the networks. All site visits were conducted in collaboration with DFZ and the DOD.

CIDRZ and DAPP collaborated with DFZ to implement various capacity-building activities, including training in OVC and GBV services, ART, PMTCT and eLMIS, as well as TSS and onsite mentorships. Gap assessments for ISO 15189 accreditation at two military hospital laboratories were also conducted. The increased activities improved several indicators that had shown a declining performance in the first quarter. Case finding and retention activities were intensified, resulting in an increase in treatment numbers, to 40,958 recipients of care, translating to a performance of 88% against the annual target. Viral load coverage was 80% and suppression was maintained at 97%. With the power challenges in the third and fourth quarters, the project sought funder permission to procure and install solar power backup systems in 34 DFZ facilities. This will be critical for the success of the planned rollout of SmartCare Pro.

USAID Zambia Integrated Health

Funder:

The Centers for Disease Control and Prevention

Time Period:
Sep 2021 - Sep 2025

The goal of the USAID Zambia Integrated Health programme is to support the implementation of HIV prevention, care and treatment programmes in 328 health facilities across three provinces that include 69 Health Facilities in North-Western province, 115 in Central province and 144 Copperbelt province. Through placement of clinical staff in health facilities, CIDRZ supported Direct Service Delivery activities while providing Technical Assistance support through placement of CIDRZ mentors at provincial health offices and district health offices in 28 districts.

To achieve the USAID-ZIH programme goals, CIDRZ was assigned various milestones, including providing clinical expertise, direct service delivery support, and technical assistance through training, mentoring, coaching and other forms of technical assistance to build provider knowledge, skills and capacities and support other aspects of health system strengthening to support the achievement of USAID Zambia Integrated Health's 95-95-95 targets.

During the reporting period, CIDRZ achieved 99% of FY24 milestones with significant progress in achieving project targets. 1,342,100 (109% of the target) clients were reached with HIV testing services, of which 26,338 (118% of the target) tested positive and 32483 (122% of the target) were initiated on ART. 294,729 (83% of the Tx Curr target) are currently receiving ART treatment. 63,346 clients were commenced on PrEP with CAB-LA rollout in two facilities.

Generally, this achievement represents significant progress in reaching the Ministry of Health's strategic objectives in line with Epidemic control. CIDRZ will continue focusing effort on enhancing the capacity of the Ministry of Health workforce to deliver quality health services, evidence-based, and people-centred HIV prevention, care, and treatment services.

02

ADULT HIV CARE, TREATMENT AND PREVENTION

- HIV Control Working Group
- HVTN Scientific Leadership Development Programme
- International Epidemiology Databases to Evaluate AIDS
  - Adolescent & Youth Network
  - DTG Resistance
  - IeDEA Cxca Modeling: Comparative Effectiveness of Cervical Cancer Screening Policies in Zambia - A Mathematical Approach
  - IeDEA GYNOCULAR: Longitudinal Analysis Of HR-HPV Infection and Cervical Intraepithelial Neoplasia in Women Living With HIV
  - Hepatitis Study
  - Non-Communicable Diseases Study
  - SRN Sentinel Research Network
  - Tuberculosis Study
  - Optimising Care Delivery to Support Re-engagement in People Living with HIV Returning to HIV Care after Treatment Lapses in Zambia (R34)
- Rapid Tests for Recent Infection for Precision public health in Sub-Saharan Africa: Next-Generation Strategies Amid Changing HIV Epidemiology (RTRI STUDY)

HIV Control Working Group

Funder:
Gates Foundation

Time Period:
Nov 2022 - Nov 2024

The HCWG is comprised of African experts with relevant experience from diverse sectors, predominantly based within the African region, to work collaboratively to develop: (i) A framework that identifies the necessary components for long-term sustained HIV control with particular reference to the African context. (ii) A forward-looking research and programme implementation agenda that informs country progress and achievements and identifies knowledge gaps that impede providing clear guidance to countries about how best to target their systems-building investments. The HCWG Secretariate is based at CIDRZ and supports the work of this group across the continent.

HVTN Scientific Leadership Development Programme

Funder:
Fred Hutchinson Cancer Research Center

Time Period:
Dec 2023 - Nov 2024

The ongoing mission of the HVTN's Scientific Leadership Development (SLD) programme is to identify emerging scientific leaders in the field and commit resources to their professional development. The overall goal is to expand the pool of diverse scientists within HVTN who can successfully provide scientific leadership for HIV vaccine clinical trials around the world. The awardee is involved in a year-long mentored project starting in 2024 and will actively participate in career development activities, including developing a scientific project, writing a manuscript, and participating in mentored career development activities to gain expertise in the conduct of clinical HIV vaccine research.

IeDEA- INTERNATIONAL EPIDEMIOLOGIC DATABASES TO EVALUATE AIDS

Funder:
National Institutes of Health (NIH)

Time Period:
Jul 2019 - Apr 2025

The International epidemiology Databases to Evaluate AIDS (IeDEA) collects observational data representing over 2.2 million people living with and at risk for HIV, contributed by clinical centers and research groups in 44 countries. CIDRZ is a long standing contributor to the IeDEA databases.

IeDEA conducts both regional and global research. CIDRZ investigators use and participate in the IeDEA platform to share their multidisciplinary expertise and answer high-priority research questions. These include evaluating the HIV treatment cascade, co-infections like tuberculosis and hepatitis, cancers, and non-communicable diseases, including mental health and substance use disorders. In 2024, the IeDEA programme's request to change versions was successfully approved by UNZA-BREC.

Adolescent and Youth Network

The Adolescent and Young Adult Network of IeDEA (AYANI) is a nested cohort of sites within global IeDEA that have been equipped to recruit ALWH from within the global IeDEA clinical cohort, perform in-depth data collection around the specific biological, mental, social, and cultural factors that may impact ALWH outcomes, and then continue to follow this cohort of ALWH prospectively. AYANI is being developed at each of the six IeDEA pediatric regions (East Africa, Central Africa, West Africa, Southern Africa, Asia-Pacific, and Caribbean/Central and South America).

The AYANI cohort enrolled 50 ALWH between the ages of 15-24 years from each region for the AYANI baseline and follow-up assessments. These ALWH acquired HIV perinatally or behaviorally. The study's main objective is to investigate how care transition, key co-morbidities and conditions, mental health challenges, and social environment factors impact the outcomes of antiretroviral therapy adherence, viral suppression, care engagement, and mortality among ALWH.

DTG Resistance

The DTG Resist study is a multiregional, cross-sectional, non-interventional investigation into HIV-1 subtype-specific drug resistance in patients experiencing virologic failure while on dolutegravir (DTG)-based antiretroviral therapy (ART). Open to enrollment for adults (=18 years) and adolescents (10-17 years) with a viral load of =1000 copies/mL, the study is being conducted at clinical sites across six regions of the IeDEA cohort. In Zambia, five study sites have been established: Kanyama, Chawama, Matero First Level Hospital, Kalingalinga Clinic, and the HIV Centre of Excellence at the University Teaching Hospital, where 250 participants on first, second, and third-line ART from UTH, including pediatric patients, will be enrolled.

The study aims to identify the prevalence of integrase strand transfer inhibitor (InSTI) drug resistance mutations (DRMs) at the time of virologic failure; compare the prevalence of InSTI DRMs among different HIV-1 subtypes and treatment contexts; identify risk factors for virologic failure and the development of DRMs and verify the phenotypic relevance of observed resistance patterns. Further, the study aims to determine the phenotypic effects of mutations in the HIV integrase gene on sensitivity to DTG across subtypes, characterize patterns of clinically relevant HIV-1 drug resistance mutations focusing on DTG resistance, assess the phenotypic impact of mutations in the 3' polypurine tract (PPT) and identify novel pathways or mutations relevant for DTG resistance through exploratory analyses, including viral genome-wide association studies (GWAS) or conjunctive Bayesian networks (CBN).

Hepatitis Study

This long-term prospective cohort study on liver fibrosis in Zambian patients co-infected with HIV and HBV is part of the International Epidemiologic Databases to Evaluate AIDS (IeDEA) Southern Africa initiative. This study, which spans 10 years from 2015 to 2025, aims to determine the prevalence of significant liver fibrosis in this population using non-invasive tests. Specific objectives include measuring liver fibrosis through the Aspartate Aminotransferase to Platelet Ratio Index (APRI), the FIB-4 score, and transient elastography (TE). The study will compare low-cost blood markers (APRI and FIB-4) with TE to diagnose significant liver fibrosis and cirrhosis. Additionally, we aim to identify risk factors for liver disease, including demographic information and HIV immunologic and virologic data. The study is ongoing, with continuous follow-up activities, and we have successfully recruited 243 participants thus far.

Non-Communicable Diseases Study

This study aimed to address a critical research gap by conducting a prospective study within an established network of cohort studies in Southern Africa. This study explored the epidemiology of noncommunicable diseases (NCDs) and associated risk factors among HIV-infected adults, as well as a subset of HIV-uninfected individuals from the general population. The overarching goal was to enhance understanding of NCD risk factors among adults in Southern Africa. Specific objectives included assessing the association between HIV infection and metabolic syndrome, as well as individual cardiometabolic risk factors, in urban areas of Zambia and Zimbabwe.

We sought to describe the dynamics of cardiometabolic risk factors and determine the incidence of cardiovascular risk factors and events in HIV-suppressed individuals on antiretroviral therapy (ART). Additionally, we aimed to assess the prevalence of mental health disorders, liver disease, and kidney disease among ART-experienced HIV-infected adults receiving care at primary care clinics in Zambia and Zimbabwe. Further, we sought to understand the knowledge, perceptions, and beliefs regarding ageing and multimorbidity among both HIV-infected and HIV-uninfected adults.

The study also investigated the experiences and contexts of managing multimorbidity from the perspectives of healthcare providers and other key stakeholders in ZambiaWe enrolled 500 participants, including both HIV-infected and HIV-uninfected individuals, who underwent baseline assessments and are currently engaged in ongoing follow-up visits yearly over a five-year period.

SRN Sentinel Research Network

Using an established network of cohort studies in Southern Africa, we aimed to address a significant research gap by conducting a prospective study focused on the epidemiology of noncommunicable diseases and risk factors among HIV-uninfected individuals from the general population. This observational cohort study took place at two primary care clinics in Zambia and Zimbabwe. The study enrolled 200 HIV-infected participants who underwent baseline assessments and are currently engaged in ongoing follow-up visits every year for five years.

Tuberculosis Study

This ongoing prospective cohort study examines HIV co-infection and other factors associated with short- and long-term outcomes in patients with pulmonary tuberculosis (TB) in Zambia, based at Chawama and Kanyama First Level Hospitals. The study aims to describe the time delays between the onset of symptoms, diagnosis, initiation of TB treatment, and treatment completion, with a particular focus on access to preventive TB therapy among close contacts of TB patients. Additionally, it seeks to collect and analyze clinical and treatment data from individuals treated for pulmonary TB, both with and without HIV co-infection, to improve understanding of TB prognosis and health-related outcomes, including quality of life and survival.

The study will assess the individual-level effects of HIV and antiretroviral therapy (ART) on TB symptomatology, diagnosis, treatment response, and survival, while exploring the impact of site-level TB and HIV management and the integration of services on treatment outcomes. Furthermore, it aims to describe post-TB lung disease (PTLD) and its associations with HIV infection, diabetes, chronic lung disease, and tobacco and alcohol use, measuring physiological, structural, and functional lung impairment.

Finally, the study will implement, validate, and assess the clinical impact of a rapid point-of-care targeted sequencing assay for detecting a full range of TB drug resistance.

Optimising Care Delivery to Support Re-engagement in People Living with HIV Returning to HIV Care after Treatment Lapses in Zambia (R34)

Funder:
National Institutes of Health (NIH)

Time Period:
Aug 2022 - Jul 2025

The study has completed its first aim, the quantitative arm that employed the best-worst scaling experiments to gather data from patients and providers. These findings were presented as a poster at this year's CROI in an abstract entitled, Using Best-worst Scaling Experiments to Identify Profiles of Client and Provider Preferences for Re-engagement Strategies in Public HIV Clinics in Lusaka, Zambia.

The second aim is underway and utilises qualitative methods to investigate the optimisation of experiences among PLHIV upon returning to care, involving both patients and HCWs. So far, we have completed 80% of the planned in-depth interviews. The third aim is to apply HCD principles to collaboratively develop a multi-component re-engagement strategy scheduled in January 2025.

Rapid Tests for Recent Infection for Precision public health in Sub-Saharan Africa: Next-Generation Strategies Amid Changing HIV Epidemiology (RTRI STUDY)

Funder:
National Institutes of Health (NIH)

Time Period:
Nov 2022 - Aug 2025

The RTRI study, in collaboration with the New York University, seeks to determine the effect of the RTRI programme on the HIV epidemic control programme in Zambia. The assessment uses data to determine RTRI sensitivity and specificity in different populations. The study also aims to examine whether Zambia's RTRI programme is an efficient use of HIV resources. This analysis uses a micro-costing approach to assess resources required to identify recent infections, evaluate outbreak response thresholds, and mount outbreak responses. The next aim will be to use big data methods to optimize next-generation RTRI-guided outbreak detection precision by developing a machine learning model trained on "ground truth" outbreak response data to improve the sensitivity and specificity of outbreak detection.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03

BASIC SCIENCE AND LABORATORY

- Defining the Spatial Transcriptomic Architecture of the Cervical Tissue Immune Microenvironment during HIV and HPV Coinfection to Local immune responses that contribute to rapid HPV clearance
- Integrated Profiling of Sex-specific differences in HIV persistence and Immune Responses in Zambia
- Transitioning and Integrating Laboratory Services (TRAILS)
  - National Multi-Pathogen Diagnosis
- Zambia Anti-Microbial Resistance

Defining the Spatial Transcriptomic Architecture of the Cervical Tissue Immune Microenvironment during HIV and HPV Coinfection to Local immune responses that contribute to rapid HPV clearance

Funder:

Gates Foundation

Time Period:
Feb 2024 - Dec 2025

Human papillomavirus (HPV) infection is common in both people living with HIV (PLHIV) and people without HIV. However, PLHIV may have a higher risk of persistent infection and progression to cervical cancer. Therefore, this study aims to contribute to our understanding of the immunological underpinnings of HPV persistence, improve clinical management and prevention strategies, and advance our understanding of the immune system.

The study will aid our understanding of the natural history of HPV infection in PLHIV in Zambia, including immunological factors that contribute to persistent infection and the likelihood of developing cancer. Further, understanding the factors contributing to HPV clearance in PLHIV can help researchers develop effective treatment and disease management. For instance, specific antiretroviral therapies or immune modulators can help inform the development of prevention strategies, such as vaccination and education programmes. If particular subtypes of HPV are more likely to persist in PLHIV in Zambia, efforts could be focused on developing vaccines that are specifically targeted at these subtypes and specifically for populations in low- and middle-income countries such as Zambia, for which HIV prevalence is high.

HPV clearance depends on the immune system's ability to recognise and eliminate the virus. Research on HPV clearance in PLHIV can help us understand how HIV affects the immune system's ability to clear infections and develop new therapies that boost immune function.

For this study, we hypothesise that "Greater density of resident CD8+ T cells and lower densities of FOXP3+ CD4+ T regs within intraepithelial cervical mucosa is associated with rapid HPV clearance".

Integrated Profiling of Sex-specific differences in HIV persistence and Immune Responses in Zambia

Funder:

Africa Health Research Institute

Time Period:
Sep 2023 - Aug 2024

HIV persistence, despite potent antiretroviral therapy (ART), is a major challenge to developing a cure for HIV infection. The majority of infected cells comprise defective HIV genomes, which do not yield infectious HIV but may trigger continuous immune activation. A rare proportion of cells are infected with latent, replication-competent HIV (viral reservoir), which can reactivate to produce an infectious virus in the absence of ART. A few studies suggest that the size and characteristics of the viral reservoir may differ significantly between men and women living with HIV, which may be due to differences in various immune responses to HIV infection during early and chronic infection prior to ART initiation. Early discoveries examine how T cells react to highly networked epitopes that do not easily mutate. Recent findings suggest that immune responses to these highly conserved protein structures are associated with better control in people living with HIV who have a slow progression of the disease in the absence of ART.

This collaborative project will investigate the differences in the reactivation potential of latent HIV subtype C in blood samples from a cohort of young men and women (aged 18-35) on suppressive ART in Lusaka, Zambia. We will profile T cell responses targeting weak points on the surface of the virus that were identified from preliminary experiments and compare these responses in men and women. We will also explore whether potential differences in these T cell responses correlate with differences in viral reservoir size and activity in men and women. The findings of this proof of concept study will contribute to the global scientific community's efforts to design and develop potent, preventative or therapeutic T cell vaccines, which are needed to control HIV in the absence of ART and thus crucial in the quest for an HIV cure.

Transitioning and Integrating Laboratory Services (TRAILS)

Funder:
The Centers for Disease Control and Prevention

Time Period:
Sep 2023 - Sep 2028

CIDRZ has partnered with the Ministry of Health (MOH), Association of Public Health Laboratories (APHL), Wits Health Consortium (WHC), and the Clinical and Laboratory Standards Institute (CLSI) to ensure an efficient and reliable health laboratory system critical to achieving the UNAIDS 95-95-95 goals of accelerating efforts towards HIV/AIDS epidemic control.

The goal of this partnership is to support the Government of the Republic of Zambia (GRZ) to strengthen and fully implement sustainable, high-quality laboratory systems that meet the needs of people living with HIV (PLHIV) and the Zambian public. A technical team of experts with decades of experience in Zambia and the sub-region are utilizing proven strategies to: 1) continue providing and improving existing laboratory support; 2) provide technical assistance (TA) to GRZ in terms of supplies, planning and optimization of the diagnostic network, and mentorship necessary to implement a fully functional laboratory system; 3) assess setup and recurrent costs to develop a costed laboratory services transition plan from partners to GRZ; and 4) facilitate stepwise transition of all partner supported laboratory services and monitoring & evaluation activities to GRZ. This approach is grounded in working side by side with GRZ in using laboratory and clinical data to optimize the diagnostic network, costing initial and ongoing expenses, and a stepwise handover, post-handover monitoring and mentorship.

By the end of the funding period, our consortium envisions an MOH implemented laboratory network capable of providing high quality HIV diagnosis, care and treatment and monitoring for improved patient care and overall public health.

National Multi-Pathogen Diagnosis

CIDRZ partnered with the MOH and other stakeholders to develop the National Multi-pathogen Diagnostic Programme (NMPDP) to address significant gaps in Zambia's current diagnostic capabilities in molecular and microbiological techniques. This cutting-edge initiative incorporates advanced technologies such as open PCR and genomic sequencing to identify infectious pathogens accurately.

As part of sustainability efforts, CIDRZ collaborated closely with laboratory and clinical stakeholders to develop the NMPDP Framework, which contains the multiplex testing diagnostic strategy. Other supporting documents developed were standard operating procedures (SOPs), clinical algorithms, and case investigation forms to standardize the workflow. Site assessments were conducted at facilities to identify gaps that informed implementation priorities.

As of September 2024, three out of the 10 designated sites had successfully installed all the necessary equipment, LIS, and were fully operational. Further, staff at these locations were trained to ensure proficient use of the new technology. CIDRZ has continued programme implementation monitoring to resolve any issues, ensuring smooth operations and functionality across all sites.

The introduction of the open PCR platform has significantly enhanced the ability to detect and identify multiple pathogens simultaneously, providing a more comprehensive understanding of infectious disease patterns. The identification of a broad spectrum of pathogens that are frequently missed because of diagnostic limitations demonstrates the versatility of the open PCR platform in supporting the timely and accurate diagnosis of infectious diseases, leading to improved patient management and treatment outcomes.

Zambia Anti-Microbial Resistance

Funder:
The Flemming Fund

Time Period:
Sep 2019 - Dec 2023

The Fleming Fund country grant (CG) has been instrumental in supporting the Government of the Republic of Zambia (GRZ) to enhance and expand quality antimicrobial resistance (AMR) diagnostics and antimicrobial use (AMU) surveillance in public health facilities since August 2019. Working with the Ministry of Health (MOH) and key bodies such as the Zambia National Public Health Institute (ZNPHI) and the Antimicrobial Resistance Coordinating Committee (AMRCC), the grant has bolstered Zambia's progress towards national and global AMR action plan targets. Phase I, which concluded in December 2023, focused on coordinated efforts to improve the generation of actionable data for policy-making on AMR prevention and detection.

Phase II, launched in January 2024 and continuing until December 2025, expanded support to 14 sites (9 Human Health and 5 Animal Health), up from 12 in Phase I. The CG facilitated the procurement of critical reagents and consumables, ensuring quality data submission to the Global Antimicrobial Resistance and Use Surveillance System (GLASS). AMR data contributed to updating the National Standard Treatment Guidelines (STGs). In Animal Health, the grant developed AMR surveillance protocols for beef and dairy, as well as environmental protocols to support a One Health approach.

The CG also supported the National Action Plan (NAP) through the Surveillance and Research Technical Working Group (TWG) to guide AMRCC efforts and coordinate stakeholder activities. Other TWGs, including Research and Development and Education and Awareness, also benefited from CG support. The grant bolstered Antimicrobial Stewardship Committees (AMS) at eight Human Health sites, promoting evidence-based antimicrobial use with site-specific antibiograms and AMU data from point prevalence surveys. Additionally, the grant backed government activities for World Antimicrobial Awareness Week (WAAW), where cross-sector institutions shared AMR data to raise awareness.

04

CAPACITY BUILDING

- Bringing Innovation to cLinical and Laboratory research to end HIV In Africa through New vaccine Technology (BRILLIANT Consortium)
- DELTAS (IDEAL): Initiative to Develop African Research Leaders.
- ELMA Core Financing

Bringing Innovation to cLinical and Laboratory research to end HIV In Africa through New vaccine Technology (BRILLIANT Consortium)

Funder:
South African Medical Research Council

Time Period:
Sep 2023 - Dec 2024

The BRILLIANT Consortium constitutes a multi-disciplinary collaboration with partners and collaborators from Nigeria, Uganda, Kenya, Tanzania, Zimbabwe, Zambia, Mozambique, South Africa and Internationally with the overall objective of developing and evaluating HIV vaccine candidates emanating from the African continent. The Consortium has three main scientific programmes: the clinical programme, the Laboratory and Vaccine Design Programme and the Capacity Augmentation Programme.

The focus of the Clinical Programme is to conduct clinical trials that substantially contribute to developing an effective HIV vaccine for populations in Africa and to strengthen the clinical and laboratory infrastructure among consortium member institutions. Two protocols (Brilliant-001 and Brilliant-002) are already in the planning phase, with the aim to implement these trials within the Brilliant Consortium over the first two years of the award. The Clinical Programme will work closely with the Capacity Augmentation Programme to ensure an adequate clinical trial experience so that all Consortium members are ready to effectively participate in the Clinical Programme by Year three of the award.

The Laboratory and Vaccine Design Programme aims to extend these protocols, assays, and skills to less experienced laboratories within the Consortium. It will perform a comprehensive laboratory audit to identify and enhance capacity for sample processing, specimen storage and shipment, humoral/B cell assays and T cell assays, working towards a model of regional centres of excellence. It will leverage existing candidates to develop and test HIV vaccine immunogens at the preclinical stage, increase capacity to develop mRNA vaccine candidates and SOSIP trimers for preclinical evaluation, and perform basic science studies to support immunogen design.

Finally, the Capacity Augmentation Programme will, by extension, grow capacity in sub-Saharan Africa (SSA) and create a strong foundation for collaboration to increase opportunities to advance the careers of promising SSA scientists in HIV vaccine research.

DELTAS (IDEAL): Initiative to Develop African Research Leaders.

Funder:

KEMRI-Wellcome Trust Research Programme

Time Period:
Apr 2023 - Mar 2027

The Initiative to Develop African Leaders (IDEAL) is a multidisciplinary research capacity building initiative hosted by KEMRI Wellcocme Trust. It aims to "attract, train and retain" individuals across the career pipeline from school leaver level through attachments to early career postdoctoral level. IDEAL started in Kenya and has now expanded to Southern and Francophone Africa by incorporating Centre for Infectious Disease Research in Zambia (CIDRZ) and MSF- Epicentre in Niger. The initiative aims to strengthen links with local and international universities with support from KEMRI, Strathmore, Pwani, Oxford and Glasgow universities. It also aims to grow the areas of scientific leadership and citizenship, research management and science quality across the partner institutions.

CIDRZ has a cohort of eight master's students currently enrolled in various institutions at both local and international universities, four PhD students at various stages of enrolment and proposal submission, two transition post doctorate students that recently completed their year of support and are in the process of analysing and writing up manuscripts. Another early career post doctorate student engaged in grant writing to garner additional support.

There are planned radio shows to continue with community engagement and research advocacy as well as an AGM that will be able to track progress at each of the sites as well as share ideas on how to improve support to all fellows in the programme.

ELMA Core Financing

Funder:

ELMA Philanthropy

Time Period:
Apr 2023 - Nov 2025

The ELMA Co-Financing project was launched to provide essential financial support for key strategic goals for CIDRZ to fulfil our mission and achieve long-term goals. In FY 2024, the project refurbished the Chainda South Clinic to improve the provision of quality care at the facility. The ELMA Core funding also supports capacity building to train Zambian scientists' implementation of whole genome sequencing (WGS). The focus is to support up to five scientists through cutting-edge research in areas of antimicrobial resistance (AMR). This programme is vital for expanding and using information generated through WGS. So far, two students have been supported in sequencing over 100 bacterial isolates. Further, one of our trainees has published a manuscript in a peer-reviewed journal through the work supported by this funding mechanism.

In addition, ELMA funding has supported CIDRZ in embarking on a systems integration project to reduce data redundancy and improve operational effectiveness. The project aims to integrate all systems into SAGE x3, CIDRZ's primary ERP system. Several systems have already been integrated, and the remaining few will be integrated in the next financial year.

05

ENTERIC DISEASES

- ETVAX III – ETEC Surveillance Study
- Immune Responses After Rotavirus Challenge (HIC GATES)
- Mapping Viral Reservoir Landscapes in Young People with HIV in Zambia
- Non-Replicating Rotavirus Study (NRRV)
- ROTA-BIOTIC: Measuring the Impact of Rotavirus Vaccines on Paediatric Antibiotic Usage
- ShigOra Vax Project: Early clinical development of an oral Shigella vaccine through phase II study in Africa

ETVAX III – ETEC Surveillance Study

Funder:
European and Developing Countries Clinical Trials Partnership

Time Period:
Feb 2020 - Feb 2025

The Enterotoxigenic E. coli (ETEC) is one of the major causes of moderate-to-severe diarrhoea (MSD) among children globally and in Zambia. The overall aim of this study is to document the burden of ETEC-associated diarrhoea in Zambian children under the age of three. This study seeks to determine diarrhoea aetiology, calculate the incidence of moderate-to-severe ETEC-associated diarrhoea, and describe the frequency of ETEC colonization factors and enterotoxin types in children under three years old in Zambia.

This prospective, longitudinal, and observational study was conducted in five clinical research sites: Chawama General Hospital, Matero General Hospital, Chainda South Clinic, George Clinic, and Kanyama General Hospital. The study was launched by conducting a household census within the catchment areas of participating health facilities, with 4,065 surveyed households. This was followed by passive 12-month diarrhoea surveillance at each participating health facility.

The study was completed in October 2021, and the analysis to determine the incidence of ETEC and other confections was completed in June 2022. The study is preparing for a phase III efficacy study to evaluate the ETVAX vaccine in children.

Immune Responses After Rotavirus Challenge (HIC GATES)

Funder:
Gates Foundation

Time Period:
Oct 2022 - Oct 2024

Rotavirus infection is a major cause of acute gastroenteritis in children, posing a significant public health threat in lower-middle-income countries (LMICs). While rotavirus vaccines demonstrate high efficacy in high-income countries, their effectiveness often drops below 50% in LMICs. Current measures of immune responses, primarily intestinal immunoglobulin A (IgA) and serum IgA, are inadequate correlates of protection. To address this gap, two neutralization assays, extracellular and intracellular, were used to evaluate the ability of rotavirus-specific serum antibody's ability to neutralize rotavirus. Both of these assays use a fluorescent focus approach and have shown promise in predicting antibody effectiveness in mice.

This study aimed at (i) validating these assays using serum samples from a Zambian rotavirus vaccine trial, facilitating the transfer of these assays to the CIDRZ immunology laboratory in Zambia, and (ii) determining the immune responses for a prime-boost regimen (oral prime (Rotarix) and parenteral (P2-VP8) boost). This study has the potential to enhance the evaluation of the efficacy of the candidate rotavirus vaccine in children.

Mapping Viral Reservoir Landscapes in Young People with HIV in Zambia

Funder:

Aidsfonds

Time Period:
May 2023 - May 2025

Evolving insights into HIV-1 persistence and the underlying mechanisms iteratively shape scientific efforts towards achieving HIV-1 cure or ART-free viral control. Studies in genetically diverse PLHIV in highly HIV-burdened, African settings, currently limited, are pivotal to inform the development of HIV-1 therapeutics that will be effective in African populations – more than 60% of the global population of PLHIV reside in Sub-Saharan Africa. Notably, in a recent study in a cohort of Ugandan PLHIV, a smaller but more diverse, peripheral inducible HIV-1 reservoir was observed compared to a US cohort of PLHIV, which might be associated with viral (e.g., higher cytopathicity of non-B HIV strains) and/or host factors (e.g., higher incidences of coinfections leading to less clonal expansion). A related study revealed a reduced frequency of viral outgrowth among women in Uganda, which may reflect low inducibility, less viral gene expression, or intrinsic elimination of reactivated cells, which warrants further elucidation. Moreover, women have a more robust type 1 interferon response during HIV infection relative to men, which contributes to lower initial plasma viremia and possibly smaller or restricted viral reservoirs. These findings raise important questions on potential responses to latency reversal and/or immune-based curative approaches in women with HIV.

In this study, we aim to set up a novel HIV-1 reservoir assay adapted for resource-constrained settings. This will enable studies to gain fundamental insights into HIV-1 persistence in women and the impact of differences in immune responses on the viral reservoir. These virologic and immunologic profiling studies will be applied to samples collected from young adults living with HIV-1, on first-line suppressive ART, enrolled into a cross-sectional study at Chainda First Level Hospital in Lusaka, Zambia.

Non-Replicating Rotavirus Study (NRRV)

Funder:

PATH

Time Period:
Apr 2019 - Jun 2024

This randomised controlled clinical trial evaluated the safety and efficacy of a novel parenteral vaccine, P2VP8, in Zambian infants. Data suggests that the parenteral vaccine was not efficacious and did not perform better than the oral Rotavirus vaccine, Rotatirx. Exploratory objectives on reasons for poor efficacy are currently under development.

ROTA-BIOTIC: Measuring the Impact of Rotavirus Vaccines on Paediatric Antibiotic Usage

Funder:
Amsterdam Institute for Global Health and Development (AIGHD)

Time Period:
Jun 2020 - Mar 2025

This longitudinal cohort study enrolled over 1500 Zambian and Ghanaian infants. The main aim was to evaluate the impact of differences in rotavirus vaccine effectiveness on antibiotic usage in Zambian and Ghanaian infants by assessing the relative efficacy of the TV P2-VP8 vaccine in comparison to Rotarix® in reducing prescription and non-prescription antibiotic consumption in the first two years of life. In addition, the study also assessed the background incidence of antibiotic usage in the community in the first two years of life was assessed. It also had a microbiome composition endpoint that aimed to determine the relationship between frequency of antibiotic use and faecal bacterial microbiome composition, ARG abundance and the relationship between (TV P2-VP8 and Rotarix efficacy) and faecal bacterial microbiome composition over the first two years of life.

ShigOra Vax Project: Early clinical development of an oral Shigella vaccine through phase II study in Africa

Funder:
European & Developing Countries Clinical Trials Partnership

Time Period:
Oct 2019 - Sep 2025

The ShigaPlexIM project is funded by the European & Developing Countries Clinical Trials Partnership (EDCTP2) Programme supported by the European Union. It aims to advance the clinical development of an injectable Shigella vaccine through Phase I trials in Africa, including studies with and without an adjuvant. The vaccine, InvaplexAR-Detox, targets Shigella flexneri serotypes 2a, 3a, and 6, with plans to include Shigella sonnei LPS later to enhance serotype coverage. The key objectives for this project include a Phase Ia/b trial in European and African adults, followed by an age-de-escalating Phase IIb trial in Zambia.

Baseline epidemiologic data has been generated on the incidence of Shigella disease among children under five presenting with moderate to severe diarrhoea at primary healthcare facilities in Burkina Faso and Zambia. The results will inform the design of the vaccine clinical trials, helping to ensure the vaccine trials are tailored to the local context. The manuscripts from the baseline epidemiological studies in Zambia and Burkina Faso are in the final draft and are pending submission.

06

IMPLEMENTATION SCIENCE

- Application of Implementation Science approaches to assess the effectiveness of Task-shifted WHO-PEN to address cardio metabolic complications in people living with HIV in Zambia
- Better Info South Africa
- Learn-As-we-GO (LAGO) Supplement
- One Health Baseline Survey
- PEN-PLUS: Domestication and Implementation of the Pen-Plus Clinical Model in the Zambian Health System
- Person Centred Approaches to Address Viremia: Connection, Rapport, and Engagement (P-CoRE)
- Prison PrEP Values Adherence and Implementation in Lusaka
- Reaching 90 90 90 in Adolescents in Zambia: Using all our SKILLZ
- Strengthening QI Through Person-Centered Approaches - SQI-PCC
- When are in-person HIV services worth the risk of COVID-19 and other communicable illnesses? Optimizing choices when virtual services are less effective - COVID-HIV Study

Application of Implementation Science approaches to assess the effectiveness of Task-shifted WHO-PEN to address cardio metabolic complications in people living with HIV in Zambia

Funder:
National Heart, Lung and Blood Institute at U.S. National Institutes of Health (NIH)

Time Period:
Sep 2020 - Aug 2025

The TASKPEN project focuses on task shifting and integrating the WHO Package of Essential Non-communicable Disease Interventions (WHO-PEN) approach to managing cardiometabolic co-morbidities and complications of HIV into routine care settings for persons living with HIV in Lusaka, Zambia. From 2020-2022, using local data and implementation science theory, the project adapted WHO-PEN for the national HIV programme in Zambia and created a streamlined package of evidence-based practices and implementation strategies that we have coined "TASKPEN". During this time, we also piloted the TASKPEN package at 2 health facilities in Lusaka.

In June 2023, the project began the scale-up of the TASKPEN package at 12 health facilities in Lusaka using a cluster-randomized, hybrid type 2 effectiveness-implementation stepped wedge trial design. The trial aims to evaluate the clinical effectiveness and implementation outcomes of the TASKPEN package for integrating cardiometabolic non-communicable disease care in routine HIV care settings in Lusaka, Zambia. To date, we have engaged national and international stakeholders in the study design and implementation, published the UH3 Trial protocol paper in the journal Implementation Science Communications, enrolled over 3,700 of the target 5,560 study participants, introduced the intervention at 8 of the target 12 health facilities, trained and mentored dozens of government health workers on the TASKPEN package, and presented our pilot findings in various national and international forums.

Better Info South Africa

Funder:
Human Sciences Research Council

Time Period:
Oct 2023 - Jan 2026

In 2018, the BetterInfo study provided insights into disengagement from HIV care and potential re-engagement strategies. Building on BetterInfo's work in Zambia, we continue to provide technical support for implementation in South Africa. BetterInfo's goal is to identify the entry and exit stages in the care process and understand the factors affecting different populations. By predicting care trajectories for PLHIV, the study aims to develop targeted interventions to improve long-term retention and re-engagement in care.

The study team conducted an exchange visit to the Human Science Research Council, KwaZulu-Natal (SA), from February 11 to 18, 2024. Key activities included a site visit to Ethembeni Clinic, where 150 files were assessed for tracing. After this visit, recommendations focused on team integration, task allocation, and training to enhance data retrieval and study objectives.

Learn-As-we-GO (LAGO) Supplement

Funder:

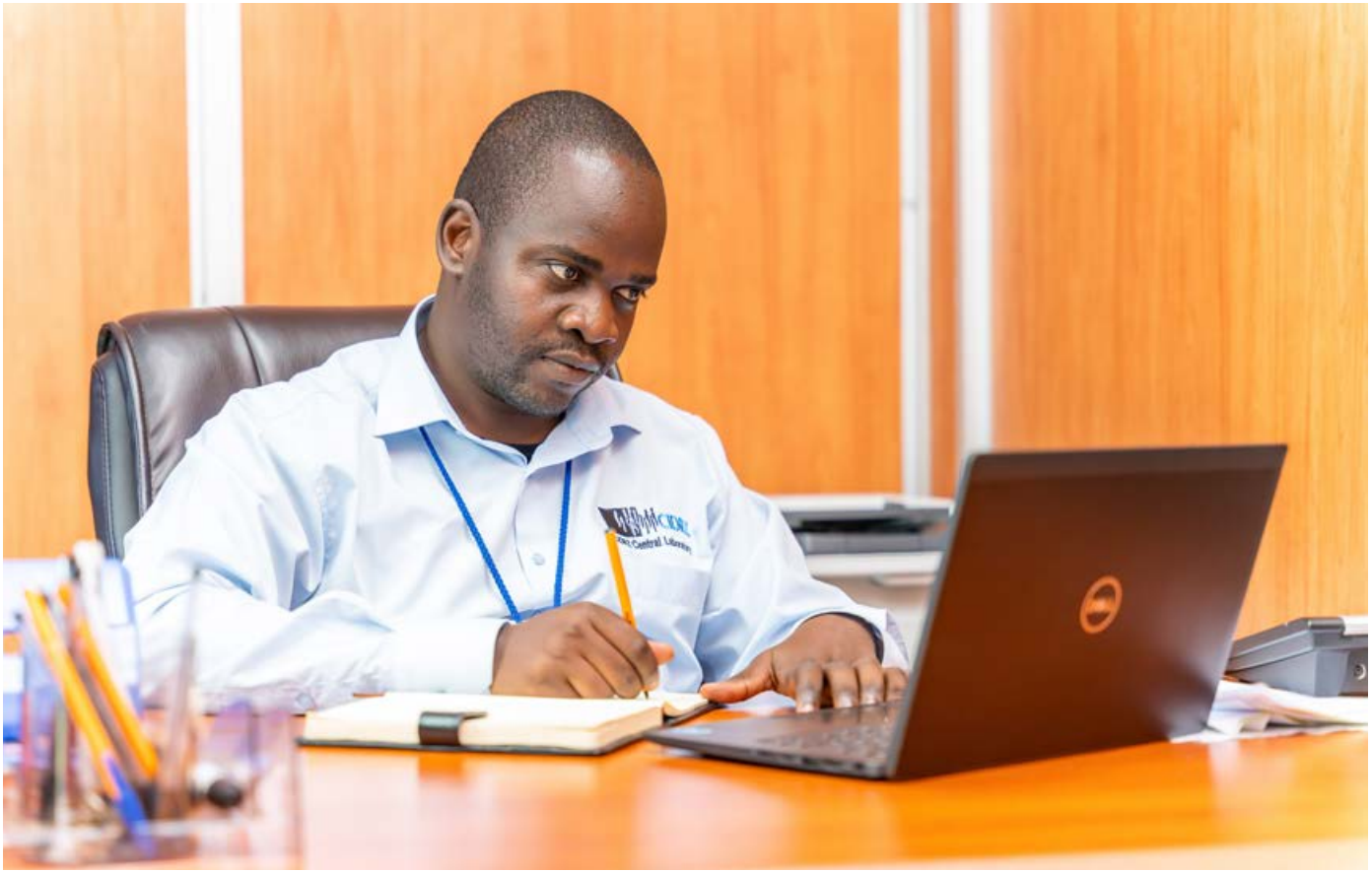
National Institutes of Health (NIH)

Time Period:

Sep 2023 - Aug 2024

Often, at the study planning stage, the hypothesized intervention effect and/or the baseline event rate is mis-specified, and these sorts of misspecifications are likely to lead to 'failed trials'. In September 2023, the Learn-As-we-GO (LAGO) supplement was secured to strengthen the intensity and fidelity of the TASKPEN intervention package. This was done by exploring ways to refine components of our intervention using the novel 'Learn As You Go' method to optimize the overall effect, thereby reducing the risk of running a large, expensive, failed trial. The intervention package will be repeatedly adapted and improved in pre-specified LAGO evaluation stages while the trial is ongoing. The required data for LAGO optimization has been compiled, and the LAGO tables have been developed.

CIDRZ is working with collaborators at Yale University in the USA and IDRC in Uganda to refine the statistical coding for the preliminary optimization. Data collected and used for optimization included routine care data from SmartCare, TASKPEN participant survey data, and administrative and costing data from trial implementation strategies encompassing practice facilitation, audit, and feedback.



PEN-PLUS: Domestication and Implementation of the Pen-Plus Clinical Model in the Zambian Health System

Funder:

Leona M. and Harry B. Helmsley Charitable Trust

Time Period:
Nov 2021 - Oct 2024

During the reporting period, the project actively contributed to developing the national PEN Plus operational plan which is focused on providing prevention, care, and treatment for serious NCDs. The PEN Plus team assisted the Ministry of Health (MoH) in forming a task force to lead the planning process. Several meetings were held, facilitating the creation of a plan to guide the national scale-up of the PEN Plus programme, including its timeline.

The goal of this scale-up is to significantly reduce new NCD-related deaths by improving the management of chronic NCDs among the most vulnerable populations. The PEN Plus model will enable better patient care by providing access to services delivered by mid-level healthcare providers at first-level hospitals. The operational plan will also detail the costs of scaling up, providing the MoH with an understanding of the financial requirements for nationwide implementation.

The operational plan is being led by the Zambia National Poverty Network Taskforce and chaired by the Permanent Secretary for Technical Services at MoH. The final draft is scheduled to be submitted to the MoH Permanent Secretary for review and validation in the coming months.

The PEN Plus project is in its final year of the initial three-year funding cycle, which ends on October 31, 2024. However, the project has been awarded additional funding for a two-year, seven-month extension, effective November 1, 2024.

Person Centred Approaches to Address Viremia: Connection, Rapport, and Engagement (P-CoRE)

Funder:

Gates Foundation

Time Period:
Oct 2023 - April 2027

CIDRZ received approval to conduct the Person-Centred approaches to Viremia: Connection, Rapport, and Engagement (P-CoRE) study from the University of Zambia Biomedical Research Ethics Committee (UNZABREC) on 16th April 2024 and the National Health Research Authority (NHRA) on 20th June 2024. A pilot study is ongoing in two facilities to test study measurements before the sensitisation and roll out of the study in 24 facilities in Lusaka and Central Province. Additionally, we have begun to engage and sensitise National level staff at the Ministry of Health who are involved in enhancing viremia detection, re-engagement in care and viral suppression among people living with HIV (PLHIV).

Our approach includes a stakeholder engagement process to develop and evaluate a scalable and sustainable person-centred package for addressing viremia in disproportionally affected populations. To accomplish this, the project is structured around three key objectives, including identifying disproportionately impacted populations and prevailing pathways to viremia, developing an intervention package called “Person-Centred approaches to Viremia: Connection, Rapport, and Engagement (P-CoRE)” to improve viremia detection, re-engagement in care, and sustained VLS and testing the interventions using a parallel cluster-randomised trial in 24 facilities.

Prison PrEP Values Adherence and Implementation in Lusaka

Funder:

National institute of Mental Health (NIMH) at the United States National Institute of Health

Time Period:
Apr 2023 - Mar 2025

With funding from the U.S. National Institutes of Mental Health, the PrEVAIL study launched in August 2023 as a partnership between CIDRZ and the University of Maryland Baltimore and CIHEB-Zambia to understand the HIV risk behaviours and preferences for HIV pre-exposure prophylaxis (PrEP) among justice-involved people. PrEVAIL started enrolling incarcerated people detained at four correctional facilities in Lusaka, Zambia, in August 2023 after obtaining all regulatory and administrative approvals from the Zambia Correctional Service, the National Health Research Authority of the Ministry of Health (MOH), and the University of Maryland Institutional Review Board.

A total of 706 participants were enrolled between 8 August 2023 and 31 March 2024. MOH offered these participants PrEP at enrollment and included both people who where initiated and those that declined PrEP. Participants are being followed up at months 1, 3, 6, 9, and 12 after enrollment, including in the community after release from the correctional facility.

As of September 2024, 1,087 study follow-up visits had been completed. 514 (73%) participants have had at least one follow-up visit thus far. Furthermore, 199 urine tenofovir adherence tests were conducted among 155 participants, and the results showed that 57 (28.6%) were adherent to PrEP. A complementary qualitative component of the study is examining contextual health behaviour, implementation, and health system factors associated with PrEP uptake, persistence, and adherence. Thus far, 37 PrEP users and non-users have been interviewed, and follow-up interviews will be conducted for all participants after release. The study is scheduled to conclude all participant interactions and data collection activities in March 2025.

Reaching 90 90 90 in Adolescents in Zambia: Using all our SKILLZ

Funder:

National Institute of Health

Time Period:
Aug 2018 to May 2024

The SKILLZ study constituted an experimental investigation involving up to 46 educational communities randomly allocated to either the SKILLZ Girl package or traditional school-led comprehensive sexuality education programs (CSE). The main objective of the SKILLZ study was to evaluate the impact of the SKILLZ GIRL Package, directed at adolescent schoolgirls living with and without HIV over a 12-month duration.

In addition, the secondary aims of the SKILLZ study also include:

- Describe linkage to care and treatment and viral load suppression and retention at 6 and 12 months for girls who are identified to be living with HIV during the study.
- Examine how the intervention works, including lessons learned for future implementation.
- Examine how the intervention works by monitoring fidelity.

In FY24, the SKILLZ study concentrated on finalizing data analysis, disseminating the study findings, and drafting manuscripts and abstracts for publication. To date, a total of two dissemination meetings have been conducted, six abstracts have been drafted, submitted, and accepted at international and national conferences, and two manuscripts have been drafted and submitted to peer-reviewed journals pending publication.

The results indicated that 79% of girls in the intervention schools participated in SKILLZ, with 71% attending at least 8 of the 12 sessions. At the six-month mark, 59% of girls in the intervention schools and 37% in the control schools had undergone HIV testing, while 37% of those in the intervention schools and 30% in the control schools had utilized contraception. These effects were sustained at the 12-month point.

The SKILLZ intervention markedly enhanced the uptake of HIV testing and contraception among adolescent girls within educational institutions. Additional research is needed to explore the mechanisms and variations in treatment effects further before the broader implementation of the intervention.

Strengthening QI Through Person-Centered Approaches - SQI-PCC

Funder:

Gates Foundation

Time Period:

Aug 2022 - Feb 2024

Following the establishment of terms of reference/letter of agreement with the MOH Quality Improvement/Performance Improvement (QI/PI) unit, the SQI-PCC CIDRZ project has made significant progress thus far, including the integration of PCC into policy documents such as the National Differentiated Service Delivery (DSD) framework and the draft National Quality Assurance and Quality Improvement strategy. The project has completed a review of the QI/PI landscape in Zambia, resulting in the development of a comprehensive report and presentation. Critically, there has been buy-in on PCC from MOH leadership.

Trainer of Trainers in PCC were conducted in five districts, with support from CDC and CIDRZ PROUD-Z, which have subsequently rolled out training for HCWs in PCC. Moreover, ongoing involvement and support to the MOH to harmonise several packages on customer care services, instructions for silent transfers and person-centeredness developed by different partners, including our own PCC package. The project also developed a policy brief on PCC findings and a road map for integrating PCC into national activities. Two abstracts were also presented in Washington DC at the Conference on the Science of Dissemination and Implementation in Health. The two abstracts focused on the evidence entrepreneurship journey of PCC in Zambia and the potential barriers to integrating evidence-based PCC in Zambia.

When are in-person HIV services worth the risk of COVID-19 and other communicable illnesses? Optimizing choices when virtual services are less effective - COVID-HIV Study

Funder:

National Institute of Mental Health

Time Period:

May 2022 - Jul 2025

The COVID-HIV study seeks to use mathematical modelling to determine which patients should use lower-contact services currently provided to people living with HIV and at which times. The study uses HIV programme data to estimate the effectiveness of lower-contact services offered during COVID-19 and their higher-contact counterparts. It is also determining the risk of infections associated with higher-contact vs. lower-contact HIV services. We conducted primary measurements of time, crowding, and airflow in 65 clinical spaces. We will estimate potential exposures, severe disease episodes, and deaths due to COVID-19 and tuberculosis using mathematical modelling.

07

NETWORK TRIALS

- CAPRISA 012C: A Double-blinded, Randomized, Placebo-controlled Phase II Trial to Assess Extended Safety and Tolerability of Subcutaneous CAP256V2LS and VRC07- 523LS in HIV-negative Women.
- COVPN 3008 – Multi-Centre, Randomized, Efficacy Study of COVID-19 mRNA Vaccine in Regions with SARS-CoV-2 Variants of Concern
- CTU CORE MATERO CRS
- HVTN Research and Mentorship Programme (RAMP 2)
- HIV- Human Leukocyte Antigen CLASS I

CAPRISA 012C: A Double-blinded, Randomized, Placebo-controlled Phase II Trial to Assess Extended Safety and Tolerability of Subcutaneous CAP256V2LS and VRC07-523LS in HIV-negative Women.

Funder:

National Institute of Health

Time Period:
Aug 2023 - Dec 2024

The purpose of the study is to assess the extended safety and tolerability of subcutaneous CAP256V2LS and VRC07-523LS monoclonal antibodies in HIV-negative women to assess extended safety and obtain an estimate of efficacy in preventing HIV infection in young women. The study is in the follow-up phase and has enrolled 1024 HIV-negative women between the ages of 18 and 30, with 95% (974) of the study population enrolled in two sites in South Africa and 5% (50) at the Matero Clinical Research Site (CRS) in Zambia.

The Matero CRS was activated in August 2023, with enrolment activities concluded in December 2024 and vaccination activities in May 2024. Participants are in the follow-up phase with a retention rate above 90%. In December 2023, Data Safety Management Board members commended the team for the remarkable conduct of the CAPRISA 012C study, the excellent quality of the presentations, and the completeness of the safety reports. They recommended the continuation of the study.
focused on the evidence entrepreneurship journey of PCC in Zambia and the potential barriers to integrating evidence-based PCC in Zambia.

COVPN 3008 – Multi-Centre, Randomized, Efficacy Study of COVID-19 mRNA Vaccine in Regions with SARS-CoV-2 Variants of Concern

Funder:

National Institute of Health

Time Period:
Jan 2022 - Jan 2024

The goal of this study was to evaluate the safety and effectiveness of the Moderna COVID-19 mRNA vaccine in seven countries. Over 14,000 participants were enrolled in 47 sites, including adults living with HIV as well as adults with other conditions (such as obesity or diabetes), which may also increase the risk of severe COVID-19. The study assessed how well the COVID-19 mRNA vaccine by Moderna, Inc. helped to prevent COVID-19 illness, including severe illness, among participants. Considering many people previously had COVID-19, the study also compared how mRNA vaccines work among those who previously had COVID-19 compared to those who had not.

Study findings showed that people with prior COVID-19 infection who got one vaccination before the sixth month had a significantly lower chance of getting ill or severely ill from COVID-19 in the first six months after vaccination compared to people without prior COVID-19 at enrolment who got two vaccinations before month six. These findings suggest that combining prior infection with vaccination may provide stronger protection against COVID-19 than vaccination alone. In other words, prior COVID-19 illness likely enhances the protection provided by vaccination.

CTU CORE MATERO CRS

Funder:
National Institute of Health

Time Period:
Dec 2020 - Nov 2024

The Alabama-to-Zambia CTU has continued to support the NIAID HIV/AIDS scientific priorities through therapeutics and prevention trials. This award supports regulatory, clinical, data, laboratory, and implementation activities for all active Clinical Trials Unit-affiliated studies being conducted at the Matero Clinical Research Site (CRS). Over this reporting period, DAIDS determined that, due to inadequate past or planned participation in ongoing or future Network studies, the Matero Reference Clinic CRS (30290) has been transitioned from a core HVTN Network site to an NIAID Reserve site effective 12/1/2023. The site will remain in the DAIDS Database for potential selection for upcoming protocols on an as-needed basis.

HVTN Research and Mentorship Programme (RAMP 2)

Funder:
National Institutes of Health (NIH)

Time Period:
Dec 2023 - Nov 2024

RAMP is a programme of the HIV Vaccine Trials Network (HVTN), headquartered at Fred Hutchinson Cancer Center (Fred Hutch). This is a short-term project during which the study collected data using a survey with 200 participants and in-depth interviews with 50 to explore COVID-19 vaccine myths, misinformation, misconceptions and sources among the PLHIV on the COVPN 3008 study at Matero CRS and among the PLHIV at ART clinics in Lusaka, Zambia between July and August. Currently, data is being transcribed and analyzed in preparation for a manuscript.

HIV- Human Leukocyte Antigen CLASS I

Funder:
Africa Health Research Institute

Time Period:
Nov 2022 - Oct 2023

This study will identify the human leukocyte antigen (HLA) class I genes that restrict highly networked epitopes and are associated with protective immunity against HIV subtypes that circulate in the region to add to the development of vaccines that will be effective in sub-Saharan Africa.

08

PAEDIATRICS AND CHILD HEALTH

- Enhancing Sexual Reproductive Health, Menstrual Management Among Adolescents Including Differently Abled Adolescents (ESMADA)
- Pregnant and Parenting Girls (P2G) Project
- The Zambian Informed, Motivated, Aware, Responsible Adolescent Girls and Adults (ZAIMARA)

Enhancing Sexual Reproductive Health, Menstrual Management Among Adolescents Including Differently Abled Adolescents (ESMADA)

Funder:

Estee Lauder

Time Period:
Sep 2022 - Sep 2024

The ESMADA project aimed to scale up the My Safe Space Mobile App (MSS App), build the capacity of healthcare workers to provide services to adolescents with disabilities, promote menstrual hygiene and management, and improve HIV awareness and sexual reproductive health (SRH) among adolescents in Lusaka. The project was implemented in several communities and health facilities, including Kanyama, Chawama, George, Matero, Chipata, Bauleni, Chilenje, Chaisa, Mtendere, Chainda, Kamwala, and Mandevu.

With a target of 10,000 at the end of June 2024, the project reached 6,998 MSS mobile app users, translating to 70% of the target. This was accomplished through social media advertising (Facebook) with the assistance of the CIDRZ communication department from January 1 to March 31, 2024, which improved app visibility and resulted in a rise in app downloads.

Additionally, the project partnered with E-ngoma, a digital company providing WiFi connectivity to four youth-friendly spaces in Chawama, Kamwala, Mandevu, and Matero. The strategy involved ensuring adolescents downloaded the My Safe Space app before accessing internet connectivity. The project recorded 369 logins/sessions, with an average of 92 sessions per hotspot and 62 average hotspot users.

The project also focused on building the capacity of healthcare workers (HCWs) to provide SRH services to adolescents living with disabilities. Consequently, a training course was held in March 2024, with 24 health workers, including 12 adolescent focal point persons and 12 facility in-charges, trained in disability sensitivity.

To promote menstrual health and hygiene (MHM) for 2,000 girls, the project provided menstrual hygiene packages, each consisting of three reusable pads and one bar of soap, to 1,000 adolescents and 1,000 adolescents living with disabilities. Additionally, 12 community schools within the implementation sites received 20-litre hand-washing buckets. Of the 9929 reached with ESMADA project services, all 9929 completed the Comprehensive Sexuality Education (CSE) package.

Pregnant and Parenting Girls (P2G) Project

Funder:

VIV Health Care

Time Period:
Mar 2021 - Nov 2024

The Pregnant and Parenting Girls (P2G) Project has the objective of improving resilience among adolescent girls aged 10-19 years living with HIV and are pregnant or parenting a child under two years old. The project is funded by ViiV Healthcare UK and has been implemented over a period of three years from April 2020. Over this reporting period, 1,350 adolescent girls were recruited into the programme and impacted with a comprehensive package of interventions intended to build resilience, improve adherence and prevent mother-to-child transmission. The package of interventions included education in sexual and reproductive health and rights, skills development, young father involvement, mother-baby pairing (Tingathe) and the Girls for Girls (G4G) leadership programme.

The Tingathe programme successfully enrolled 252 newborn babies. These results encompass tests conducted from birth to 18 months. 572 VL results were recorded for both pregnant and parenting girls, with 537 being virally suppressed, achieving a 94% suppression rate.

The G4G programme successfully enrolled 169 young girls. This milestone signifies the programme's effectiveness in empowering young women to step forward as community leaders. The programme facilitated a drug abuse expert to mentor the eight girls, imparting knowledge on the impacts of drug abuse and equipping them to educate their peers.

In addition, 10 girls from George Township took the initiative to spearhead a community cleanup project which involved cleaning one of the local streets, demonstrating their commitment to improving their environment. During the reporting period, 147 young fathers aged 18 to 24 who are partners to the project beneficiaries were enrolled. Further, a Boys to Men conference was organized to equip them to be supportive partners and responsible fathers. The conference covered important topics including mental health, male leadership, financial literacy, reproductive and sexual health, and health-seeking behaviours.

The Zambian Informed, Motivated, Aware, Responsible Adolescent Girls and Adults (ZAIMARA)

Funder:

National Institutes of Health (NIH)

Time Period:

Sep 2023 - Aug 2027

The study is a hybrid effectiveness-implementation research focused on systematically adapting the Informed, Motivated, Aware, Responsible Adolescent Girls and Adults (IMARA) curriculum, which was previously tailored for South Africa (IMARA-SA), for use in Zambia. The adapted curriculum has been renamed the Zambian Informed, Motivated, Aware, Responsible Adolescent Girls and Adults (ZAIMARA). ZAIMARA curriculum focuses on strengthening communication between adolescent girls and young women (AGYW) and their mother figures (MF) to help them make healthy sexual decisions, learn more about HIV, sexually transmitted infections (STIs), and pre-exposure prophylaxis (PrEP). The topics in the curriculum focus on effective communication, mothers talking to daughters on sex, HIV, STIs and PrEP. The intervention consists of participants attending a two-day workshop with their MF. The study aims to evaluate the impact of ZAIMARA on improving HIV testing, HIV and STI incidence, PrEP uptake, and sexual risk behaviour among adolescent girls and young women. Additionally, the study will assess the effects of monthly mental health screenings with referrals versus monthly nutrition and exercise screenings on the job retention of peer leaders. Implementation factors and outcomes associated with ZAIMARA will also be examined across five sites.

In the first year, the focus was on locally adapting the curriculum with the adolescent and adult community advisory board (CAB) for use in Zambia and training local trainers in ZAIMARA. In the second and third years, the study will recruit adolescent girls and mother figures for a randomized controlled trial aimed at evaluating the effectiveness of ZAIMARA and the Health Promotion Curriculum in enhancing HIV testing, HIV and STI incidence, PrEP uptake, and sexual risk behavior.

09

PRIMARY CARE AND HEALTH SYSTEMS STRENGTHENING

- COVID-19 Vaccines Delivery Support (CDS) Needs-based and Third Round
- ELMA Cholera Relief
- Health Systems Strengthening / Equity Accelerator Fund
- Human Papillomavirus Vaccine (HPV-MAC)
- Human Papilloma Virus Technical Country Assistance
- Measles Rubella Supplementary Immunisation Activities
- One Health Baseline Survey
- Partnership Engagement Framework Technical Country Assistance
- Polio Laboratory Sample Transport

COVID-19 Vaccines Delivery Support (CDS) Needs-based and Third Round

Funder:
Gavi Alliance

Time Period:
Jul 2022 - Dec 2025

This funding initially focused on addressing the immediate challenges in deploying and expanding COVID-19 vaccines. As global COVID-19 cases declined, the focus shifted to integrating COVID-19 into routine immunisation services, as well as addressing declining immunisation coverage rates and an increase in the number of zero-dose children. This led to the development of an EPI recovery plan—as part of Zambia's Big Catch Up (BCU) initiative aimed at restoring pre-pandemic coverage and strengthening immunisation systems. CIDRZ has supported the planning for the implementation of the recovery plan.

To enhance data collection for immunisation efforts, CIDRZ supported a pilot of the DHIS2 Routine Immunisation tracker to capture real-time vaccination data during the BCU. In June 2024, CIDRZ supported a seven-day Technical Supportive Supervision (TSS) exercise during Child Health Week across four provinces.

ELMA Cholera Relief

Funder:
ELMA Relief Foundation

Time Period:
Feb 2024 - Nov 2025

As part of its efforts to combat cholera, CIDRZ supported the MOH in conducting Oral Cholera Vaccination (OCV) campaigns and social mobilisation activities in identified cholera hotspots in Siavonga and Chipata districts. CIDRZ supported the government with outreach and supportive supervision during these campaigns. In Siavonga, a four-day campaign successfully administered 2,764 doses of the vaccine, achieving 100% coverage of the target population. In Chipata district, 331,424 doses were administered, resulting in 99% coverage. This grant additionally supported the procurement of laboratory materials for collecting cholera samples and testing, with 170 water samples collected and tested in cholera hotspot areas.

Health Systems Strengthening / Equity Accelerator Fund

Funder:
Gavi Alliance

Time Period:
Mar 2024 - Dec 2028

CIDRZ is working in collaboration with the MOH, CHAZ, UNICEF, and WHO to reach zero-dose children (missing DPT1) and improve vaccine coverage across 23 poor-performing districts. The project inception meeting has already taken place, and CIDRZ is supporting last-mile vaccine distribution in the 23 targeted districts across six provinces, ensuring vaccines reach even the most remote communities. CIDRZ also awarded a sub-grant to Akros to develop an electronic GIS microplanning tool to improve the identification and mapping of vulnerable populations and underserved areas.

Additionally, CIDRZ supported the Zambia Immunisation Technical Advisory Group (ZITAG) meetings, where experts provided recommendations on the routine immunisation schedule and catch-up vaccination strategies. They also reviewed the national immunisation schedule, assessed the status of school health vaccinations and health worker vaccinations, and provided evidence-based policy recommendations to strengthen immunisation efforts.

Human Papillomavirus Vaccine (HPV-MAC)

Funder:
Gavi Alliance

Time Period:
Sep 2023 - Aug 2024

In September 2023, Zambia launched the HPV MAC vaccination campaign, targeting both in-school and out-of-school girls aged 9 to 14. This initiative aimed to revitalise efforts to address declining HPV vaccine coverage.

CIDRZ supported HPV refresher training across three provinces, providing orientation to 92 District Nursing Officers and District Education Officers. As part of its broader support, CIDRZ facilitated the orientation of 580 district-level staff across all 116 districts, including representatives from the District Education Boards. Additionally, CIDRZ supported the production and distribution of field guides and training materials used during the orientations and trainings.

Human Papilloma Virus - Technical Country Assistance

Funder:
Gavi Alliance

Time Period:
Dec 2024 - Nov 2025

In response to declining HPV vaccine performance, CIDRZ is supporting efforts to strengthen HPV vaccination. Part of these efforts followed the HPV MAC, introducing the HPV tracker (electronic data capture system) and clearing the subnational data entry backlog. This included supporting 285 MOH data entry clerks across 86 districts, clearing 115,002 entries.

CIDRZ also supported efforts to increase vaccine coverage and reach immunocompromised girls who missed their second HPV doses by supporting targeted “mop-up” vaccination activities in Western, Southern, Lusaka, and Copperbelt provinces.

Measles Rubella Supplementary Immunisation Activities

Funder:
Gavi Alliance

Time Period:
Sep 2024 - Nov 2025

CIDRZ supported the MOH’s Expanded Programme on Immunisation (EPI) and other partners in strengthening immunisation services in the country. Through funding from the Global Alliance for Vaccines and Immunisation (Gavi), Zambia conducted a Measles-Rubella Supplementary Immunisation Activity (MR SIA) in September 2024. This MR SIA was part of the measles outbreak response. It aimed to reach just over 4 million children aged 9-59 months, regardless of their immunisation status. CIDRZ provided TA through planning and coordinating activities ahead of the implementation, including developing training materials and tools.

CIDRZ also supported the national MR SIA orientations, which cascaded from over 1,000 provincial/district officers trained to approximately 4,500 health facilities oriented for the campaign. The SIA was conducted from 23rd to 28th September 2024, during which time CIDRZ supported all districts with last-mile implementation for healthcare workers to conduct the campaign. The country achieved 95% coverage.

One Health Baseline Survey

Funder:

Department of Agriculture Food and the Marine

Time Period:

Jul 2024 - Jun 2025

The One Health baseline research study aims to comprehensively understand human, animal, and environmental health interrelation within Zambia's diverse ecosystems. The rationale for this study is grounded in three key factors. Firstly, Zambia faces significant health challenges due to zoonotic diseases, which account for a considerable proportion of public health threats. This study aims to gather insights into the knowledge and practices of various system actors regarding food safety, animal disease surveillance, animal medicines controls, and one health systems regulation to provide critical data that will inform targeted interventions and policies. This research aligns with programmed activities under Zambia's National One Health Strategy (2022-2026).

Secondly, the agricultural sector, a cornerstone of Zambia's rural economy, heavily relies on healthy livestock and sustainable farming practices. The study will gather insights into the practices of food producers, traders, and markets, which are essential for identifying potential areas of improvement and innovation. This is particularly crucial as the agricultural sector supports the livelihoods of a large portion of the population and plays a vital role in food security.

Thirdly, the One Health approach emphasizes the importance of collaboration between various sectors and disciplines. This baseline study aims to ascertain levels of awareness among health professionals, veterinarians, environmental scientists, and policymakers. The data collected will serve as a foundation for future research and intervention strategies, ultimately aiming to reduce the incidence of zoonotic diseases and improve overall health outcomes.

Partnership Engagement Framework Technical Country Assistance

Funder:

Gavi Alliance

Time Period:
Feb 2023 - Mar 2024

CIDRZ has continued providing Technical Country Assistance (TCA) to the MOH to strengthen health systems, build capacity, and improve immunization coverage and equity. A key component of this grant was the secondment of an Immunization Specialist to the EPI. The secondee facilitated critical processes, including the submission of annual immunization cost estimates to UNICEF. This technical assistance also supported forecasting and quantification exercises essential to the Mid-Term Expenditure Framework Planning for 2024–2027. Two quarterly reviews and a comprehensive stock analysis were conducted, informing crucial shipment plans.

CIDRZ supported the Zambia Immunization Technical Advisory Group (ZITAG), which guided the revision of the national immunization schedule for catch-up strategies and established age caps to reach under-immunized children, particularly those in schools.

Moreover, CIDRZ collaborated with the MOH to conduct an in-depth analysis and develop a strategic plan to target zero-dose children in Kabwe District. This process included a pre-, mid-, and post-intervention analysis, supported by targeted TSS (Technical Support Supervision) activities. The insights gained were complemented by a desk review and additional TSS activities to address gaps identified by the zero-dose analysis.

As part of broader national efforts, CIDRZ contributed to developing Zambia's immunization recovery plan, known as "The Big Catch Up" (BCU). This plan is designed to reach children who missed scheduled vaccinations, restore vaccination coverage rates, strengthen immunization systems within Primary Health Care (PHC), and build programme resilience to accelerate progress in reaching zero-dose children.

Polio Laboratory Sample Transport

Funder:

Village Reach

Time Period:
Sep 2022 - Nov 2023

CIDRZ, with funding from Village Reach, worked in collaboration with the Zambia National Public Health Institute (ZNPHI), the MOH, and partners to strengthen the country's polio Sample Referral System (SRS). The expected outcome was improved timeliness and quality of Acute Flaccid Paralysis (AFP) and Environmental Surveillance (ES) samples delivered to the University Teaching Hospital (UTH) virology laboratory, along with reduced staff time spent away from healthcare activities. This project was implemented in 7 of 10 provinces.

Each month, the project supported lab data analysis and troubleshooting with the districts on performance issues to maintain quality and timeliness standards. Further, the project supported other activities to strengthen polio SRS, including data reviews, data harmonisation meetings, and the procurement of buffer stocks. National and subnational-level supervisors were trained on using and monitoring the Remote Temperature Monitoring (RTM) devices piloted in five sites.

On average, sample transport time improved from 3.3 to 2.1 days for AFP samples (86% achieving target) and from 1.5 to 1.1 days for ES samples (98% achieving target). Similarly, sample quality improved from 65% to 99% for AFP and 53% to 89% for ES samples.

The project also supported developing a detailed transition plan, which outlined the steps and responsibilities for handing over project activities to ZNPHI/ Ministry of Health (MOH). The project ended in March 2024, and the transition plan was successfully implemented.

10

REPRODUCTIVE, MATERNAL, NEWBORN, AND CHILD HEALTH

- Advancing Cervical Cancer Screening in HIV Positive Women (ACCHIVe)
- Assessment of Neisseria Gonorrhoeae and Chlamydia Trachomatis Sexually Transmitted Infection Prevalence Among Pregnant Women, Adolescents, and Key Populations in Lusaka, Zambia
- Comparative Effectiveness of Cervical Cancer Screening Policies in Zambia - A Mathematical Approach
- Impact of Admission to the Kangaroo Mother Care Ward on Maternal Postpartum Depression (KMC PPD)
- Longitudinal Analysis Of HR-HPV Infection and Cervical Intraepithelial Neoplasia in Women Living With HIV
- Monitoring and Evaluation of the National Syphilis Screening and Treatment Programme
- Randomized Controlled Trial of Higher-Volume Breastfeeding in Preterm Neonates
- Syphilis in Pregnancy Study (SIPS)
- Verification of a Predictive Test for Preterm Preeclampsia in a Black Population

Advancing Cervical Cancer Screening in HIV Positive Women (ACCHIVe)

Funder:

Swiss National Science Foundation

Time Period:
Apr 2020 - Dec 2024

Zambia is in the midst of two overlapping epidemics, HIV and Cervical Cancer. In Zambia, 15% of women of childbearing age are HIV-positive, and of those, 90% are infected with high-risk variants of HPV. Despite this background, Cervical Cancer screening service uptake remains low in Zambia due to various reasons, which include culture, fear of knowing and other perceptions. Given this scenario, it is imperative for cervical cancer programming to understand the reasons for low uptake and how best to mitigate this. The Advancing Cervical Cancer Screening in HIV-positive Women (ACCHIVe) study aims to undertake an in-depth, multifaceted analysis of the sentinel program in Zambia to identify bottlenecks, facilitators, and barriers to providing Cervical Cancer care in Zambia. The study uses qualitative methods to explore barriers and facilitators to the uptake of Cervical Cancer services in Zambia, followed by quantitative methods to assess associations between Cervical Cancer services and key predictors.

Interviews and surveys were conducted with women in communities and health facilities, including women on ART programmes and women diagnosed with cervical cancer lesions, and with health care providers in the three districts of Lusaka, Chipata, and Lundazi.

As a first step to addressing some barriers and capitalizing on facilitators, the project conducted street drama using a drama troupe trained on cervical cancer, incorporating key findings and recommendations from the qualitative study. Secondly, the project created a radio drama show that was scripted based on the key themes from the transcripts. Additionally, the project hosted dissemination meetings with key cervical cancer stakeholders from Chipata and Lundazi District and Provincial Offices, where they shared study findings and discussed a roadmap for implementing recommendations.

Assessment of Neisseria Gonorrhoeae and Chlamydia Trachomatis Sexually Transmitted Infection Prevalence Among Pregnant Women, Adolescents, and Key Populations in Lusaka, Zambia

Funder:

GARDP Foundation

Time Period:
Feb 2024 - Mar 2025

Globally, more than one million people acquire a sexually transmitted infection (STI) every day, amounting to around 374 million infections annually. Some viral STIs, like Human Papilloma Virus (HPV) and Human Immunodeficiency Virus (HIV), are still incurable and can be deadly. However, some bacterial and parasitic STIs – like chlamydia and gonorrhoea– are curable. Infections with Chlamydia trachomatis (CT) and Neisseria gonorrhoeae (NG) are very common both in resource-rich and resource-limited settings. The effectiveness of available treatment options is diminishing due to increasing rates of antimicrobial resistance (AMR).

In Zambia, STIs are an increasing public health problem, with an estimated 200,000 cases treated annually. According to the recent Health Management Information Systems (HMIS) report, the number of new STIs in Zambia has risen from 237,531 cases in 2017 to 503,325 cases in 2021. However, screening for NG and CT infection in Zambia is not routinely performed, with women typically managed syndromically. Therefore, the true burden of undiagnosed asymptomatic infection to public health is unknown.

Therefore, this study aims to understand the burden of disease of NG and CT among pregnant women as priority STIs that cause adverse birth outcomes and among high-risk populations (adolescents, FSW, and HRM) disproportionally affected by STIs and their consequences. The study objective is to epidemiologically describe the prevalence of these two infections among pregnant women, non-pregnant adolescent girls and boys, and KPs, thus, by proxy, the general population in Zambia.

Comparative Effectiveness of Cervical Cancer Screening Policies in Zambia - A Mathematical Approach

Funder:
Swiss Cancer Research and IeDEA Network

Time Period:
Jun 2023 - May 2026

Cervical cancer (CC) is the fourth leading cause of cancer deaths globally and the leading cause of cancer deaths in women in 36 countries, including Zambia. In 2020, the World Health Organization (WHO) issued global policy recommendations to eliminate cervical cancer as a public health problem by 2030. The highest cervical cancer incidence rates worldwide are found in Southern and East African countries such as Eswatini, Malawi, and Zambia. The high cervical cancer burden in these countries is linked to the high HIV prevalence, as women living with HIV (WLHIV) are more likely to develop cervical disease.

This study aims to employ mathematical modelling to simulate various policy scenarios for cervical cancer prevention, providing an analytical basis to support policymakers in Zambia. By quantifying relationships and projecting outcomes across different variables, the model offers a structured framework to evaluate policy effectiveness, guiding decision-makers toward empirically grounded, optimal strategies. The approach will involve developing a mathematical model to simulate the lifetimes of a cohort of Zambian women, utilizing existing demographic and cervical cancer natural history data to assess the comparative effectiveness and cost-effectiveness of various prevention strategies.

Impact of Admission to the Kangaroo Mother Care Ward on Maternal Postpartum Depression (KMC PPD)

Funder:
Grand Challenges Canada

Time Period:
Apr 2024 - Sep 2026

Postpartum depression (PPD) is a serious public health problem affecting 17% of mothers globally, with higher rates recorded in Africa - 40%. PPD is a depressive disorder that commences during the antenatal period up to the first year of an infant's life and is characterized by feelings of worthlessness, fatigue, insomnia, decreased functioning, low mood, and even suicidal thoughts. It can result in increased maternal morbidity, social challenges, physical harm, reduced quality of life, and can negatively impact child development. Furthermore, it is linked with growth retardation, malnutrition, behavioural changes, poor adherence to immunization schedules, and recurrent infections and hospitalization.

Admission of a neonate to the NICU is a risk factor for postnatal depression with heightened symptoms in comparison to mothers of well neonates. PPD is associated with higher adverse infant health outcomes, including non-exclusive breastfeeding, diarrhoea, and malnutrition. Yet, there is little data and even fewer evidence-based interventions for men and women experiencing PPD in low- and middle-income countries. While PPD has been studied in Zambia, it has been exclusively

linked to HIV services. Thus, services have been mainly curated for HIV-positive women who have not been linked to care or who have dropped out of care. However, there is no data in Zambia on the prevalence of PPD among newly delivered mothers not linked to HIV care or treatment.

We propose to implement a cross-sectional study to identify the incidence of PPD among newly delivered mothers whose newborns have been admitted to the following three units at the Women and Newborn Hospital (WNH), University Teaching Hospitals (UTH) - postnatal ward (well babies), Neonatal Intensive Care Unit (NICU) (unwell babies), and Kangaroo Mother Care (KMC) ward (relatively well babies requiring further monitoring). With this investigation, we will identify the incidence of PPD among newly delivered mothers.

Longitudinal Analysis Of HR-HPV Infection and Cervical Intraepithelial Neoplasia in Women Living With HIV

Funder:
Esther Foundation and IeDEA Network

Time Period:
Oct 2018 - Sep 2025

Cervical cancer screening is failing in countries with high HIV prevalence, with modelling studies showing that significant scale-up efforts are required to reduce mortality from cervical cancer in these countries. Vaccination programmes alone will not curb the burden of disease. Secondary screening strategies remain the "best buy" for preventing invasive cervical cancer (ICC) and premature death in women. Data to inform screening strategies for women living with HIV (WLHIV) are notably scarce and urgently required. Though it is widely acknowledged that the clinical course of human papillomavirus (HPV) infection in WLHIV differs from the general population with increased risk of recurrent and persistent infection with high-risk human papillomavirus (HR-HPV) subtypes, very few studies assess this comprehensively. Prospective cohorts assessing HR-HPV infection and histological outcomes following screening and treatment are limited, especially in the African setting. This data is instrumental in informing guidelines, acknowledged by the recent World Health Organization draft strategy to eliminate cervical cancer (WHO).

In our study, we will continue to monitor the cohort of study participants and characterise the clinical course of HR-HPV infection and Cervical Intraepithelial Neoplasia (CIN) in women living with HIV (WLHIV) up to 48 months study post-enrolment. HIV status, HR-HPV testing, and histological data will be obtained from women at baseline, 6 months, 24 and 48 months.

Monitoring and Evaluation of the National Syphilis Screening and Treatment Programme

Funder:
Evidence Action

Time Period:
Apr 2023 - Apr 2027

Syphilis in pregnancy remains a critical public health problem globally and in sub-Saharan Africa, with prevalence ranging from 0.1-10% among women attending antenatal care (ANC). Pregnant women experience high rates of adverse birth outcomes, including low birthweight, preterm birth, stillbirth, and congenital syphilis. Incorporating HIV and syphilis dual testing into antenatal care visits has shown to be both an acceptable and cost-effective approach to increasing the uptake of syphilis screening and treatment rates.

The Ministry of Health (MoH), in partnership with Evidence Action, has begun the rollout of a robust training of trainer's cascade to scale up the HIV/Syphilis dual testing nationwide, thus strengthening syphilis treatment services in the 2,700+ health facilities in the country that provide ANC services.

Following each phase of the scale-up, CIDRZ has been tasked to conduct a data verification programme utilizing a Comprehensive Facility Survey (CFS) to evaluate the impact of the scale-up by retrospectively extracting existing data about the national maternal HIV/Syphilis dual testing program in Zambia.

The overarching aim of the verification programme is to undertake an in-depth, multifaceted evaluation of the nationwide scale-up of the HIV/syphilis dual testing programme in Zambia to identify gaps in the screening and treatment algorithm, bottlenecks, barriers, and facilitators to providing syphilis screening and treatment to pregnant women in Zambia. Using existing government data, the CFS will target randomly selected health facilities providing ANC services in Zambia to gather data on the following critical outcomes: (a) rates of syphilis screening, treatment, and positivity rate among pregnant women attending ANC, and (b) rates of partner screening and treatment among pregnant women who screened positive for syphilis.

Randomized Controlled Trial of Higher-Volume Breastfeeding in Preterm Neonates

Funder:
Chiesi Foundation

Time Period:
Mar 2018 - Dec 2023

Postnatal growth retardation is a well-described problem in infants in neonatal intensive care units. In one database review of 24,371 neonates discharged from neonatal intensive care units, the incidence of extrauterine growth retardation (<10th percentile) was common (28% for weight, 34% for length, and 16% for head circumference. Current recommended daily intakes (RDI) are to "provide nutrients to approximate the rate of growth and composition of weight gain for a normal fetus of the same postconceptional age, "approximately 10-20 g/kg/day. It has been concluded that based on these recommendations, postnatal malnutrition and growth retardation are inevitable because they do not take into account the need for "catch-up growth".

Higher volume (HV) feedings have been shown to increase growth velocity, postnatal growth, head circumference, length, mid-arm circumference, weight at discharge, and adequate body composition among very preterm and very low birth weight infants compared with usual volume (UV) feedings.

This study aimed to evaluate the impact of HV feeding with breastmilk versus UV feeding with breastmilk on growth velocity at hospital discharge or 40 weeks post-menstrual age (PMA), whichever comes first. The study was implemented at the University Teaching Hospital in Lusaka, Zambia. In this randomised controlled trial, study findings showed that higher volume breastmilk feeding did not improve growth at 40 weeks' PMA in moderate to very preterm infants.

Syphilis in Pregnancy Study (SIPS)

Funder:
National Institutes of Health

Time Period:
Jun 2023 - May 2028

This is a National Institutes of Health funded study of syphilis in pregnant women planned to take place between 2023 to 2028. The study is being conducted in Zambia and Cameroon, with Zambia enrolling 1000 participants (500 with syphilis and 500 without) and Cameroon enrolling 500. We will study the immune response to syphilis among pregnant women before and after treatment. We will also study factors associated with good birth outcomes among these women. This study also aims to evaluate PCR-based testing for syphilis using lesion swabs to improve diagnosis. We will follow up with the study participants and their babies until 12 months after delivery.

Verification of a Predictive Test for Preterm Preeclampsia in a Black Population

Funder:
Gates Foundation

Time Period:
Mar 2023 - Dec 2025

Preeclampsia is a condition in pregnancy characterized by high blood pressure and signs of kidney damage. It affects 2-4% of pregnancies globally and leads to thousands of maternal and infant deaths every year. Given the lack of low-cost interventions to identify pregnant women at high risk of preeclampsia early on during the antenatal period, the Mirvie PE study aims to verify Mirvie's cfRNA-based classifiers that predict the risk of a black woman developing preterm preeclampsia during her pregnancy. The study also seeks to identify new statistically significant metabolite, carbohydrate, nucleic acid (DNA, RNA, and/or methylation), and/or protein-based biomarkers that enable an assessment of fetal development or prediction of risk of developing preterm preeclampsia, preeclampsia, and spontaneous preterm birth.

This multi-country prospective observational sample collection study will recruit 900 pregnant women at Kalingalinga Clinic and Kanyama 1st Level Hospital and follow them up until 42 days following delivery. Eligible pregnant women should be 18 years of age and above, racially identified as Black or African-American, in their second trimester (18 – 22 weeks) of pregnancy, confirmed through an ultrasound assessment, willing and be able to provide up to 40mL of blood via venipuncture and able to provide written informed consent. The total sample size is 2,000, divided among the three study sites, which include Cameroon (N=200), USA (N=1,800), and Zambia (N=900). Participant recruitment was initiated in March 2024, and by the end of September 2024, the study had recorded 778 new enrolments and 114 delivery outcomes.

11

SOCIAL AND BEHAVIORAL HEALTH SCIENCE

- Can Mental Health services break the cycle perpetuating HIV hotspots in sub-Saharan Africa – MATUMAINI
- Hygiene Behaviour Change
- Home Testing and Mobile Linkage to Empower Health Care in LMICs – DASH
- Improving measurement of alcohol consumption among HIV-affected youth in sub-Saharan Africa: Evaluation and implementation of biomarkers
- Zambia Alabama HIV Alcohol Comorbidities Program - ZAMBAMA CHARTZ

Can Mental Health services break the cycle perpetuating HIV hotspots in sub-Saharan Africa – MATUMAINI

Funder:

National Institutes of Health (NIH)

Time Period:
May 2021 - Mar 2025

The Matumaini COVID-HIV study successfully collected data from six provinces in 65 Health Facilities on the COVID-19 risk factors. Data analysis is ongoing, and the results will be shared with stakeholders. The Matumaini Hotspots study conducted a QGIS workshop facilitated by Professor Diego Cuadros from the University of Cincinnati. The workshop was attended by MOH M&E staff and CIDRZ staff. The study held a data review meeting attended by CIDRZ, MOH and CDC. This meeting presented all the current work and discussed ideas for possible future work.

Home Testing and Mobile Linkage to Empower Health Care in LMICs – DASH

Funder:

Gates Foundation

Time Period:
Oct 2022 - Apr 2024

This study explores the acceptability of home-based, rapid diagnostic testing with or without assistance from an App for various communicable and non-communicable conditions. During this reporting period, CIDRZ provided training, quality assurance, and analysis support to qualitative teams in South Africa, Zambia, and Kenya. Participants across the three countries reported positive attitudes toward self-testing, both with and without an app, to get a timely diagnosis and reduce clinical burden. However, concerns emerged regarding the accuracy and misinterpretation of results and psychological readiness for results alongside the possibility of widening the digital divide. Participants advocated for social support and comprehensive education throughout the steps of implementing self-testing programs.

In the second phase, we will conduct a randomised control trial using three modes of self-test delivery to promote timely care-seeking and self-care in Zambia and provide technical assistance on the qualitative sub-studies to teams in Kenya and South Africa. Collaborators include the ICRC-UW and Audere in the USA, HSRC in South Africa, KEMRI in Nairobi, Kenya, and Akros and CIDRZ in Zambia.

Hygiene Behaviour Change

Funder:

Reckitt

Time Period:
Dec 2022 - Dec 2025

The Behaviour Change Lab was set up in collaboration with the London School of Hygiene and Tropical Medicine as the field site to test novel ideas that support good WASH practice. Head of Department Jenala Chipungu and Dr Katayi Kazimbaya attended the University of North Carolina (UNC) annual WASH conference, where Ms Chipungu served as a panellist on setting the research agenda for WASH. Similarly, Dr Kazimbaya presented end-user preferences for hand hygiene-enabling technologies in urban and peri-urban Lusaka. Dr Anjali Sharma also presented the end-user preferences for hand hygiene-enabling technologies in urban and peri-urban Lusaka at the Annual Zambia Health Research Conference 2024.

The department also plans to conduct further research to evaluate changes in preferences over various time points over 12 months. Findings from the study will inform product development and marketing to increase and sustain uptake of hand washing facilities, a prerequisite for infection control.

Further, the department will combine ethnographic and laboratory work to understand infant feeding practices and exposure to pathogens, contributing to the scarce knowledge of household food hygiene.

Improving measurement of alcohol consumption among HIV-affected youth in sub-Saharan Africa: Evaluation and implementation of biomarkers

Funder:

National Institutes of Health (NIH)

Time Period:
May 2020 - Apr 2026

This ongoing pilot study, conducted by CIDRZ in collaboration with Columbia University and leveraging on ZAMBAMA, focuses on adolescents who report using a variety of substances, including alcohol. Participants report that psychological, social, and structural factors influence Their usage. They view the Screening, Brief Intervention, and Referral to Treatment (SBIRT) program as suitable for addressing unhealthy alcohol consumption and have provided suggestions to improve the current implementation of SBIRT. CIDRZ will employ both self-reporting and a urine biomarker (ethyl glucuronide, or uEtG) to evaluate recent alcohol use within an SBIRT program, which is integrated into existing HIV prevention and treatment services for adolescents and young adults (AYA) in Lusaka, Zambia. Additionally, information will be gathered on participants' experiences, and the correlation between the self-reported data and the uEtG findings will be analyzed.

Zambia Alabama HIV Alcohol Comorbidities Program - ZAMBAMA CHARTZ

Funder:

National Institutes of Health (NIH)

Time Period:
Sep 2021 - Aug 2025

This collaboration between UAB, Columbia University, JHU, and CIDRZ is funded by the NIH. We completed enrolment into this study, which is examining the effectiveness of a Brief Intervention, with or without a transdiagnostic treatment approach, compared to standard of care, in reducing viremia among people living with HIV with high alcohol use and other co-morbid mental health and behavioural issues. Retention in the transdiagnostic treatment approach, which can be of a longer duration and study retention, has been high.


VANS

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TUBERCULOSIS

- USAID Tuberculosis Local Organization Network
- Assessing Diagnostics at Point-of-care for Tuberculosis Study (ADAPT Study)
- A Multi-Country, Epidemiologic Study To Assess The Interferon Gamma Release Assay (IGRA) Positivity, And To Build Capacity To Conduct A Tuberculosis (TB) Vaccine Efficacy Study In Populations With A High TB Disease Burden - MRI-TBVO2
- MRI Phase 3
- Sound Artificial Intelligence Sound II
- Tuberculosis and HIV case finding at Social Drinking Venues in Lusaka, Zambia
- TB Tongue Swab Initial Diagnostic Yield Study Zambia - TSwaY
- TB Vaccine Hesitancy Study

USAID Tuberculosis Local Organization Network

Funder:

United States Agency for International Development (USAID)

Time Period:
Mar 2020 - Mar 2025

The USAID TBLON is a five-year project aimed at strengthening TB prevention, care and treatment in Zambia. In FY24, the project milestone targets included screening 380,000 people for DS TB, initiating 95% of DR TB patients on treatment, identifying and initiating 60% of eligible <5-year-old children on TPT, contact trace and investigate at least 80% of contacts to bacteriologically confirmed TB patients, and identify at least 10,000 presumptive TB patients through the private sector among the many key targets. The project achieved above 100% on all milestones. The project-supported facilities contributed 85%, 89% and 98% to the national overall TB notification, childhood TB notifications and DR TB notifications, respectively.

Other notable achievements and contributions to the National TB programme include conducting an inter-school music competition to raise TB awareness, participation in the curriculum review meetings where TB content in the school curriculum was expanded, roll out of the shorter TB treatment regimen for children and multi-drug resistant TB(MDR TB) patients, supporting the development of clinical algorithms and tools to improve the quality of TB diagnosis and treatment, training of 80 government staff in Operations research, creation of data pipelines between Yathu and DHIS2 and the National data Warehouse as well as administrative and operational capacity building of the project sub-awardees.

Much as the project activities were impacted by drought, cholera, and delayed recruitment of the community health workers under the Global Fund, this effect was mitigated by reallocating and reorganizing available resources to mitigate the impact of drought and cholera while also leveraging existing community health networks to ensure continuity of services.

Assessing Diagnostics at Point-of-care for Tuberculosis Study (ADAPT Study)

Funder:

United States Agency for International Development (USAID)

Time Period:
Aug 2023 - Sep 2025

The SMART4TB Assessing Diagnostics at Point-of-care for Tuberculosis (ADAPT) study supported by the United States Agency for International Development (USAID) seeks to assess promising, point-of-care (POC) Tuberculosis (TB) diagnostic tests in clinical studies conducted in settings of intended use. Rapid diagnosis and effective treatment are essential for improving patient outcomes and reducing TB transmission. However, sputum-based testing remains the mainstay of TB diagnosis.

The ADAPT study evaluates the sensitivity, specificity and yield of novel diagnostic tests against a reference standard, including sputum Xpert® MTB/RIF Ultra and sputum mycobacterial culture among adolescents and adults with presumptive TB (based on having TB symptoms or TB risk factor and positive TB screening test) presenting to outpatient health facilities in high burden countries. In addition, the usability and acceptability of novel TB diagnostic tests will be assessed through direct observations and surveys of routine health workers. The study protocol will be updated to include additional novel tests as they are identified or to remove novel tests when their evaluation is complete.

A Multi-Country, Epidemiologic Study To Assess The Interferon Gamma Release Assay (IGRA) Positivity, And To Build Capacity To Conduct A Tuberculosis (TB) Vaccine Efficacy Study In Populations With A High TB Disease Burden - MRI-TBVO2

Funder:

PPD Investigator Services

Time Period:
Feb 2022 - Jan 2023

This multi-country epidemiologic study aimed to assess the prevalence of IGRA (Interferon Gamma Release Assay) positivity in populations with a high tuberculosis (TB) burden. By examining IGRA positivity across various study sites, this research would provide insights essential for establishing the capacity to conduct a future pivotal TB vaccine efficacy trial.

The primary objective of this study was to determine the proportion of IGRA positivity at each site. Secondary objectives include evaluating how IGRA positivity varies with age and documenting suspected and laboratory-confirmed pulmonary TB incidence. Additionally, exploratory goals included monitoring changes in IGRA positivity over time by site and investigating the relationship between baseline IGRA interferon-gamma (IFN?) concentrations and progression to pulmonary TB. Since the study commenced on June 29, 2022, 174 individuals were screened for eligibility, with 160 successfully enrolled. The recruitment goal of 160 participants was achieved within the designated 3-month period. In late December 2023, the funder advised that the site proceed with end-of-study visits shortly after starting the month 18 visits. The study was scheduled to run up to month 36.

During the study, there were six withdrawals, two participant deaths, and one loss to follow-up (LTFU). The study successfully led to the site being selected for the TBVO2-301 TB vaccine clinical trial, which has since commenced. The site is currently working on close-out processes for the study.

A Phase 3, Randomized, Double-blind, Placebo-controlled, Multicenter, Clinical trial to assess the Prophylactic Efficacy, Safety, and Immunogenicity of the Investigational M72/AS01E-4 Mycobacterium Tuberculosis (Mtb) Vaccine when Administered Intramuscularly on a 0,1-month schedule to Adolescents and Adults

Funder:

Gates Foundation

Time Period:
Feb 2024 - Jan 2025

This Phase 3, randomized, double-blind, placebo-controlled, multicentre clinical trial aims to evaluate the efficacy, safety, and immunogenicity of the M72/AS01E-4 Mtb vaccine administered intramuscularly on a 0,1-month schedule to adolescents and adults (ages 15-44). The MRI Phase 3 clinical trial also aims to confirm the efficacy observed in the previous Phase 2b trial, where the M72/AS01E-4 vaccine demonstrated approximately 50% protection against laboratory-confirmed pulmonary TB in IGRA-positive, HIV-negative adults. Further, the trial will also assess the safety, immunogenicity, and vaccine efficacy (VE) in both IGRA-negative and HIV-negative individuals and people living with HIV (PLHIV). The results are expected to support global licensure of the vaccine, particularly in low- and middle-income countries.

Participants must meet several inclusion criteria, including being healthy or having stable preexisting conditions, HIV-negative, and providing informed consent. Exclusion criteria include a history of TB, current TB symptoms, medical conditions or therapies affecting immunity, and prior Mtb vaccine administration. Females of childbearing potential must follow strict contraception guidelines.

CIDRZ is among the four Zambian sites conducting this trial out of 64 sites in seven countries (Malawi, Kenya, South Africa, Indonesia, Vietnam). The total sample size for all sites is 20,000 participants, including 18,000 IGRA-positive, 1000 IGRA-negative, and 1000 HIV-positive participants.

CIDRZ Chawama CRS was activated on 29th August 2024. As of 30th September 2024, the site had screened 132 participants and enrolled 47 into the study to meet its 271 target enrolment. The study is scheduled to run over 4 years from 2024, and closeout is scheduled for 2028.

Sound Artificial Intelligence Sound II

Funder:

The University of Sheffield

Time Period:
Apr 2024 - Mar 2025

The SOUND AI phase 2 study aims to explore the use of artificial intelligence for analyzing cough sounds as a method for tuberculosis (TB) screening. The overall objective is to conduct a proof of concept demonstrating the potential of AI-enabled technology in detecting TB through cough sound analysis. The study's specific objectives are threefold: to build a balanced database of cough sounds from participants, including those with confirmed TB, other respiratory conditions, and healthy individuals; to develop AI technology for cost-effective and rapid TB screening; and to assess the accuracy and performance of this AI technology in TB screening.

The research design is a cross-sectional prospective study targeting adults aged 18 and older. The study will be conducted at Kanyama General Hospital, Chawama General Hospital, and George Clinic. A total of 749 participants will be recruited in phase 2, split into three distinct cohorts: 348 bacteriologically confirmed TB patients, 200 participants with other respiratory diseases, and 201 healthy individuals serving as controls. This diverse sampling will allow for comprehensive cough sound data collection to train the AI model and evaluate its efficiency.

By focusing on the development of an AI-driven tool, this study aims to create a low-cost, fast, and reliable method for TB screening, which could potentially revolutionize TB diagnosis, especially in low-resource settings. The performance of the developed AI system will be rigorously assessed to ensure its viability as an accessible screening tool.

Tuberculosis and HIV case finding at Social Drinking Venues in Lusaka, Zambia

Funder:

National Institutes of Health (NIH)

Time Period:
Aug 2023 - Mar 2025

The study titled TB/HIV case finding in social drinking venues in George and Matero townships of Lusaka aims to address the high prevalence of undiagnosed HIV and TB in these communities by conducting screening in social drinking venues. The first aim of the study is to determine the prevalence of previously undiagnosed HIV and TB among patrons, with the hypothesis that such venues, especially among individuals meeting the criteria for alcohol use disorder, will have a high prevalence of undiagnosed cases. The second aim is to identify the most preferred features of a TB and HIV case-finding strategy using Best-Worst Scaling (BWS) among key stakeholders like venue owners, employees, and attendees. It is hypothesized that these stakeholders will have distinct preferences for how such screenings are conducted.

The study employs a prospective, cross-sectional design focusing on patrons and employees of social drinking venues in the George and Matero townships, where the TB and HIV burden is high. Participants will be screened for TB, while HIV testing will not be mandatory for study inclusion. The study has undergone extensive community sensitization, with cooperation from local leaders and venue owners, and enrolment is expected to last approximately five months.

The inclusion criteria require participants to be 18 or older, willing to undergo TB testing, and capable of providing informed consent. Exclusion criteria include signs of intoxication and currently receiving TB treatment. This study is groundbreaking, as it is the first in the world to systematically conduct chest X-ray screening for TB and test all participants for TB and HIV directly in social drinking venues. If successful, the study could pave the way for broader implementation, potentially helping to reduce the high levels of undiagnosed TB and HIV in Zambia.

TB Tongue Swab Initial Diagnostic Yield Study Zambia - TSwaY

Funder:

Gates Foundation

Time Period:
May 2023 - Mar 2025

The TSway study aims to determine the diagnostic yield of tongue swabs compared to that of sputum for TB diagnostic testing among presumptive TB patients. The current protocol target enrolment is 650 individuals of all age groups presenting to primary care facilities. Thus far, we have enrolled 210 participants across the two sites on course to complete enrolments and meet all set milestones before the end of the grant period.

Tuberculosis Implementation Framework Agreement (TIFA 2)

Funder:
John Snow. Inc (JSI)

Time Period:
May 2023 - Dec 2023

This grant aimed to support structural improvement and bring four Ministry of Health facilities in rural Zambia without X-ray services to operational standard (as defined by the Radiation Protection Authority). As additional funding to the TIFA 1 grant, it also included the costs of technical support (TSS) and insurance cover for digital X-ray machines and accessories procured on the TIFA 1 project. Since then, the project has achieved all its objectives. The final milestones on year 2 insurance cover for the equipment are awaiting submission.

TB Vaccine Hesitancy Study

Funder:
U.S Agency for International Development

Time Period:
Oct 2021 - Sep 2024

As more TB Vaccine candidates are being developed, there is an important need to understand what factors may influence acceptability, access, and uptake among community members and healthcare workers. The overall objective of the TB Hesitancy study is to explore beliefs, perceptions and preferences related to the introduction of a new TB vaccine and other novel adult vaccines among general population members and healthcare workers in Lusaka, Zambia. As of 2024, qualitative analyses and manuscript were under development.

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CIDRZ PARTNERSHIPS

CIDRZ works closely with the Government of the Republic of Zambia, and local and global donor and research organizations to improve the health outcomes of Zambians. Our valued partners include:

ZAMBIAN GOVERNMENT

- Ministry of Community Development and Social Welfare
- Ministry of Education
- Ministry of Health
- Ministry of Home Affairs
- Ministry of Local Government and Rural Development
- Ministry of Defence
- Cancer Diseases Hospitals
- National HIV/AIDS/STI/TB Council
- National TB and Leprosy Control Program
- University Teaching Hospitals
- Zambia Correctional Service

GOVERNMENT DONORS

- The U.S. President's Emergency Plan for AIDS Relief (PEPFAR)
- Centers for Disease Control and Prevention (CDC)
- The Scottish Government
- National Institutes of Health (NIH)
- National Institute of Mental Health (NIMH)
- National Heart, Lung, Blood Institute (NHLBI)
- United States Agency for International Development (USAID)
- European & Developing Countries Clinical Trials Partnership
- Foreign Commonwealth & Development Office
- Medical Research Council
- Wellcome Trust
- US Department of Defense HIV/AIDS Prevention Program (DHAPP)
- Department of Agriculture, Food and the Marine Ireland

INTERNATIONAL BODIES

- The Global Fund to Fight AIDS,
- Tuberculosis and Malaria
- UNICEF
- World Health Organization (WHO)
- World Vision
- Population Services International

INDUSTRY/ RESEARCH:

- Delft Imaging
- Desire Line
- DIGNITY
- EPSRC Impact Acceleration Account (IAA) and Higher Education Innovation Fund (HEIF)
- JSI Research and Training Institute
- Gavi, The Vaccine Alliance
- PACT
- PATH
- PPD Global Limited
- Village Reach
- Africa Health Research Institute
- Foundation for Aids and Immune Research
- Infectious Disease Research Collaboration

FOUNDATIONS:

- AIDSFond
- Gates Foundation
- Chiesi Foundation
- The ELMA Foundation
- The ELMA Vaccines and Immunisation Foundation
- Erasmus MC
- Esther Foundation
- The Fleming Fund
- The Leona M and Harry B Helmsley Charitable Trust
- Johnson and Johnson Foundation
- M.A.C AIDS Fund
- Mott MacDonald Foundation
- Swiss National Science Foundation
- Fred Hutchinson Cancer Center
- Mirvie
- Evidence Action

UNIVERSITIES

- Amsterdam Institute for Global Health and Development (AIGHD), Netherlands
- Columbia University, USA
- Fred Hutchinson Cancer Research Center, USA
- Harvard University, USA
- Imperial College of Science, Technology and Medicine, United Kingdom
- Johns Hopkins University, USA
- London School of Hygiene and Tropical Medicine, United Kingdom
- New York University, USA
- Research Center Borstel- Leibniz Lung Center (RCB)
- Stellenbosch University, South Africa
- Swiss Tropical and Public Health Institute, Switzerland
- University of Alabama at Birmingham, USA
- University of Bern, Switzerland
- University of California, San Francisco, USA
- University of Heidelberg, Germany
- University of Johannesburg, South Africa
- University of Lusaka, Zambia
- University of Maryland, Baltimore
- University of Nijmegen, Netherlands
- University of Oxford, United Kingdom
- University of Rochester, United States
- University of Rwanda, Rwansa
- University of Sussex, United Kingdom
- University of the Free State, South Africa
- University of Zambia, Zambia
- Vanderbilt University, USA
- Washington University, USA
- Yale University, USA

CIDRZ FINANCIALS

* *Full Financial Statements are available at cidrz.org or by request.*

CONSOLIDATED STATEMENT OF INCOME AND EXPENDITURE AND OTHER COMPREHENSIVE INCOME

	2024 Kwacha	2023 Kwacha
Programme income	1,455,625,644	990,657,195
Programme expenses	(1,265,440,239)	(879,159,530)
Operating surplus	**190,185,405**	111,497,665
Administrative expenses	(238,616,497)	(219,869,565)
Other income	68,214,906	44,790,226
Results from operating activities	**19,783,814**	(63,581,674)
Finance costs	(5,612,992)	(409,738)
Finance income	65,844,036	32,673,551
Surplus (deficit) for the year	**80,014,858**	(31,317,861)
Income tax expense	(6,349,899)	(982,695)
Surplus (deficit) for the year after tax	**73,664,959**	(32,300,556)
Items that will not be reclassified subsequently to profit or loss		
Gain on property, plant and equipment revaluation	22,579,332	
Amortisation of revaluation surplus	-	345,316
Total comprehensive profit (loss) for the year	**96,244,291**	(31,955,240)

CONSOLIDATED STATEMENT OF FINANCIAL POSITION AS AT 30 SEPTEMBER 2024

	2024 Kwacha	2023 Kwacha
ASSETS		
Non-current assets		
Property, plant and equipment	292,350,565	150,785,652
Right of use assets	2,591,411	3,743,149
	294,941,976	154,528,801
Current assets		
Inventories	11,315,759	11,115,890
Trade and other receivables	245,762,326	157,215,459
Financial assets – Held to maturity	2,998,542	1,983,317
Cash and cash equivalents		
-Restricted	491,354,621	224,901,546
-Un-Restricted	21,029,957	20,228,801
	772,461,205	415,445,013
TOTAL ASSETS	**1,067,403,181**	569,973,814
Reserves and grants		
Revenue reserves	177,234,624	103,569,665
Capital grant	25,797,499	26,377,699
Revaluation reserve	32,020,590	9,441,258
Total equity	**235,052,713**	139,388,622
Liabilities		
Non-current liabilities		
Bank borrowings	140,377,125	-
Deferred tax liability	2,165,940	415,715
Lease liabilities	1,369,685	2,282,272
	143,912,750	2,697,987

CONSOLIDATED STATEMENT OF FINANCIAL POSITION AS AT 30 SEPTEMBER 2024

	2024 Kwacha	2023 Kwacha
Current liabilities		Restated
Deferred income	539,984,327	263,431,221
Trade and other payables	114,581,564	163,619,859
Bank borrowings	16,043,100	-
Bank overdraft	13,153,799	-
Lease liabilities	903,643	754,109
Income tax payable	3,771,285	82,016
	688,437,718	427,887,205
TOTAL LIABILITIES	**832,350,468**	430,585,192
TOTAL EQUITY AND LIABILITIES	**1,067,403,181**	569,973,814

CONSOLIDATED STATEMENT OF CASH FLOWS FOR THE YEAR ENDED 30 SEPTEMBER 2024

	2024 Kwacha	2023 Kwacha
CASH FLOWS FROM OPERATING ACTIVITIES		
Surplus (deficit) for the year	80,014,858	(31,317,861)
Adjustments for:		
Depreciation of property, plant and equipment	19,016,702	18,765,387
Depreciation of right-of-use assets	1,151,738	863,804
Impairment charge (reversals) of trade receivables	3,916,015	6,955,565
Interest income	(1,383,580)	(1,033,088)
Finance costs	5,612,992	409,738
Amortisation of project grant	(580,200)	(2,368,024)
Loss on disposal of property and equipment	1,093,853	5,653,088
Net exchange gains	(64,460,456)	(31,640,463)

CONSOLIDATED STATEMENT OF CASH FLOWS FOR THE YEAR ENDED 30 SEPTEMBER 2024

	2024 Kwacha	2023 Kwacha
CASH FLOWS FROM OPERATING ACTIVITIES		
Net cashflows from operations before tax	44,381,922	(33,711,854)
Income tax paid	(910,405)	(417,056)
	43,471,517	(34,128,910)
Changes in working capital		
Decrease (increase) in inventories	(199,869)	1,750,224
Increase in trade and other receivables	(92,462,882)	(70,258,087)
Increase in deferred income	276,553,106	167,769,245
(Decrease) increase in trade and other payables	3,058,944	91,006,536
Net cash generated in operating activities	**230,420,816**	156,139,008
CASH FLOWS FROM INVESTING ACTIVITIES		
Interest received	1,383,580	1,033,088
Cash (invested in) received on maturity of financial instruments	(1,015,225)	4,009,980
Purchase of right of use asset (Company contribution)	-	(1,050,031)
Proceeds of disposal	-	6,180,000
Purchase of property and equipment	(191,193,375)	(84,474,396)
Net cash used in investing activities	**(190,825,020)**	(74,301,359)
CASH FLOWS FROM FINANCING ACTIVITIES		
Proceed from borrowings	156,420,225	-
Interest paid on borrowings	(4,700,607)	-
Interest paid on bank overdraft	(435,066)	-
Repayment of lease liabilities	(1,240,372)	(930,279)
Net cash generated (used) in financing activities	**150,044,180**	(930,279)
Net increase in cash and cash equivalents	189,639,976	80,907,370
Cash and cash equivalents at start of year	245,130,347	132,582,514
Exchange differences	64,460,456	31,640,463
Cash and cash equivalents at end of year	**499,230,779**	245,130,347

PROGRAMME INCOME		
	2024 Kwacha	2023 Kwacha
PROUD Z	255,899,623	199,669,623
USAID SDHP	214,125,084	190,992,112
DFPP-DHAPP	194,942,739	-
USAID TB LON	174,161,445	184,132,582
Trails	145,647,571	143,058,132
ZIH- FAA 1	102,354,577	-
USAID ECAP III	85,431,864	73,885,414
HCWG	32,635,136	-
CDS third round	20,276,023	51,347,877
ZAM AMR	14,183,807	9,963,311
PEN-Plus Project	13,374,968	8,817,260
leDEA	12,255,730	10,060,440
ELMA Co-Financing	10,915,003	-
Polio SRS	8,729,631	8,918,311
Polio SRS	8,729,631	-
NIH TASKPEN Project	8,199,884	14,698,445
VMMC NEXUS	8,108,632	3,123,747
MENTAL HEALTH CBT	7,366,483	13,294,090
DSD SI	2,643,621	10,824,099
OTHER PROJECTS	135,644,192	67,871,752
	1,455,625,644	990,657,195

CIDRZ Head Office
Stand 378A / 15, Main Street, Ibex
P.O. Box 34681
Lusaka, Zambia 10101

+260 211 242 257/58/59
info@cidrz.org
www.cidrz.org