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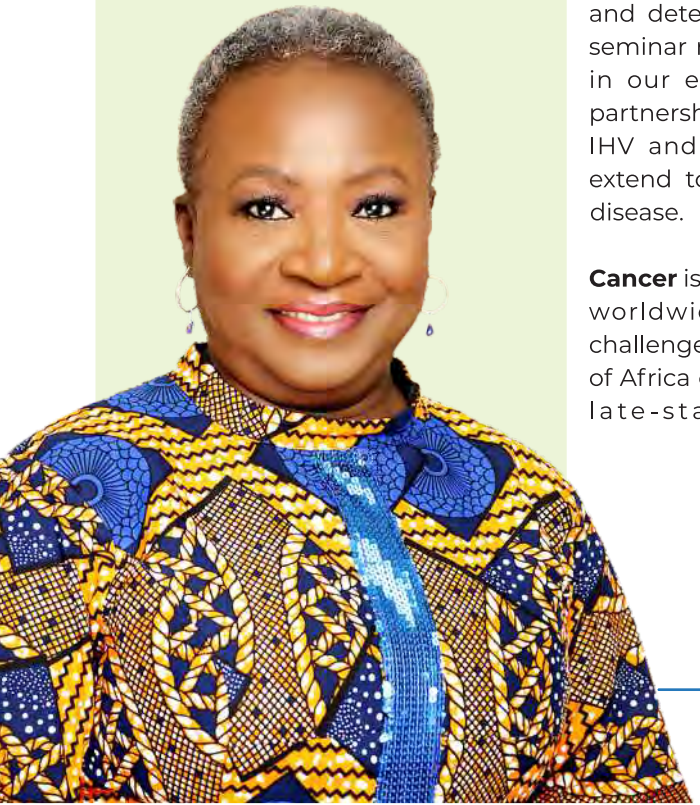
Welcome to IRCE

Distinguished guests and esteemed colleagues,

Ladies and gentlemen, esteemed colleagues, and distinguished guests, it is my great honor to join the Human Virology Nigeria (IHVN) board of directors and IHVN's CEO, Dr. Patrick Dakum to welcome you to the 2nd Annual scientific seminar of the International Research Center of Excellence (IRCE) at the Institute of Human Virology, Nigeria. At this year's seminar, we expand our exploration of cutting-edge research, innovation and partnerships to focus on two major health challenges to Nigeria and the rest of the world: cancer and sickle cell disease.

This year also marks a significant milestone for IHVN as we celebrate our 20th anniversary. Over the past two decades, IHVN has made remarkable strides in the public health sector through its two centers – the Center for Public Health Implementation (CPHI) and IRCE; and through strategic collaborations with the University of Maryland School. of Medicine (UMB-SOM) and Institute of Human Virology (IHV) Baltimore (IHVN's initial parent institution).



Since 2016, IRCE has leveraged on CPHI's extensive programmatic experience and infrastructure to advance IHVN's research agenda. While CPHI lays the foundational groundwork in public health implementation, IRCE amplifies IHVN's capacity to conduct state of the art research, thus enabling the institution to provide data and evidence required to improve health care and pandemic preparedness. Our journey which began with a focus on HIV/AIDS, has through relentless dedication and collaboration, expanded to include tuberculosis, malaria, other infectious and non-communicable diseases.

As we reflect on our achievements, we also look forward to the future with a renewed sense of purpose and determination. As such, this seminar marks a pivotal moment in our evolution and strategic partnership with the UMB-SOM-IHV and other stakeholders to extend to cancer and sickle cell disease.

Cancer is a leading cause of death worldwide and poses unique challenges for Nigeria and the rest of Africa due to limited resources, late-stage diagnoses, and inadequate access to treatment. By investing in oncology research and developing a network of partnerships, we aim to proffer innovative solutions, improve early detection, and enhance treatment options to ultimately reduce the cancer burden in our region. Similarly, **sickle cell disease,** a genetic disorder that disproportionately affects individuals of African descent, presents its own significant health challenges. Our research in this area seeks to better understand the disease, improve patient care, and explore locally manufactured cures.

IRCE's scientific symposium serves as a platform for networking with our communities, government, scientists, researchers, industry, and other stakeholders to exchange ideas, present findings, and foster relationships that will drive scientific innovation and progress. I would like to express my heartfelt gratitude to all of you for your participation and support. Together, we can make significant advancements in science.

In closing, I would like to encourage each of you to actively participate in the symposium's activities and exhibitions, share your insights, network and engage in meaningful discussions. Thank you for being here and welcome to the IRCE scientific seminar 2024.

Alash'le G. Abimiku MON, MSc., PhD.
Executive Director, International Research Center of Excellence (IRCE) of the Institute of Human Virology Nigeria (IHVN)
Professor, University of Maryland School of Medicine, Institute of Human Virology, University of Maryland, Baltimore (UMB)

Scientific Symposium Committee

1.	**Prof. Alash'le Abimiku**	Executive Director IRCE (Chair)
2.	**Dr. Evaezi Okpokoro**	Assistant Director/Coordinator IRCE (Co-Chair)
3.	**Mr. Olu Alabi**	Director of Finance and Administration (Member)
4.	**Miss Temitope Olukomogbon**	Research Grant Administrator IRCE (Secretary)
5.	**Dr. Helen Omuh**	Director Prevention Care and Treatment (Member)
6.	**Miss Uzoma Nwofor**	Senior Information Education Communication Manager (Member)
7.	**Mr. Julius Akwashiki**	Senior Information Technology Manager (Member)
8.	**Dr. Victoria Iginomwanhia**	Program Manager, Prevention Care and Treatment (Member)
9.	**Mrs. Temitope Awe-Adeniyi**	Manager, Finance and Administration (Member)
10.	**Clare Ohunayo**	Administrative Officer, IRCE (Member)

Meet the IRCE-IHVN Executives

Dr. Patrick Dakum, MBBS, MPH, Dip. Theo
Chief Executive Officer, Institute of Human Virology, Nigeria (IHVN)
Associate Professor, Department of Epidemiology and Public Health at the University of Maryland School of Medicine, Baltimore.

Prof. Alash'le G. Abimiku, MON, Msc., PhD.
Executive Director, International Research Center of Excellence (IRCE) of the Institute of Human Virology Nigeria (IHVN).
Professor, Department of Medicine at the University of Maryland School of Medicine

Dr. Charles Olalekan Mensah, PhD,MBA,FCA,CPA, CGMA,MACHE
COO/Managing Director, Institute of Human Virology Nigeria (IHVN)

Dr. Evaezi Okpokoro, MD, MPH
Assistant Director and Coordinator, International Research Center of Excellence (IRCE) of the Institute of Human Virology Nigeria

Overview of IRCE

The Need for IRCE

The actualization of the International Research Center of Excellence (IRCE) solidifies IHVN's position as a leader in providing quality health services, capacity building, and health-related research in West Africa. Over the years, IRCE has played a pivotal role in pioneering innovative research, providing high-quality healthcare services, and building capacity within the Nigerian healthcare system. The PEPFAR and Global Fund-funded HIV and TB program at IHVN, since its inception in 2004, developed critical infrastructure and capacity that supported translational research, which was previously siloed and not well coordinated. To harness and expand these research activities and better link research and service programs, IHVN formally established the Center for Public Health Implementation (CPHI) and the International Research Center of Excellence (IRCE) in 2016. The establishment of IRCE provides an enabling environment for both established and young IHVN researchers, fostering collaborations with Nigerian and international academic and research institutions to address locally relevant public health challenges while showcasing research outputs and growth.

IRCE Goals and Objectives

IRCE possesses clear vision and mission which aligns with IHVN's. These vision and mission statements form the basis for the overall goal and objectives of IRCE.

Vision

A global leader in innovation and research to address public health challenges.

Mission

To be a fertile ground for discoveries, collaborations, and development of young talents, promoting ethical conduct of research to benefit local and global communities.

Core Values

- Integrity
- Innovation
- Excellence
- Transparency
- Respect for the dignity of the person
- Accountability
- Teamwork

Goal

To provide leadership in research in Nigeria/ (West) Africa through globally standardized expertise, transparency and accountability, positively shifting the culture of research in Africa.

Objectives of IRCE

IRCE has the following main objectives to fulfill its goal of creating an enabling environment for creative thinking and innovation in science to address Nigeria's and global health priorities:

1. Promote the research mandates of IHV and IHV-Nigeria.

Overview of IRCE

2. Provide a world class platform for research including clinical trials using international scientific standards, and ethical norms.
3. Foster collaborations and provide opportunities for synergism between Nigeria's finest researchers and their counterparts in at international research institutions and Universities.
4. Provide a safety net that protects IHVN and its collaborators from liability by proactively ensuring that research conducted at IHVN is under the highest scientific and ethical standards.
5. Provide opportunities for young or early to mid-career Nigerian researchers to develop and execute research projects being mentored by more experienced investigators at IHVN, Nigerian Universities, the diaspora, and international research institutions and universities.
6. To establish a training hub that facilitates individual and institutional learning through training and capacity building courses and programs that provide a platform for researchers to gain requisite skills necessary to excel in research and in long term career goal.

Formation & Early Years

At inception of IRCE in 2016, there were only 4 funded researchers, mostly from the diaspora. The center engaged IHVN personnel with passion for research as well as relevant experiences to drive the vision and mission of the center; and to train and mentor these pioneer personnel towards becoming the critical mass needed to push the research agenda of the center. The founding executive director Prof Alash'le Abimiku had a pioneer coordinator in the person of Dr. Florence Bada from 2016 – 2018. Dr. Bada is known for her drive for details and timeliness. She eventually left for her PhD and handed over the role to Dr. Elima Jedy-Agba who stabilized the centre and contributed significantly towards strengthening the grantsmanship, funding and human resource development at IRCE from 2018 - 2023. Dr. Okpokoro currently is the assistant director for the center and has firmed up the operational structure of IRCE towards meeting the growth, vision and mission of IRCE. Currently, the center over 20 research faculty and over 112 supportive staff with diverse and complementary expertise and skills.

Capacity Building and Training

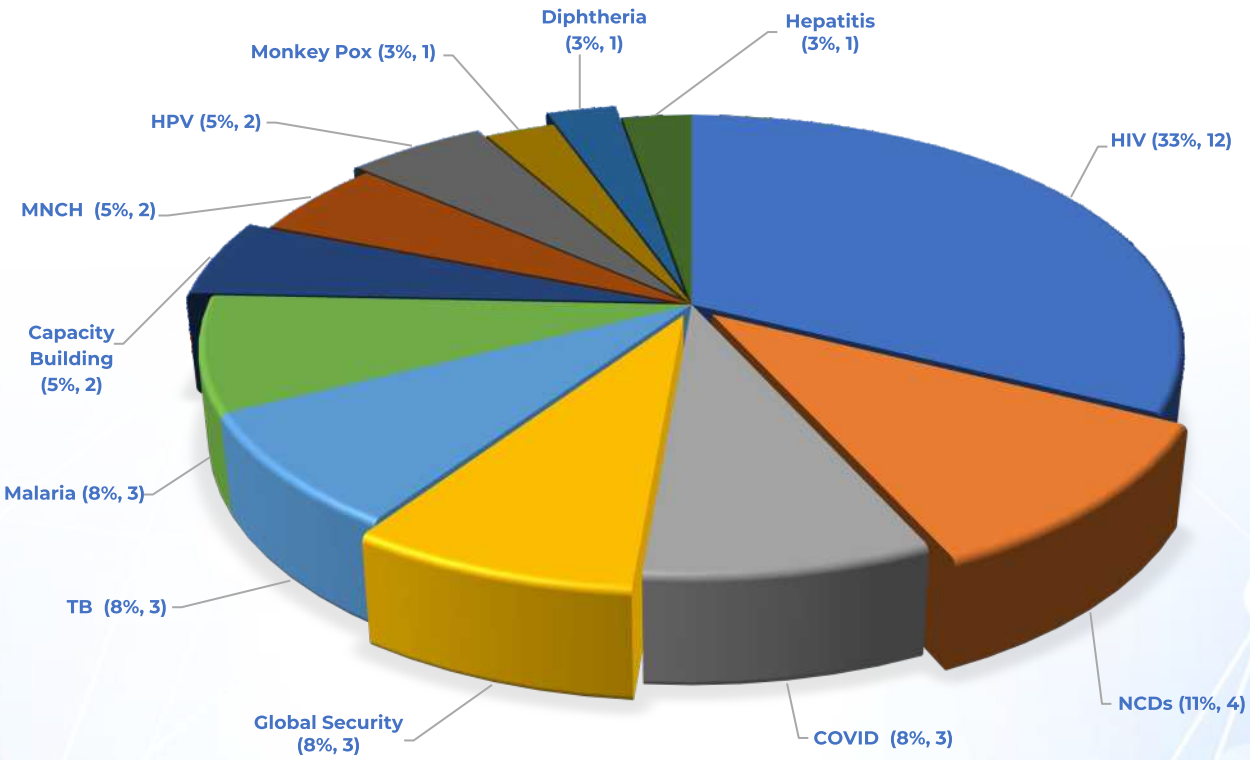
By 2017, the number of researchers at IRCE had increased to eight. Recognizing the importance of research capacity building, the IRCE prioritized training programs for young scientists, healthcare professionals, and researchers. As a result, in 2017, 5 trainings were conducted in collaboration with University of Maryland Baltimore and other international faculty. Over the years, IRCE's capacity-building initiatives have contributed to the development of a skilled workforce, empowered local researchers, and fostered sustainable research systems. One of IRCE's key objectives is to provide training and engage young researchers in its mentorship program - early investigators have been linked to suitable mentors and exposed to training and fellowship opportunities through NIH Fogarty training grants. IRCE continues to conduct training and

mentoring activities on global health education, laboratory and research methodology, genomic and data science, statistical methods in epidemiology, scientific and medical ethics, and the principles and practice of clinical trials.

Currently, IRCE supports and encourages its staff to apply for fellowships at renowned centers with a view of coming back to strengthen the capacity of IRCE. Three staff successfully completed the WHO Tropical Disease Research Fellowship and are back to the Center at leadership positions while training others. Through its multidisciplinary team of scientists, clinicians, and public health experts, the center has conducted ground-breaking studies, generated crucial data, and contributed to the global understanding of viral diseases.

Research Diversification and Excellence

Given, the background of IHVN on curbing the HIV epidemic, most of the research themes and interest of IRCE has been on HIV/AIDS. This edge-cutting HIV/AIDS research work was crucial in expanding the understanding of the epidemic, exploring transmission dynamics, studying drug resistance, optimizing treatment strategies, and developing innovative prevention interventions.
However, IRCE gradually expanded its research portfolio to include other infectious diseases such as Tuberculosis, Malaria, viral Hepatitis, COVID 19, Monkey Pox, emerging viral infections and noncommunicable diseases. This diversification has allowed the center to contribute to the understanding and control of both infectious and non-infectious diseases. IRCE currently has over 35 active grants across diverse research interest as depicted in the chart.



IRCE's structure adopts a hybrid model which includes the PI who directs the execution of a research study with significant support from IRCE's cross-cutting teams with operational expertise to ensure quality and adherence to ethical norms.

Overview of IRCE

Research Infrastructure

IRCE's research efforts are successfully supported by our robust infrastructure

IRCE Infrastructure

- A CLINIC
- LIQUID NITROGEN PLANT
- I-HAB BIOREPOSITORY
- A CLINICAL TRIAL UNIT
- GENOMICS RESOURCE CENTRE
- NETWORK & COLLABORATORS
- MOLECULAR DIAGNOSTIC DEPT
- CHEMISTRY, HEMATOLOGY, MICROBIOLOGY
- CLINICAL PATHOLOGY
- DATA CENTER
- CONFERENCE ROOMS (4)
- TRAINING ROOMS (2)
- VACCINOLOGY, PROTEOMIC, METABOLOMIC UNIT

Growth and Research Output

The growth and research output of IRCE is remarkable. The center has grown from 4 staff to over 112 staff actively engaged in the implementation of diverse research projects. The research output of the center is categorized in the sections below.

Overview of IRCE

Collaborative Partnerships

The impact of IRCE extends far beyond its research contributions. Through its collaborative approach, IRCE continues to foster strong collaborations with renowned local, national, and international organizations and research institutions, funding institutions, universities, government agencies, industry stakeholders, and other non-profit organizations. These partnerships have been instrumental in attracting research funding, strengthening healthcare systems, enhancing research capacity through knowledge exchange and capacity building, and facilitating the translation of research findings into practical solutions.

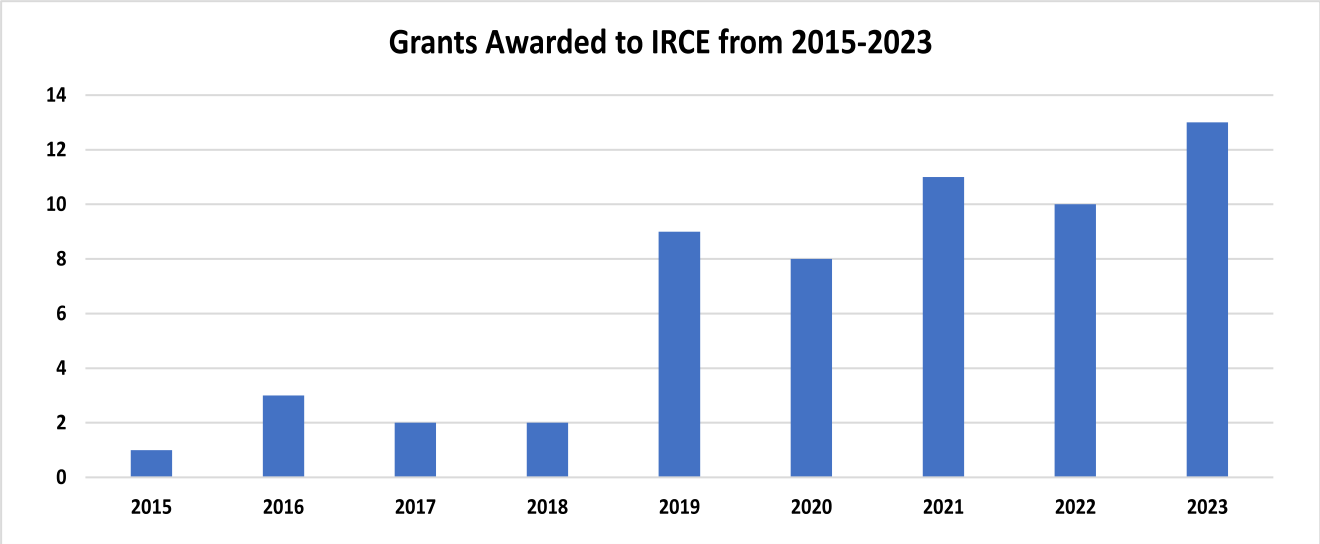
In 2024, IRCE's visibility and influence have grown significantly, particularly with the Government of Nigeria and the international community. This is evidenced by a series of high-profile collaborative visits and engagements, notably from the Presidential Initiative on Unlocking Healthcare Value Chains (PVAC), FMOH with Biosynex and Chembio Diagnostics, the office of the Federal Minister of State for Health, MRC the Gambia, Roche Diagnostics and Journalists from Science Magazine. These interactions have not only solidified IRCE's role as a key player in the research and healthcare sectors but have also strengthened its position as a trusted partner in driving forward initiatives that have a tangible impact on public health and scientific progress both locally and globally.

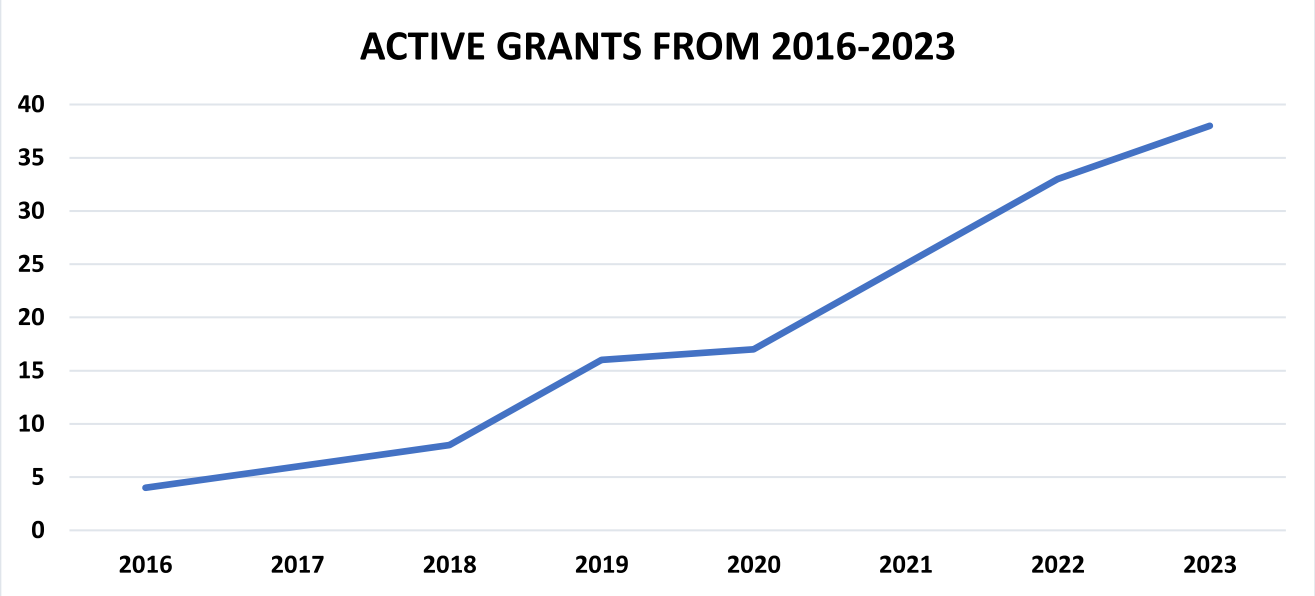
Impact on Policy and Practice

Key research conducted by IRCE have had significant impact on health policies and practices in Nigeria. The center's contributions to HIV/AIDS research have informed global efforts in managing and controlling the epidemic. For instance, through the Nigerian Canadian Collaboration on AIDS Vaccine study (PI – Prof Abimiku), the team was invited in revising of the National HIV vaccine plan. Other studies conducted in IRCE have influenced treatment protocols, and prevention strategies, leading to improved healthcare delivery and outcomes. IRCE collaborations with international partners have facilitated knowledge exchange, shared learning, and the implementation of best practices worldwide.

Recognition and Grant Awards

Over the seven years since its inception, IRCE's commitment to excellence in research and public health has garnered recognition and accolades. The center has received grants, awards, and research funding from reputable national and international organizations, acknowledging its significant contributions to the field of infectious diseases.





Theme: Expanding University of Maryland Baltimore (UMB) School of Medicine and the Institute of Human Virology, Nigeria (IHVN) Partnership to Cancers and Sickle Cell Disease

This scientific symposium, titled "Expanding University of Maryland Baltimore (UMB) School of Medicine and the Institute of Human Virology, Nigeria (IHVN) Partnership to Cancers and Sickle Cell Disease," is set to take place from August 14th to 15th, 2024. This event aims to bring together a diverse group of researchers, experts, and stakeholders from various disciplines within the health sciences field to foster the exchange of ideas and promote collaborative efforts.

The symposium will kick off with a warm welcome address from Dr. Patrick Dakum, the CEO of IHVN, and Professor Alash'le Abimiku, the Executive Director of IRCE. Professor Abimiku will also deliver a brief presentation on the collective vision for IRCE, highlighting the achievements and progress made over the past eight years under her leadership. Her presentation will offer insights into the strategies and initiatives that have driven IRCE's success and its impact on the field.

The event will feature goodwill messages from a host of distinguished leaders and researchers, setting a tone of camaraderie and shared purpose. These messages will reflect the collective commitment to advancing research and improving health outcomes through collaborative partnerships.

A key highlight of the symposium will be an address by Professor Manhattan Charurat, the Global Director of the Center of International Health, Education, and Biosecurity (CIHEB). Professor Charurat's address is expected to provide a global perspective on health research and the significance of international collaborations in tackling complex health challenges.

The keynote address will be delivered by Professor Mark Gladwin, the Dean of the University of Maryland School of Medicine. Professor Gladwin's speech will focus on the latest advancements in cancer and sickle cell disease research, emphasizing the importance of interdisciplinary approaches and innovative strategies in addressing these critical health issues.

Throughout the symposium, attendees will have the opportunity to engage in discussions on a range of topics related to cancer and sickle cell disease, including cutting-edge research, clinical applications, and policy implications. The event will feature a series of presentations, panel discussions, and networking sessions designed to facilitate meaningful interactions among participants.

This symposium represents a significant step forward in the ongoing partnership between UMB School of Medicine and IHVN. By expanding the focus of their collaboration to include cancer and sickle cell disease, the event underscores the commitment of both institutions to advancing medical research and improving patient care. The exchange of knowledge and ideas at this gathering will contribute to the development of new strategies and solutions for managing these challenging health conditions.

In summary, the **"Expanding University of Maryland Baltimore (UMB) School of Medicine and the Institute of Human Virology, Nigeria (IHVN) Partnership to Cancers and Sickle Cell Disease"** symposium promises to be a landmark event in the field of health sciences. It will provide a platform for the presentation of cutting-edge research, foster international collaboration, and inspire innovative approaches to addressing cancer and sickle cell disease. We look forward to the impactful discussions and collaborations that will emerge from this important gathering.

Program of Events

WEDNESDAY 14TH AUGUST 2024: SYMPOSIUM FOCUS ON SICKLE CELL ANAEMIA CARE AND RESEARCH		
	Wednesday 14th August 2024	
	Venue: IHVN Symposium Hall	
	Plenary Talks / Short Talks / Round Table: Focus on Sickle Cell Disease (SCD)	
8:30-9:00 AM	Arrival and Registration	
	Topic	**Speaker**
	Chair: Patrick Dakum	
9:15-9:20 AM	Welcoming Address	Dr. Patrick Dakum (CEO IHVN)
9:20 - 9:25AM	Opening Remarks	Professor Alash'le Abimiku (ED IRCE)
9:25- 9:40 AM	UMB Global Program	Professor Manhattan Charurat
9:40-9:55 AM	IHVN Public Health Service Program	Dr. Patrick Dakum (CEO IHVN)
9:55-10:10 AM	IRCE Research Agenda	Professor Alash'le Abimiku (ED IRCE)
10:10-10:25 AM	Research on Drug Discovery for SCD and Other Diseases	Dr. Obi Adigwe (DG NIPRD)
10:25-10:40 AM	**Tea Break**	
10:45-11:00AM	Overview of National SCD and Newborn Screening of SCD and Implications for Clinical Trials	Prof. Obiageli Nnodu, CESRTA AUTH
	Keynote	
	Chair: Alash'le Abimiku	
11:00-11:45 AM	Pulmonary Hypertension and End Organ Failure in Adult Patients with Sickle Cell Disease	Dean Mark Gladwin UMB-SOM
11:45 - 12:00 PM	Q&A	
	Chair: Professor Manhattan Charurat	
12:00-12:15 PM	Reducing the Burden of SCD in Nigeria	Professor Adeyinka Falusi
12:15-12:30 PM	Sickle Cell Disease Clinical Phenotypes	Prof. Adekunle Adekile, CESRTA, AUTH
12:30-12:45 PM	SGA: Echocardiovascular Phenotypes	Prof. Mahmoud Sani, Bayero Uni, Kano
12:45-1:00 PM	Phytomedicines in the Control and Management of SCD	Mercy Nwakaego Ezeunala, NIPRD Abuja
1:00 - 2:00PM	**LUNCH**	
	Chair: Professor Taofeek Owonikoko	
2:00-3:30 PM	**Round Table Panel Discussion on SCD: Future Partnerships and Capacity for SCD Research in Nigeria**	
	Panel: Representatives of Illumina, Gilead, Abbot, Roche, Merck, Astrazeneka, Thermo Fisher, Metaphore, Novartis; Inqaba, Professor Maxwell Nwegbu (CESRTA), Dr Helen Manven (UATH), Dr. Florence D. Tarfa (NIPRD)	
3:30 - 5:00 PM	Poster Viewing and Exhibitions	
7:00 PM	Dinner for Presenters and VIP Invited Guests at Transcorp Hilton	

Program of Events

THURSDAY 15TH AUGUST 2024: SYMPOSIUM FOCUS ON ONCOLOGY AND CANCER CARE AND RESEARCH		
	Thursday 15th August 2024	
	Venue: IHVN Symposium Hall	
	Plenary Talks/Short Talks/Round Table: Focus on Oncology and Cancer Research	
8:30-9:00 AM	Arrival and Registration	
	Topic	**Speaker**
	Chair: Clement Adebamowo	
9:00-9:05 AM	Welcoming Address	Dr. Patrick Dakum (CEO IHVN)
9:05 - 9:10 AM	Opening Remarks	Prof. Alash'le Abimiku (ED IRCE)
9:10- 9:30 AM	Improving Cancer Research in Nigeria	Prof. Terna Yawe (SOCRON)
9:30 -9:50 AM	Expanding Access to Oncology Care	Dr. Tolu Adewole Nigeria Sovereign Investment Authority (NSIA)
9:50 -10:10 AM	Diagnostic Infrastructure for Cancer Research	Dr. Paul Gowon Jibrin, AU Abuja
10:10-10:30 AM	**Tea Break**	
	Keynote	
	Chair: Alash'le Abimiku	
10:30:11:15 AM	Keynote: Building the Human Resource and Infrastructure for Oncogenic Health	Prof. Taofeek Owonikoko UMB-SOM
11:15-11:30	Q&A	
	Chair: Shyamasundaran Kottilil	
11:30-11:50 PM	HBV and HCV Associated Cancers	Prof. Shyamasundaran Kottilil
11:50-12:10 PM	Improving Cancer Screening in Nigeria	Dr. Gregrey Okoh-Oboh
12:10-12:30 PM	The TRUST Cohort and Integration of Anal Cancer Control in Nigeria	Dr. Sylivia Adebajo / Dr. Rebecca Nowak
12:30- 12:40 pm	Leveraging on PEPFAR Program to Prevent Cervical Cancer– IHVN Experience	Dr. Victoria Igbinomwanhia
12:40-1:40 PM	**LUNCH**	
	Chair: Prof. Taofeek Owonikoko	
1:40-3:00 PM	**Round Table Panel Discussion on Oncology and Cancer Care Research: Presenters and Industry Partners**	
	Panel: Representatives of Illumina, Gilead, Merck, Abbot, Astrazeneka, Thermo Fisher, Roche, Metaphore, Novartis; Inqaba; Dr. Elima Jedy-Agba	
3:00 - 4:30 PM	Poster Viewing and Exhibitions	

University of Maryland School of Medicine (UMB SOM) Baltimore USA

Mark T. Gladwin, MD

Dean, University of Maryland School of Medicine
Vice President for Medical Affairs, University of Maryland, Baltimore

Research Interests: sickle cell disease, pulmonary hypertension

Prof. Gladwin is a physician-scientist, clinician, educator, and academic leader. He also is the John Z. and Akiko K. Bowers Distinguished Professor at UMSOM and vice president for medical affairs for the University of Maryland, Baltimore (UMB). An expert in pulmonary hypertension and sickle cell disease, D e a n Gladwin has served as a principal or associate investigator on more than 25 clinical trials. He co-authored clinical textbooks including "Sickle Cell Disease"; Clinical Microbiology Made Ridiculously Simple" and "Critical Care and Hospitalist Medicine Made Ridiculously Simple."

UMB SOM Marlene and Stewart Greenebaum Comprehensive Cancer Center, Baltimore USA

Taofeek K. Owonikoko, MD, PhD

Executive Director of the University of Maryland Marlene and Stewart Greenebaum Comprehensive Cancer Center

Research Interests: thoracic oncology, preclinical experimental therapeutics, biomarker discovery, and translation of promising laboratory findings into lung cancer clinical trials.

Prof. Owonikoko is a translational physician-scientist, board-certified in Medical Oncology, Hematology, and Internal Medicine, and has a clinical focus on the management of patients with lung cancer. His laboratory's fundamental discoveries have paved the way for multiple clinical trials at both institutional and national levels.
Dr. Owonikoko currently serves as an elected board member and treasurer-elect of the prestigious American Society of Clinical Oncology (ASCO), the leading society of oncologists globally.

Clement A. Adebamowo, BM, ChB, ScD, FWACS, FACS
Associate Director for Diversity, Equity and Inclusion of the Marlene & Stewart Greenebaum Cancer Center

Research Interests: Cancer epidemiology, Genomics epidemiology, Nutrition epidemiology, NCD research, Research ethics

Prof. Adebamowo is a member of the Population Sciences Program of the Cancer Center and a cancer epidemiologist. He works with colleagues at the University of Maryland Greenebaum Cancer Center and University of Maryland College Park to develop a research program on cancer disparities among African Americans in order to better understand the role of genetics, environment cultural and socio-economic factors in cancer prevention, treatment seeking behavior and outcomes. He also directs the Fogarty funded West African Bioethics Training program.

UMB SOM Institute of Human Virology Baltimore, USA

Shyamasundaran Kottilil, MBBS, PhD
Co-Director, IHV Clinical Research Unit;
Division Head, Infectious Diseases;
Interim Director of the Institute of Human Virology

Research Interests: Infectious Diseases, pathogenesis of chronic viral infections and translational research to eradicating infections by targeting the virus and the host.

Prof. Kottilil has conducted several pivotal investigator initiated studies in hepatitis C. He serves as one of the founding members of the US National hepatitis C treatment guidance panel and has mentored over 30 MDs and PhDs during his academic career.

Man E. Charurat, PhD, MHS
Global Director, Center for International Health, Education, and Biosecurity (Ciheb)
Division Head, Global Health Sciences, Department of Epidemiology and Public Health;
Division Head, Epidemiology and Prevention, IHV

Research Interests: Key Population, Surveillance and Surveys, Microbiome, HIV Adolescent, Health Systems Strengthening, Mother-to-infant transmission of HIV, and Implementation Science.

Prof. Charurat's research focuses on maternal-infant HIV transmission, key and vulnerable populations, implementation science, HIV surveillance, and transmission dynamics. He has mentored many African researchers who are in important positions in their universities or governments in making their fights against HIV.
He and his team have established vibrant centers of excellence in Nigeria, Kenya, Zambia, Botswana, and Tanzania that conduct public health implementation and clinical research in infectious diseases and cancer control.

Institute of Human Virology - Nigeria

Patrick S. Dakum, MBBS, MPH

Chief Executive Officer, Institute of Human Virology, Nigeria (IHVN)
Assistant Professor, Epidemiology & Prevention, Institute Of Human Virology;

Research Interests: Applied research in public health involving HIV, MDR TB and non-communicable diseases (NCDs)

Dr. Dakum leads IHVN's CDC PEPFAR and the Global Fund programs to fight AIDS, Tuberculosis and Malaria. He coordinates the interdisciplinary responsibilities of the Institute for effective program output in addition to providing overall management of the Nigerian team in implementing the Institutes several projects. He leads one of the largest PEPFAR program with over 400,000 people living with HIV in Nigeria on treatment. He also coordinates IHVN participation in implementing the Global Fund to Fight AIDS, Tuberculosis and Malaria programs. He effectively links these service programs to research opportunities.

Alash'le Abimiku MON, MSc, PhD

Executive Director, International Research Center of Excellence at the Institute of Human Virology-Nigeria
Professor, University of Maryland School of Medicine, Institute of Human Virology.

Research Interests: HIV Virus subtypes, HIV drug resistance, HIV pathogenesis and immunity using HIV birth cohorts in Nigeria, Multidrug-resistant TB, Laboratory System Strengthening, Global Health Security.

Prof. Abimiku's career for over 30 years has distinguished her as an academic, scientist and researcher. She first documented the unique HIV strain prevalent in Nigeria as HIV subtype G, different from the subtype B circulating in Europe and USA. She co-founded IHV-Nigeria and continue to play a pivotal role in establishing a long-term collaboration between Institutions in Nigeria, and research institutions in the USA and the north; and to build the infrastructure and mentor young scientists to support research in Nigeria and other African countries.

Charles Olalekan Mensah, PhD, MBA, FCA, CPA, CGMA, MACHE

Chief Operating Officer/Managing Director

Dr. Mensah serves as the managing director and chief operating officer for IHV-Nigeria and is responsible for the effective and efficient corporate operations of the Institute including administration, finance, contract administration, and supply chain to support the program arm of IHVN that provides treatment, care and support activities for thousands of people living with HIV/AIDS, TB, Malaria; and the research agenda of the International Research Center of Excellence, the research arm of IHV-Nigeria.

Speakers

Obi P. Adigwe, BPharm, MSc, PhD

Director General, National Institute for Pharmaceutical Research and Development (NIPRD)
Fellow, Nigerian Academy of Pharmacy
Fellow, West African Institute of Public Health
Recipient, National Productivity Order of Merit Award

Research Interests: Legislation and policy formulation on medicines, Health System Strengthening, capacity building, rational use of medicines, local production of vaccines

Dr Adigwe formulated research and development strategies in Health Policy with a view to developing an Evidence-Based approach to Legislation and Policy formulation in Nigeria. He also developed innovative and contextual capacity-building modules for healthcare professionals, and coordinated research that contributed to Health System strengthening. He has a significant number of peer-reviewed publications including the first Knowledge Attitudes and Perceptions study on Ebola in Nigeria, and a seminal paper on Rational Use of Medicines. He is the lead author of the article "Rewrite the Script for Non-medical Prescribing" which contributed to prescribing policy reforms in the Parliament of the United Kingdom.

Dr Adigwe pioneered a significant number of innovative research and developmental projects and led teams that secured various high-profile grants including a European Union/Government of Bulgaria Grant supporting Local Production of Vaccines in the Nigerian setting. Based on the NIPRD study led by Dr Adigwe, the European Union (EU) announced the award of an €18m grant to Nigeria, as a catalyst for vaccines research. He has headed and served on numerous Committees and Expert Working Groups at both national and international levels, including the D8, United Nations (UN), World Health Organisation (WHO), African Union (AU) and ECOWAS.

He has mentored over 80 PhD and MSc candidates, and 100 Pharmacists. Adigwe has more than 82 scientific presentations. He chaired and contributed to the COVID-19 pandemic response, by providing an internationally acclaimed analysis that was recognized by the Nigerian Government and positioned the country on the Madagascan COVID Organics preparation.

Obiageli Nnodu, MBBS, FWACP

Professor, College of Health Sciences, University of Abuja, Nigeria
Director, Centre of Excellence for Sickle Cell Disease Research and Training (CESRTA), University of Abuja
Co-Investigator, Sickle Pan African Research Consortium
Site Lead, SickleGenAfrica
Chairperson, Advocacy for the Sickle Pan African Network (SPAN)
Vice Chairperson, Nigerian Sickle Cell Support Society
Member, Sickle CHARTA, Haemoglobinopathies Working Group, Nigerian Society for Haematology and Blood Transfusion, and American Society of Haematology African Newborn Screening for Sickle Cell Disease and Early Intervention Consortium

Research Interests: Sickle Cell Disease and haematological malignancies

Prof. Nnodu is a Chevening Scholar and alumnus of Imperial College London, United Kingdom. She received several cancer technology transfer fellowships to Imperial College of Medicine, London; Karolinska Institute & Hospital, Stockholm, Sweden, University Hospital, Lund, Sweden that equipped her to work with others to set up a multidisciplinary orthopaedic oncology unit which has become the primary referral centre for bone tumour patients in Nigeria with significant contribution to scientific literature in bone tumours.

In 2010, she along with others helped articulate a strategy for the control of sickle cell disease in Nigeria. She is a founding member of Sickle CHARTA, a consortium which aims to promote, strengthen and develop health, advocacy, research and training in sickle cell disease in Africa and the Haemoglobinopathies Working Group of the Nigerian Society for Haematology and Blood Transfusion. She serves on various technical committees for the Nigerian government and international agencies on the strategic plan of action for NCDs (2019-2025), NCD STEP Survey, has been involved in several national assignments related to sickle cell disease, and the National Cancer Control Plan Implementation. In partnership with Silver Lake Laboratories, she led a successful application for the inclusion of point of care tests for sickle cell disease in the essential diagnostics list of the WHO – EDL3.

Adeyinka G. Falusi

Chief Executive Officer, University of Ibadan Institute for Advanced Medical Research and Training (PIMRAT)
Co-founder, Sickle Cell Association of Nigeria (SCAN)
Founder, Sickle Cell Hope Alive Foundation (SCHAF)
Winner, L'Oréal-UNESCO Awards for Women in Science
Recipient, Access to Basic Care (ABC) Distinguished Personality Award, National Productivity Order of Merit Fellowship and Ekiti State Merit Award
Fellow, Nigerian Academy of Science

Research Interests: Genetics of sickle cell disease, hereditary blood diseases

Prof. Falusi's leadership at the University of Ibadan and University College Hospital Institutional Review Committee produced the first well-organized and functional Institutional Ethics Committee in Nigeria and she later became the coordinator for Nigeria Networking for Ethics of Biomedical Research in Africa.

She co-authored over 60 journal articles and book chapters, and over 80 conference articles and proceedings. She has researched and published in the genetics of some non-communicable diseases such as breast cancers, asthma, malaria and specifically the haemoglobinopathies of sickle cell disease and the thalassaemias and other genetic modifiers. Besides publications in sickle cell research, she also co-authored journal articles and book chapters on ethics and research conduct.

Adekunle D. Adekile, MBBS, PhD, FMCPaed (Nig), FRCPCH, FRCP (Eding)

Professor, Kuwait University
Adjunct Professor, University of Abuja, Nigeria
Chairman, Nigerian Sickle Cell Disease Network and the Nigerian Sickle Cell Support Society
Director, Kuwait National Sickle Cell Disease Registry

Research Interests: Hemoglobinopathies, including sickle cell disease

Prof. Adekile established the Kuwait National Sickle Cell Disease Registry in 2010, which is the first and only one of its kind in the Middle East. He has contributed significantly to understanding the disease's impact on patients across different continents. Having cared for patients and conducted research on three continents (Africa, North America, and Asia), Prof. Adekile brings a unique perspective to the field of sickle cell disease.

Prof. Adekile's work has made a substantial impact on the understanding, management, and advocacy for sickle cell disease globally. His dedication to improving patient outcomes and advancing research is commendable.

Mahmoud U. Sani, MBBS, PhD

Professor, Internal Medicine and Cardiologist, Bayero University and Aminu Kano Teaching Hospital, Kano
Deputy Vice Chancellor (Management Services), Bayero University, Kano
Examiner to the West African College of Physicians
Recipient, SF Kuku Prize for the Best Graduating Fellow of the West African College of Physicians

Research Interest: Inorganic Chemistry

Prof. Sani has been involved as Principal Investigator (PI) and Multiple Principal Investigator (MPI) in collaborative clinical trials and registries both regionally and internationally. He is an Investigator for the Sickle Cell Disease Genomics Network of Africa (SickleGenAfrica) project, a network to build capacity locally to enable African scientists study genomics of SCD on the continent. He leads the third research project, Genomics of Cardiovascular Phenotypes in Sickle Cell Disease under the SickleGenAfrica project. The goal of the third research project is to analyse major echo cardiovascular biomarkers in 2000 adults with sickle cell disease in Africa.

Prof. Sani has been a member of Bayero University Senate since 2012. He is also a member of several University committees. He was Head of Department of Medicine, Bayero University, Kano (BUK) from 2012 to 2014, Deputy Provost (Academics) College of Health Sciences (2016-2018), Dean, Faculty of Clinical Sciences, BUK (2018-2020), Council Member, Nigerian Cardiac Society (2006-2012) and an since 2008. He is a World Heart Federation (WHF) emerging leader from 2015.

Mercy N. Ezeunala, MSc, PhD
Senior Research Fellow, National Institute for Pharmaceutical Research and Development (NIPRD)
Head, Parasitology Unit, Department of Microbiology and Biotechnology, NIPRD

Research Interests: Molecular studies on resistance indices of Parasites , Phytoscreening and Phytotherapy, Malaria species and NTDs associated with the socio-economic struggling population.

Dr Ezeunala has made significant contributions to the field of applied parasitology, particularly in areas such as in-vitro phytoscreening, antiplasmodial and antimicrobial studies, and neglected tropical diseases (NTDs) surveillance. She put many years into Epidemiology and Molecular Biology Research on Onchocerciasis & its treatment with Ivermectin as a WHO/TDR trainee in TropenMedizinInstitut, Tuebingen, Germany. Dr. Hartwig Schulz-Key was her Co-Supervisor. Dr. Ezeunala has authored and contributed to several notable publications. She supervises IT students (SIWES) and Postgraduate projects at Master's and PhD level.

Round Table Panel Discussion

Maxwell Nwegbu, MBBS, FWACP
Professor and Head of Department, Chemical Pathology, College of Health Sciences, University of Abuja, Nigeria
Consultant Chemical Pathologist with the University of Abuja Teaching Hospital
Co-investigator, NIH-funded mAnaging siCkle CELl disease through incReased AdopTion of hydroxyurEa in Nigeria(ACCELERATE) & Sickle Pan Africa Research Consortium TRAINing (SPARC-TRAIN), International Center for Genetic Engineering & Biotechnology (ICGEB) grant and the International Hemoglobinopathy Research Network (INHERENT) Study (Nigerian Site)
Fellow, Open Medical Institute, Austrian-American Foundation in Pathology and Novartis Institute of Biomedical Research, Cambridge, Massachusetts
Past Dean, Faculty of Basic Clinical Sciences, College of Health Sciences, University of Abuja, Nigeria
Recipient, Awoonor-Renner Prize for Best Graduating Fellow (Laboratory Medicine), West African College of Physicians

Research Interest: Sickle Cell Disease

Prof. Nwegbu is the Laboratory Manager at Centre of Excellence for Sickle Cell Disease Research Training (CESRTA), University of Abuja and sub-Investigator on four ongoing clinical trials in sickle cell disease at CESRTA. He is key personnel in the NIH-funded Sickle Pan-Africa Research Consortium Nigeria Network (SPARC-NEt) grant, the EUROPEAN EDUCATION AND CULTURE EXECUTIVE AGENCY (EACEA) Grant– Embedded-AI (ERASMUS-EDU-2022-CBHE).

Helen Mamven, MBBS, PhD
Consultant Physician/Nephrologist, University of Abuja Teaching Hospital, Abuja, Nigeria
Senior Lecturer, Department of Medicine, University of Abuja, Nigeria
Co-investigator, H3Africa Kidney Disease Research Network
Abuja Principal Investigator, Diet, CKD and APOL1 Study (DCA)
Member, Nigerian Medical Association, Nigerian Association of Nephrologists and Journal Editor), American Society of Nephrology, International Society of Nephrology (ISN), African Association of Nephrology, Regional Advisory Group, International Society of Hypertension, and European Dialysis and Transplant Association
Vice President, Nigerian Hypertension Society

Research Interests: Non-communicable Diseases broadly, Acute Renal Failure and Chronic Kidney Disease

Dr Mamven is Co-investigator of the H3Africa kidney disease studies are genomic and will lead to an understanding of the contribution of APOL1gene variants to the development of CKD in black Africans. They have recruited over 1000 subjects with chronic kidney disease and over 200 individuals with sickle cell disease in the kidney disease network.

Dr Mamven is a peer reviewer of the journals, Tropical Journal of Nephrology and is currently the Editor-in-Chief, Clinical Medicine Insights: Case Reports, PLOS 1, New Nigerian Journal of Clinical Research, West African Journal of Medicine, Frontiers in Medicine, Nigerian Journal of Clinical Medicine. She is passionate about mentoring early career physicians and scientists and remains ever willing to impart the knowledge and skills she has gained over the years and implement a training/mentoring program in Nigerian institutions to boost research activities.

Florence D. Tarfa, PhD

Senior Research Fellow, Department of Medicinal Chemistry and Quality Control, National Institute for Pharmaceutical Research and Development (NIPRD)
Member, Institute of Public Analysts of Nigerian, Institute of Chartered Chemists of Nigeria (ICCON), Chemical Society of Nigeria (CSN), Organization for Women in Sciences for the Developing World (OWSD), National Society of Biochemistry and Molecular Biology (NSBMB), The Biochemical Society, United Kingdom, and Canadian Society of Biochemistry and Molecular Biology (CSBMB)

Research Interests: Integrated knowledge in basic research in establishing of quality specifications for natural products for quality control purposes, drug discovery and nutraceuticals development in management of diabetes, sickle cell and well being.

Dr Tarfa's expertise is in drug discovery from natural sources of biologically active substances of pharmaceutical interest Her role involves the establishing of quality specifications for natural products in form of chemical makers and fingerprinting for quality control purposes with the issuance of a certificate of analysis. She also performs bio-assay guided isolation of medicinal plants using simple adsorption chromatographic techniques. She has collaborated with others on several research projects.

Speakers

King-David Terna Yawe MBBS, FWACS, FACS FICS, FISS, FIICA, MNIM, FNAMed, DSc Honoris Causa (Marb) USA

Professor of Surgery, Consultant General, Breast Surgeon & Surgical Oncologist. Department of Surgery, College of Health Sciences University of Abuja, Nigeria
Vice President, Society of Cancer Research of Nigeria (SOCRON)
Member, West African College of Surgeons
Past President, West African College of Surgeons
Past President, Nigerian Cancer Society
Recipient, Lifetime Achievement Award, University of Maiduguri
1st Recipient, Provost's Prize for Best Graduating Student in Medical Sciences

Research Interests: Breast Cancer Epidemiology and Diagnosis

Prof. Yawe has been external examiner to several medical schools in Nigeria, Ghana and some Caribbean nations, Honorary and Visiting Consultant Surgeon to many teaching hospitals across Nigeria from 1992 to date and examiner to five postgraduate training Colleges (WACS, NPMCN, Ghana College of Physicians and Surgeons, College of Surgeons of East, Central and Southern African States, Pan African Academy of Christian Surgeons and College of Physicians and Surgeons). He was appointed Guest Lecturer AU Medical Services (2014), member, expert committee on Postgraduate Health Education in Africa-African Union, Addis-Ababa, Ethiopia (2020), Special Consultant to Medical and Dental Council of The Gambia (2023). Professor Yawe was 29th President WACS and is life-member of WACS Council. He has been on accreditation panels to over 80 teaching hospitals and Universities in Nigeria and across West Africa for WACS and Medical and Dental Council of Nigeria and National Universities Commission

Professor Yawe is a member of the Editorial Board of several national journals and a peer reviewer of many local and international journals and he has published widely his research works in both local and international peer review journals and textbooks. He has done collaborative research work with Professor Clement A. Adebamowo and University of Maryland, and IHVN on various aspects of Breast Cancer epidemiology and diagnosis.

Tolulope Adewole, MBBS

Chief Executive Officer, Nigeria Sovereign Investment Authority (NSIA) Healthcare Development & Investment Company
Chairman, Finance Committee of the Healthcare Federation of Nigeria
Fellow, National Postgraduate Medical College

Dr Adewole is a professional with a proven track record in healthcare and a respected resource person on healthcare issues both within and outside the country. He is a consummate healthcare expert with over two decades of cognate experience spanning different aspects of the medical profession from the consulting room to C-Suite roles. He is highly regarded and has been recognized by various bodies including but not limited to the Institute of Directors, Society for Quality in Health Care, International Society for Immunotherapy of Cancer (SITC).

Dr Adewole is the pioneer Chief Executive Officer NSIA Healthcare Development & Investment Company (NHDIC) and has worked with an excellent and passionate team of highly skilled professionals under the guidance of the Board and Executive Management team of the NSIA. He led the operationalization of three landmark healthcare projects with a combined project development, construction and equipping cost of US$21M. The NHDIC healthcare projects currently cover Cancer Care and Diagnostics and span across the three main regions in Nigeria, specifically, the North, East and West of Nigeria. All three centers are co-located within and operated in collaboration with some of Nigeria's leading teaching hospitals. The two diagnostic centres namely, the NSIA-Kano Diagnostic Centre and NSIA-Umuahia Diagnostic Centre are co-located with the Aminu Kano Teaching Hospital, Kano, and Federal Medical Centre, Umuahia, respectively. The Cancer Centre, NSIA-LUTH Cancer Centre is co-located within the grounds of the Lagos University Teaching Hospital, Idi-Araba.

Paul Gowon Jibrin, MBBS

Consultant Pathologist, National Hospital, Abuja, Nigeria
Senior Lecturer, Department of Pathology, University of Abuja
Histopathology Fellow, National Postgraduate Medical College of Nigeria.

Research Interest: Cancer

Dr Jibrin has developed extensive skills as a pathologist with a special interest in gynaecological pathology and cancer diagnosis and experienced in fine needle aspiration biopsy and cytology, and cervical cancer screening. He is involved in a prospective study looking at the epidemiology of breast cancer and HER2 over expression in Nigeria, sponsored by Roche Pharmaceutical.

Dr Jibrin is a lecturer with many years of experience. His career goal is to contribute significantly to reducing cancer related mortality in Nigeria through prompt and accurate diagnosis of cancer cases and build practice and training in histopathology by broadening his expertise in HPV-associated cancers through collaborations with international pathologists.

Agbonvihele Gregrey Oko-Oboh

Researcher, Tampere University, Finland
Affiliate, International Research Center of Excellence (IRCE), Institute of Human Virology, Nigeria (IHVN)
Research Fellow, Bernard Lown Scholars in Cardiovascular health, Harvard School of Public Health
Recipient, Bernard Lown Scholars Fellowship
Fellow, West African College of Physicians
Member, National Post-Graduate Medical College of Physicians

Research Interest: Improving the quality of cancer registry datasets in sub-Saharan Africa

Dr Oko-Oboh is a public health physician and statistical epidemiologist whose work is focused on promoting causal reasoning and methods in epidemiological research. He works as a scientific and doctoral researcher at Tampere University, Finland. His research is on improving the quality of cancer registry datasets in sub-Saharan Africa. Previously, he worked as a hospital consultant at the University of Benin Teaching Hospital (UBTH), where he was appointed Deputy Chair, Medical Advisory Committee (DCMAC) research, ethics, monitoring and training. He also coordinated the Post-graduate Residency Training Programme at the UBTH and the Benin Cancer Registry.

Dr Oko-Oboh is committed to elevating research capacity through active engagement in ongoing projects, cultivating knowledge sharing and contributing meaningfully through interdisciplinary collaboration with seasoned researchers and participating in research events, such as seminars, conferences and research interest groups. He sees mentorship as a cornerstone of capacity building and willingly shares his experiences and expertise with junior researchers, providing guidance and support to nurture their academic and research endeavors.

Sylvia Adebajo, MD, PhD
Senior Research Advisor, Institute of Human Virology, Nigeria (IHVN)
Immediate Past Country Director, Center for International Health, Education, and Biosecurity (CIHEB), an affiliate of the University of Maryland, Baltimore (UMB)

Research Interest: Epidemiology of diseases among vulnerable populations

Dr Adebajo is a public health physician with a strong background in communicable disease (primarily HIV) epidemiology spanning over 20 years. She is an expert in conducting research and using evidence to inform policies, programming, and increasing access to services by Key Populations (KPs) in Nigeria, especially sexual and gender minorities (SGM). In 2006, she pioneered the first bio-epidemiological study using a respondent-driven sampling technique to reach 1,200 MSM in 2 states (Lagos and Oyo) in Nigeria.

She established CDC's flagship HIV prevention and linkage to care intervention for KPs, by harnessing the resources of both the private and public sectors as the Director of Program and Research at the Population Council in 2008 - 2013.

As a Senior Research Advisor at the Institute of Human Virology Nigeria (IHVN), Dr Adebajo is a multiple-PI (MPI) or co-Investigator on other groundbreaking epidemiologic studies in Nigeria including the NIH-funded studies Integrated Model for the Prevention of Anal Cancer using screen and Treat for HSIL (IMPACT) (NIH U01CA275053); Synergistic epidemics of non-communicable diseases, stigma, depression, and material insecurities among sexual and gender minorities living with HIV in Nigeria (NIH - R01HL165686) and Resilient HIV Implementation Science with Sexual and Gender Minority Youths using Evidence (RISE) Clinical Research Center (NIH R01 - UG1HD113162).

She has authored or co-authored over 65 scientific articles published in reputable international peer-reviewed journals.

Rebecca G. Nowak PhD MPH

Associate Professor, University of Maryland School of Medicine
Associate Member, Population Science Program at the University of Maryland Marlene and Stewart Greenebaum Comprehensive Cancer Center (UMGCCC)
Infectious Disease Epidemiologist

Research Interest:

Dr Nowak is an Associate Professor at the University of Maryland School of Medicine, an Associate Member of the Population Science Program at the University of Maryland Marlene and Stewart Greenebaum Comprehensive Cancer Center (UMGCCC), and an infectious disease epidemiologist focused on HIV and human papillomavirus (HPV) infection among sexual and gender minorities (SGM).

Antiretroviral therapy (ART) has not been shown to decrease HPV-associated cancers, suggesting persons living with HIV have an inability to clear HR-HPV locally independent of immune restoration in the periphery. Dr. Nowak's molecular research goals are to better understand what is happening in the local immune environment; she is characterizing the composition of the anal microbiota and cytokines among SGM living with and without HIV as a correlate of persistent HR-HPV. Her population science research goals are focused on preventing progression of persistent HR-HPV to cancer and how to nest prevention strategies in current HIV care services. Dr. Nowak with Dr. Sylvia Adebajo are using implementation science frameworks to adopt training on anal cancer prevention to help build local expertise.

In summary, Dr Nowak's work thus far has established the mechanisms and burden posted by HR-HPV and HIV coinfection and highlight the need for an embedded cancer prevention program for SGM by leveraging the existing care delivery infrastructure currently available in Nigeria.

Victoria Igbinomwanhia

Program Manager, Institute of Human Virology, Nigeria (IHVN)
Nigerian Co-investigator, Network for Oncology Research in Sub-saharan Africa (NORA) Grant

Research Interest: Cancer

Dr Igbinomwanhia works as the Program Area Lead of the Maternal, Neonatal and Child Health unit (MNCH) of the Prevention Care and Treatment Department providing oversight and technical assistance on program implementation of MNCH related matters among People Living with HIV (PLHIV) including Prevention of Mother to Child Transmission of HIV/AIDS (PMTCT) and cervical cancer screening & treatment across over 300 Health Care Facilities in IHVN PEPFAR Supported States. She has coordinated the implementation of Sexual Reproductive Health integration into the ART Clinic and Key Population One Stop Shop (KP OSS) among PLHIV in 40 sites across 4 States funded by the German Federal Ministry for Economic Cooperation and Development (BMZ) and currently oversees implementation of the Emergency Food Relief Project for vulnerable children in 2 Nigerian States, a Sternstunden funded project.

Dr Igbinomwanhia is also a research scientist and conducts cancer research at the International Research Centre for Excellence (IRCE). She is the Nigerian Co-investigator (Co-PI) and Fellow of the Network for Oncology Research in sub-Sahara Africa (NORA) a multi-country consortium aimed at contributing to a significant reduction in cancer related morbidity and mortality in sub-Saharan Africa. As Co-PI, she oversees multi-site study implementation of research tasks establishing evidence-based Breast Cancer and Cervical Cancer screening and treatment pathways for effective cancer control strategies. She is the co-chair of the IHVN ethics committee providing support for regulatory and ethical submissions within IRCE and IHVN.

Round Table Panel Discussion

Elima E. Jedy-Agba MD MSc. Ph.D
Senior Consultant Epidemiologist, Real World Solutions Team UK & I, IQVIA
Immediate Past Coordinator, International Research Center of Excellence (IRCE), Institute of Human Virology, Nigeria (IHVN)
Nigerian Principal Investigator, Network of Oncology Research in Africa (NORA)

Research Interest: Cancer epidemiology

Dr. Jedy-Agba has a background in Clinical Medicine, Public Health and Epidemiology, with over 13 years' experience working in the field of non-communicable disease (NCD) epidemiology. With specific interest in cancer epidemiology, she has worked on cancer surveillance across sub-Saharan Africa collaborating with population-based cancer registries in the region as well as on observational studies on various cancers in Nigeria, with several publications in high impact journals. She was actively involved in improving the Nigerian National System of Cancer Registries (NSCR) as coordinator of the NSCR from 2009-2013 and has facilitated several national and international trainings on cancer registration and epidemiology.

Dr. Jedy-Agba is an Africa-Oxford Initiative Fellow of the University of Oxford, UK, a World Cancer Research Fund (WCRF) International Fellow and a Consultant to the African Cancer Registry Network (AFCRN). During her time at IRCE, she was awarded grant funding from the Conquer Cancer Foundation of ASCO, Vital Strategies/ Bloomberg Data for Health Initiative and the National Cancer Institute for research in breast and lung cancers in Nigeria and is the Nigerian Principal Investigator for the Network of Oncology Research in Africa (NORA). She is currently a Senior Consultant Epidemiologist in the Real World Solutions Team UK & I at IQVIA, where she continues to deploy her expertise in designing primary data collection studies across the UK and Ireland.by leveraging the existing care delivery infrastructure currently available in Nigeria.

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Illumina, Inc. is a leading developer, manufacturer, and marketer of life science tools and integrated systems for large-scale analysis of genetic variation and function. Headquartered in San Diego, California, it serves more than 140 countries and provides a line of products and services that serves the sequencing, genotyping and gene expression, and proteomics markets.

GILEAD

Gilead was founded in 1987 to bring new hope in the face of devastating diseases. For more than 35 years, the company has been at the forefront of some of the world's greatest public health challenges.
Gilead's strategy is to deliver more benefits to more patients.
The company delivered a cure for hepatitis C, helped transform the treatment and prevention of HIV and took on cancer and COVID-19, has remained on track to deliver transformative therapies in more than 20+ indications, impact more than 500,000 patient lives and be a top 10 oncology company by 2030. The company is growing its inflammation portfolio with new approaches to control chronic inflammation and fibrosis.

Abbott

Abbott Laboratories is an American multinational medical devices and health care company with headquarters in Abbott Park, Illinois, United States. It is a global healthcare leader that helps people live more fully at all stages of life. They create breakthrough products – in diagnostics, medical devices, nutrition and branded generic pharmaceuticals.

Roche has grown into one of the world's largest biotech companies, as well as a leading provider of in-vitro diagnostics and a global supplier of transformative innovative solutions across major disease areas. Headquartered in Switzerland, Roche is the fifth-largest pharmaceutical company in the world by revenue.

Merck & Co., Inc. is an American multinational pharmaceutical company headquartered in Rahway, New Jersey, and is named for Merck Group, founded in Germany in 1668, of which it was once the American arm. The company does business as Merck Sharp & Dohme or MSD outside the United States and Canada. It is one of the largest pharmaceutical companies in the world, generally ranking in the global top five by revenue.

AstraZeneka Plc (AZ) is a British-Swedish multinational pharmaceutical and biotechnology company with its headquarters at the Cambridge Biomedical Campus in England, United Kingdom. It has a portfolio of products for major diseases in areas including oncology, cardiovascular, gastrointestinal, infection, neuroscience, respiratory and inflammation. It was involved in the development of the Oxford-AstraZeneca COVID-19 vaccine.

Thermo Fisher Scientific Inc. is an American-headquartered life science and clinical research company. It is a global supplier of analytical instruments, clinical development solutions, specialty diagnostics, laboratory, pharmaceutical and biotechnology services.

Metaphore Pharmaceuticals is a Developer of drugs that prevent and treat pain and inflammation. The company's products are used for the treatment of inflammation and pain, dermatitis, adjunctive oncology therapy, refractory hypotension, and reperfusion injury.

Novartis is an innovative medicines company, which reimagines medicine to improve and extend people's lives so that patients, healthcare professionals and societies are empowered in the face of serious disease. The company's medicines reach more than 250 million people worldwide.

Inqaba Biotech is a Genomics Company with offices in South Africa, Nigeria, Kenya, Ghana and Tanzania. Inqaba Biotec caters to the needs of life scientists by providing them with the tools required for conducting genomics research. Their service offerings include DNA Sequencing (Sanger and NGS), Oligo synthesis, Bioinformatics Support, SNP genotyping and animal genetics. They also supply the instruments, reagents and consumables of molecular biology research and training for scientists on the continent on how to apply molecular biology to their research and diagnostics.

Abstract Poster Session

Evaluation of the Implementation of Cervical Cancer Screening Among Women Living with HIV (WLHIV) in Nasarawa State, North Central Nigeria.

M. Dimas[1], C. Anyawu[1], O. Goteng[2], S. Dung[3], J. Malum[3], U. Atoi[1], P. Dung[4], A. Abubakar[5], J. Gotom[6], V. Igbinomwanhia[6], T. Jasper[6], N. Andrew[7], O. Adebayo[6], Y. Sambo[1], O. Yusuf[8], H. Omuh[6], P. Dakum[9], A. Abimiku[7]

[1]*Institute of Human Virology Nigeria, Nasarawa State Office, Prevention Care and Treatment, Lafia, Nigeria,* [2]*Institute of Human Virology Nigeria, FCT Office, Prevention Care and Treatment, Abuja, Nigeria,* [3]*Institute of Human Virology Nigeria, Nasarawa State Office, Laboratory, Lafia, Nigeria,* [4]*Institute of Human Virology Nigeria, Nasarawa State Office, Strategic Information, Lafia, Nigeria,* [5]*Institute of Human Virology Nigeria, Central Office, Laboratory, Abuja, Nigeria,* [6]*Institute of Human Virology Nigeria, Central Office, Prevention Care and Treatment, Abuja, Nigeria,* [7]*Institute of Human Virology Nigeria, International Research Centre of Excellence, Abuja, Nigeria,* [8]*Institute of Human Virology Nigeria, Central Office, Program Coordinating Unit, Abuja, Nigeria,* [9]*Institute of Human Virology Nigeria, Office of the Executive Management, Abuja, Nigeria*

Background

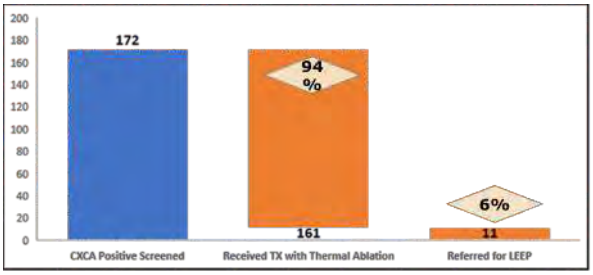
Cervical cancer is the second most common cancer in women in Nigeria. HIV predisposes (by six folds) clients to pre-invasive lesions, which gradually develop into cancer. Early detection and treatment are the primary prevention approaches to cervical cancer control. This necessitates the need for prompt screening of Women Living with HIV (WLHIV). The study evaluated the prevalence of pre-cancerous lesions and treatment uptake among WLHIV

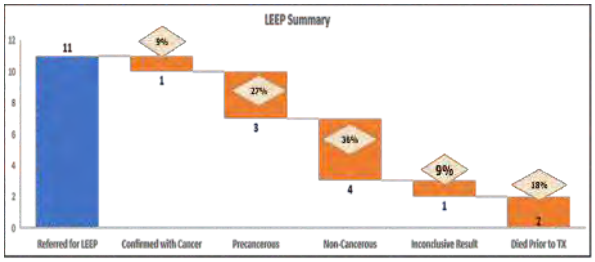
Methods

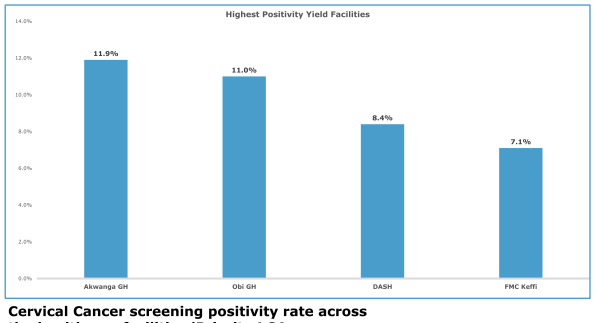
This cross-sectional study involved the review and analysis of cervical cancer screening data across 26 facilities providing cervical cancer screening services in Nasarawa State between October 2021 and September 2022 and evaluated the prevalence of pre-cancerous lesions among WLHIV. Visual inspection with Acetic Acid (VIA) and Lugol's Iodine (VILI) staining methods of screening were utilized, and corresponding treatment of pre-cancerous lesions using thermal ablation was done.

Results

A total of 4302 WLHIV aged 25–49 years were screened for cervical cancer, of which 172 (4.0%) screened positive. Approximately 93.6% (161/172) received pre-invasive treatment with thermal ablation, while 6.4% (11/172) were referred for the Loop Electrosurgical Excision Procedure (LEEP). Of those referred for LEEP, 1/11 (9.1%) was confirmed with cancer and is currently undergoing treatment; 3/11 (27.3%) turned out to be precancerous and had thermal ablation; 4/11 (36.4%) were non-cancerous and treated for opportunistic disease; 1/11 (9.1%) had an inconclusive result and was rescheduled for a Pap smear; and 2/11 (18.2%) died prior to treatment.
The cervical cancer screening positivity rate across the healthcare facilities ranged from 0.0–11.9%, with the highest rates being 11.9%, 11%, 8.4%, and 7.1% in Akwanga General Hospital (GH), Obi GH, Dalhatu-Araf Specialist Hospital, and Federal Medical Center Keffi, respectively.







Cervical Cancer screening positivity rate across the healthcare facilities/Priority LGAs

Conclusion

The implementation of cervical cancer screening in the HIV program provides the opportunity for early detection and treatment of precancerous lesions, potentially reducing the burden of cervical cancer among WLHIV. This study points out the need for a strategic scale-up of cervical cancer screening services and highlights the need for further studies to explore the reasons for the high incidence in high-burden facilities and their respective LGAs to guide targeted interventions

Assessment of Cervical Cancer Screening Among Women Living with HIV/AIDS at Federal Medical Centre Makurdi, Benue State, North Central Nigeria

Onyeka Eva Uchejim[1], Omoregie Irowa[2]

[1]*Department of Monitoring and Evaluation, APIN Public Health Initiative, Makurdi, Benue State, Nigeria.*
[2]*Department of Obstetrics and Gynaecology, Federal University of Health Sciences Otukpo (FUHSO), Benue State, Nigeria*

Objective:
To determine the knowledge, awareness, utilization, and barriers to accessing cervical cancer screening among HIV-positive women.

Methodology:
This study was a descriptive cross-sectional study conducted in the ART Clinic of the Federal Medical Centre (FMC), Makurdi. Ethical approval was obtained from the Research and Ethical Committee of the Hospital. A total of 156 HIV positive women between the ages of 15-65 years who consented, participated in the study. Interviewers guided online questionnaire (google form) was used to collect data. Data was analyzed and presented in tables and charts. The factors affecting the uptake of cervical screening among HIV-positive women were assessed using bivariate analysis and logistic regression analysis.

Results:
Only 7(4.5%) of the study participants were familiar with the term cervical cancer and majority 138(88.5%) were not aware that HIV/AIDS increases the risk factor for cervical cancer. Most 146(93.6%) of the study participants had no knowledge of any cervical cancer screening methods and 62(39.7%) had ever screened for cervical cancer. Half (31) of those who screened were in the age category of ≥ 40 years. Only 1(0.6%) of the study participant had taken HPV vaccine. This study did not identify any barriers to accessing cervical cancer screening.

Conclusion:
The finding from this study shows that there is a poor knowledge of cervical cancer screening methods and uptake of cervical cancer screening among women with HIV. Therefore, there is a need for more public awareness creation and education on cervical cancer and screening especially among HIV-positive women.

Harnessing The Energy of Adolescents to Enhance HPV Vaccine Uptake in Nigeria: Experience from Participating in HPV Designathon.

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Background:
Youth are full of energy and ideas that can be put to good use if given the right guidance and opportunity to express their energy. The energy of youth can be of immense benefit in combating the misinformation around HPV vaccine given that the vaccine is primarily targeted at adolescent girls. With proper training, youth can effectively engage with younger peers by leveraging their unique relatability. This involvement introduces a fresh, innovative approach. Our shared experiences facilitate better communication and connection. This report is a documentation of youth's perspective of scalable lessons from their participation in an HPV designathon.

Aims:
To highlight the untapped energy of adolescents that can be harnessed to improve HPV vaccine uptake.

Methodology:
The process that led to 5 adolescents forming advocacy group and the subsequent efforts towards improving HPV vaccine uptake in their community was documented. The experience of the group was used to develop a model for positive youth engagement in Nigeria.

Result:
The average age of the 5 members of the unboxed team was 19.5yrs (range 19 to 20yrs) with male: female ratio of 2:3. The HPV designathon competition stimulated our interest to be part of a bigger project. The training provided us with the requisite knowledge and understanding of how to channel our energy for cervical cancer prevention. We realized that our initial project was unrealistic because it was planned with pure youthful energy and have since refined our strategy through mentorship.

Conclusion:
Our experience confirmed that youth represent raw energy waiting to be harnessed for community development. The strategy to harness this energy will vary from community to community but the common denominator is to stimulate interest of the youth and provide them with necessary tools to express themselves. Acknowledgement: 4GW, NIMR, 4CbyC.

Exploring Integrated Cervical Cancer Screening for Women Living with HIV (WLHIV) to Increase Uptake of Cervical Cancer Screening Amongst All Eligible Women in Nigeria

Qudus Lawal, George Ikaraoha, Opiti Chukwuneku, Lan Terhemba, Alimi Oyindamola, Pamela Gado, Waidi Adebayo Jima, Halima Faruk, Esther Olufunke Martins-Adetoye, Gana Yakubu, Olufemi Ibitoye, Eva Onyeka Uchejim, Tijani Suleiman, Ishak Lawal

Background:
Women living with HIV (WLHIV) face a significantly higher risk of cervical cancer. Many HIV programs in Nigeria now offer cervical cancer screening to WLHIV. This study explores how these existing programs could be leveraged to increase cervical cancer screening uptake towards achieving cervical cancer elimination target in Nigeria.

Aims:
To highlight opportunities for expanding cervical cancer screening coverage for both WLHIV and the general population.

Methodology:
Key informant interviews were conducted with stakeholders involved in implementing cervical cancer screening for WLHIV to identify potential opportunities for a scaling-up the screening services to general population.

Results:
The USAID-funded Accelerated Control of HIV Epidemic (ACE) program requires all HIV programs in Nigeria to offer cervical cancer screening to WLHIV. The ACE program is been implemented across the whole country thereby providing a platform that can be leveraged for a national cervical cancer screening program. However, implementation strategies vary across the country. The concept of leveraging existing HIV programs for broader screening was well received by stakeholders. The main challenge identified was ensuring program targets are met while adhering to funding agreements.

Conclusion:
The existing integrated cervical cancer screening services for WLHIV offers unprecedented opportunities to increase screening coverage in the general population. However, wider consultation is needed to develop a mutually beneficial protocol for policy implementation

Outcome of a Retrospective study on Cervical Cancer Screening among Women Living with HIV in some selected Healthcare facilities in FCT

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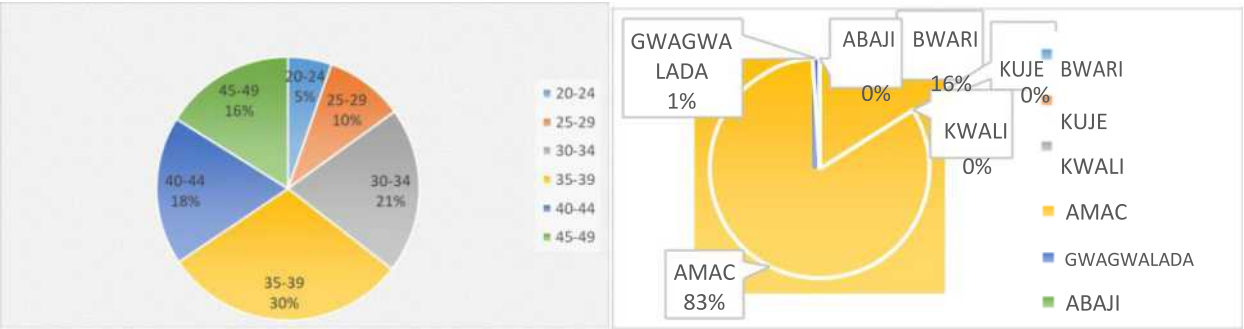
Introduction:
Cervical Cancer is the 4th commonest cancer in women globally with around 660,000 new cases and about 350,000 deaths in 2022 (WHO). The highest rates of cervical cancer incidence and mortality are in low and middle-income countries such as Nigeria.

Objectives:
The study aims to assess the outcome of Cervical Cancer Screening among Women Living with HIV across 54 facilities in FCT.

Methods:
Data was abstracted from facility Cervical Cancer Screening Registers with a list of women screened from October 2022 to September 2023. The outcome were negative, precancerous lesions and suspicious for cancer among women (20-49 years) living with HIV. Results were presented in charts and percentages.

Results:
The target was to screen 7546 but 7680 accepted screening (102%), 93 women had precancerous lesions (0.01%), 80 (86%) were treated, 10 (10.7%) referred for further evaluation, 2 (2.2%) declined treatment, and 1 (1.1%) declined to seek spouse's approval. 28 (30.1%) WLHIV between 35-39years had the highest proportion of precancers while 5 WLHIV aged 2124 years had the lowest at 5.4%. By LGA, AMAC had the highest of 77 (82.8%) while Kuje, Abaji and Kwali LGAs recorded no client with precancerous lesions.

Screening yield by age band and LGA:



Conclusions of the study:
Early Cervical cancer screening and treatment of WLHIV increases acceptance and reduces mortality. It is important to further understand factors responsible for high proportions of precancerous lesions among WLHIV in AMAC.

Anti- Carcinogenic effects of Amygdalin on the Expression of BRCA-1, and SOCS-1 genes, P53 and P27 in Albino Rats induced with Breast Cancer

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Background:
Breast cancer is the most frequent Cancer in women with about 2.5 million cases and with 10% death annually. Most available synthetic chemotherapeutic agents have not fulfilled the needed expectations, hence, there is a need to produce other treatment options. Aim/Objectives: The research aimed to evaluate the anti-carcinogenic effects of Amygdalin on the expression of BRCA-1 and SOCS-1 genes, P53 and P27 antigens in albino rats induced with breast cancer.

Materials and Methods:
Powdered Manihot esculenta tubers were subjected to Microwave-assisted extraction techniques and High-powered liquid chromatography, followed by fractionation and GCMS to obtain pure Amygdalin. Twenty-five (25) albino rats were divided into five (5) groups of five (5) rats each. All the groups were induced with 65mg/kg b.w.t. of 7,12, Dimethyl benzene (a) anthracene, except Group I (normal control) and observed for four weeks for mammary cancer development. Group III, was treated with 50mg/kg b.w.t of cyclophosphamide, group IV and V were treated with 100mg and 200mg of Amygdalin, respectively and observed for 4 weeks. The rats were sacrificed 24 hours after the last treatment and the sera was collected in sterile bottles. The expression of BRCA-1 and SOCS-1 genes, P27 and P53 were assessed using qPCR and ELISA method respectively.

Results:
There was statistical significant upregulation in the expression of BRCA-1 gene ($P \leq 0.05$), in grp II, and IV when compared with grp I and V, while P27 and P53 were statistically increase ($P \leq 0.05$) in grp I,III and V when compared to grp II and IV. There was no statistical significant difference in Grp I and V. BRCA 1 was down-regulated in grp I and grp V while P27 and P53 were increase in I and V.

Conclusion:
This study shows that Amygdalin possessed strong anti-carcinogenic effects and may be used as a treatment option in breast cancer management.

Keywords: Amygdalin, DMBA, Breast cancer, BRCA-I, SOCS-1, P27, P53 and Cyclophosphamide.

Civil Society Organizations and Cervical Cancer Interventions: Insights from the National Human Papillomavirus Virus (HPV) Vaccination Programme to Increase Vaccine Demand and Uptake in Nigeria.

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Objectives:
In October 2023, Nigeria launched a national campaign that introduced the single-dose Human Papillomavirus (HPV) vaccine in Nigeria. This implies that the HPV vaccine was now accessible to girls between the ages of 9 to 14. However, increasing HPV vaccine demand and uptake would require intensive community engagement in collaboration with Civil Society Organizations (CSOs). The national campaign has proven to be a highly effective intervention strategy in preventing cervical cancer. However, the roles of CSOs in expanding outreach, generating demands and increasing uptakes of the vaccine are still under-researched in Nigeria. This study, therefore, examined the impact of CSOs on HPV vaccine demand generation and uptake.

Methods:
The study utilized a three-pronged approach (baseline survey, sensitizations and end-line survey) to examine CSO's impact on demand generation and uptake of the HPV vaccine in Jos North Local Government Area in Plateau State Nigeria. A descriptive baseline and end-line surveys were undertaken among a total of 914 purposively selected respondents. Sensitization activities were carried out among multi-stakeholders on cervical cancer and HPV Vaccination.

Results:
At both baseline and end-line surveys, the primary respondents were females aged 9 to 14 years. At baseline, 91.43% had not heard of HPV, and 86.85% were unaware that HPV causes cervical cancer, 80.88% were unaware of cervical cancer symptoms, and 76.1% were unfamiliar with their risk factors. Furthermore, 93.03% had not heard of the HPV vaccine, 96.22% had never received it and 67.93% noted paucity of information on the HPV vaccine and cervical cancer. Consequently, Inspire World International Foundation, a CSO, launched sensitization campaigns reaching 32,420 individuals through 101 activities. By the end-line survey, 88.16% had received the HPV vaccine. Awareness significantly improved, with 95.17% understanding what HPV is, 94.44% knowing about cervical cancer, and 92.03% recognizing that HPV causes genital warts and cervical cancer. Additionally, 82.85% became aware of their risk factors, and 83.82% believed there was sufficient information on HPV and cervical cancer.

Conclusion:
CSOs significantly increase vaccination uptake, thereby, reducing the burden of cervical cancer and improving public health outcomes. We recommend increased partnerships, capacity-building initiatives and funding for CSOs. This will ensure CSOs remain equipped to effectively engage communities to deliver accurate culturally appropriate health information, address misinformation, and build trust among community members. These will strengthen healthcare delivery and empower communities to make informed decisions about their health.

Keywords: Civil Society Organization, HPV Vaccination, Cervical Cancer, Demand Generation and Uptake, Nigeria.

A Systematic Review and Meta-analysis of Cervical Cancer Occurrence and Risk among PLHIV in sub-Saharan Africa

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Background:
Globally, cervical cancer (CC) remains a leading cause of tumour-related mortality among women living with HIV (WLHIV). The pool prevalence and risk of CC among WLHIV in sub-Saharan Africa (SSA) is unknown. Thus, we conducted a systematic review and meta-analysis to evaluate rate of CC occurrence and associated risk among WLHIV in SSA.

Methodology:
We systematically searched PubMed, Web of Science and Google scholar databases to retrieve and review original articles published in English between 2019 and 2024 in SSA. Articles that did not report CC prevalence or it risk factors or both among WLHIV were excluded. Meta-analysis evaluated the pooled prevalence, risk of CC and heterogeneity. Statistical significance was set as $p<0.05$. Forest and funnel plot assessed CC risk variability and the small study effect respectively. Meta-regression examined precision.

Results:
Only 12/3196 articles met the inclusion criteria and comprising a total of 3193 women participants aged 15-93 years. Prevalence of CC among WLHIV ranges from 9.3% to 36.4% with pooled estimate of 17.9% in SSA. Common risk factors were; age at first sexual debut [OR=2.88, 95%CI=1.79-5.01], having multiple sexual partners [OR=2.94, 95%CI=1.47- 5.84], being a sexual worker [OR=4.98, 95%CI=2.15-9.96], history of sexually transmitted infection [OR=4.52, 95%CI=1.49-13.6], CD4 counts<200cell/mm3 [OR: 11.33, 95% CI: 2.88-24.58]. There is significant ($p<0.001$) heterogenicity with statistics I2 = 88.93%. Precision lies within 0.12 and 0.33 standard error, and the small study effect was insignificant.

Conclusions:
We found high rate of CC among WLHIV in SSA. Lifestyle, sexual and reproductive factors influenced the risk of CC. Sex education and risk communication counselling program on multiple sexual partnership should be promoted. Effective primary prevention and treatment of precancerous lesion should be prioritized among WLHIV particularly those most at risk of opportunistic infection to reduce CC burden.

Keywords: Cervical Cancer, WLHIV, Risk, Systematic Review, Meta-Analysis, SSA

Co-infection of high-risk HPV with other STIs among women living with HIV in Jos, Nigeria

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Objective:
Women living with HIV (WLWH) have a higher risk of acquiring other infections due to their compromised immune systems. Human papillomavirus and other STIs are particularly concerning. This study was carried out to determine the association between HPV infection and other STIs among HIV positive women with and without cervical precancer.

Methods:
We detected and genotyped HPV DNA from cervical swab using HPV 28 Anyplex II (Seegene). For the PCR identification of fourteen non-ulcerative and ulcerative STIs, we used Allplex™ STI Essential Assay (Seegene) and Allplex™ Genital ulcer Assay (Seegene) respectively. A total of 101 women were enrolled into this study.

Results:
The mean (SD) age of the study participants was 49.9(10.1) years. The overall HPV prevalence was 65.4 (66/101). Among these, hrHPV infection occurred in 69.0% of agegroup >40 years and 31.0% in age-group ≥40 years. Approximately 42% of hrHPV positive women were co-infected with at least one STI (p=0.006). Having multiple STI was associated with hrHPV infection (p=0,019 for multiple essential STI and p=0.007 for multiple genital ulcers causing STIs). Univariable analysis showed hrHPV association at 95% CI with any essential STI (OR: 3.0, CI = 1.35-6.96, p=0.008), single STI (OR:5.5, CI= 1.53-26.51, p=0.016), any genital ulcers microbe (OR:3.5, CI=1.57-8.21, p=0.003), HSV 1 (OR:3.4, CI=1.12-12.84, p=0.043), Lymphogranuloma venereum (OR:3.4, CI-1.28-9.13, P=0.017) and having single ulcers causing microbe (OR:4.1, CI=1.6-11.1, p=0.004). In multivariate models adjusted for age, parity, HIV duration and cervical neoplastic lesion, the odds ratios comparing hrHPV-positive to hrHPV-negative women, was 10.4 (95% CI 3.37-38.94, p < 0.001) for any genital ulcers causing microbial infections.

Conclusion:
High-risk HPV infection was associated with the presence of other sexually transmitted infections. Detecting and treating these STIs could have impact on cervical hrHPV persistence and disease progression.

Keywords: Persistent hrHPV infection, essential STIs, genital ulcers causing STIs, HIV-positive women

Genetic Susceptibility in Bladder Cancer: Insights from a Systematic Review of GWAS

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Background:
Bladder cancer (BC) is the most prevalent cancer of the urinary tract globally, with over 550,000 new cases annually. Despite its growing incidence and mortality rates, particularly in Africa, bladder cancer has received limited research focus. Recent advancements in molecular research have revolutionized its diagnosis and treatment.

Objectives:
This study aimed to identify genetic susceptibility loci associated with bladder cancer by systematically reviewing previous Genome-Wide Association Studies (GWAS).

Methods:
Comprehensive literature searches were conducted across PubMed, Google Scholar, and relevant genetic databases, focusing on bladder cancer GWAS studies from 2000 to November 2022. The review followed PRISMA guidelines, and study credibility was assessed using the Newcastle-Ottawa Scale.

Results:
The review identified chromosome 18q12.3 as the most susceptible to bladder cancer, with four notable polymorphisms: rs7238033, rs10775480, rs11082469, and rs17674580. Chromosome 5p15.3 was the second most susceptible, with three polymorphisms: rs2736098 and two instances of rs401681.

Conclusion:
Significant loci were identified, but understanding of genetic susceptibility to bladder cancer remains limited. Larger cohort studies are necessary to uncover additional polymorphisms and enhance our approach to bladder cancer.

Keywords: Bladder cancer, Genome-wide association studies (GWAS), polymorphism, systematic review, public health impact

Advancing Bladder Cancer Detection: A Systematic Review of Diagnostic and Prognostic Biomarkers

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Background:
Bladder cancer is one of the most prevalent malignancies worldwide. Despite its high incidence, public awareness remains low, and the condition has received less research attention compared to other cancers. Over the past decades, patient outcomes and treatment strategies have remained largely unchanged, with cystoscopy being the primary method for detecting bladder cancer. This repeated procedure is uncomfortable and costly.

Objectives:
This study aims to identify potential molecular biomarkers for bladder cancer to improve tumor detection and reduce reliance on cystoscopy.

Methods:
A systematic review was conducted, searching for articles on bladder cancer biomarkers in PubMed, ScienceDirect, Google Scholar, and Cochrane databases. Eligible studies underwent title/abstract screening and full-text review, resulting in the inclusion of twenty studies.

Results:
The review identified several gene product biomarkers, including TEAD4, TPM1, TPM2, SKA3, EO1, HYAL3, MTDH, EPDR1, hTERT, KRT7, SW, ARHGAP9, XPH4, OTX1, BUB1, and Usp28. Additionally, protein product biomarkers were identified, such as A1AT, APOE, AG, CA9, IL8, MMP9, MMP10, PAI1, SCDI1, SDC1, VEGFA, CD73, TIP2, CXCL5, PCAT6, and NCR3LG1 (B7-H6).

Conclusion:
This study highlights the potential of various gene and protein biomarkers for detecting bladder cancer. Further research is necessary to validate these biomarkers' diagnostic and prognostic potential in clinical settings.

Keywords: diagnostic, prognostic, molecular biomarkers, bladder cancer, systematic review

Cancer Patient and Caregiver Perspectives on Laboratory Services at Oncology Clinic: Satisfaction and Challenges.

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Background:
Patient satisfaction is a key indicator of quality healthcare services. The efficiency of laboratory services is crucial for care and satisfaction, particularly for ill patients managed in oncology and radiotherapy. The primary objectives were to assess the challenges encountered and to evaluate overall satisfaction with the lab services among patients and their caregivers receiving outpatient palliative care services at NHA.

Methods:
A total of 100 participants, comprising cancer patients and their caregivers, were interviewed. Data were collected on demographic characteristics, lab-related challenges, and satisfaction levels. R statistical package was used to calculate mean, standard deviation, and median values for numeric variables. Frequencies and percentages were calculated for categorical data.

Results:
The study population had a mean age (SD) of 51.9(12.3) years. The majority, 64(64.0%) were females. The majority of participants interviewed were in the oncology department 76(76.0%). Sixty (83.3%) stated that their samples were collected in the NHA lab. Regarding challenges, 19(29.2%) indicated that laboratory staff were unavailable to collect samples, 26(40.6%) mentioned that it was due to the unavailability of reagents, 45(67.2%) said the lab was too far from the oncology unit, 23(34.3%) encountered unprofessional staff and 50(75.8%) experienced delays in receiving lab results Overall, 56(93.3%) reported difficulties using the NHA lab, and 90(90.9%) viewed the cash payment system favourably. The mean satisfaction score (SD) was 14.4(4.0). Only 45 participants (62.5%) reported being satisfied.

Conclusion:
Most participants experienced delays in receiving results and reagent unavailability - with 2 out of 3 satisfied with laboratory services. The cash payment system was positively received. Overall satisfaction with the lab services was low. To optimise laboratory services for patients with cancer: ensure adequate staffing levels to manage sample collection efficiently, maintain a steady supply of necessary reagents and implement measures to manage patient flow. Continuous assessment of the quality of laboratory services is paramount to build patient trust.

Differences in Cancer Survival by Age, Stage of diagnosis and Cancer Registry in Nigeria: Findings from the IMPACT Study

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Background:
Survival from cancer across Nigeria is mostly estimated or based on information from highly selective case series. The Improving Population Level Stage at Diagnosis and Estimation of Cancer Survival in Nigerian Cancer Registries (IMPACT) Study assessed stage at diagnosis and cancer survival at the population level in a multi-centre cancer registry study in Nigeria.

Objectives:
In this study, we aimed to retrospectively stage cancer at the population level, using a simplified staging tool for cancer registries, the essential TNM tool, and to follow-up cancer cases and estimate overall and site-specific survival of the four most common cancers (Breast, Cervical, Prostate and Colo-rectal cancers) in Nigeria.

Methods:
Data was obtained from a random sample of 1000 cases diagnosed between 2014 and 2018, from five Nigerian PBCRs (Abuja, Calabar, Ekiti, Enugu, and Ibadan), four of which are current members of the African Cancer Registry Network (AFCRN). Of these, 997 (99.7%) were included in the survival analysis. We estimated 5-year overall survival by cancer site, registry, stage, age at diagnosis and report on hazard ratios adjusting for confounders.

Results:
The mean age at diagnosis was 57.7 (14.8) years, with observed mortality varying from 30.4% to 57.0% across the registries. Among patients with known stage, 66% were diagnosed in late stage (III/IV). Overall, the median survival time was 3.72 years, with significant variations by registry, cancer type, and stage. Late-stage diagnosis significantly reduces survival, with overall HR 1.76 (95% CI: 1.38–2.24); for breast 2.12 (1.27–3.54), cervix 1.88 (1.18–3.01), prostate 1.71 (0.98–2.99), and colorectal 1.37 (0.82–2.27). Survival is particularly lower in patients aged ≥70 (HR 1.55, 95% CI: 1.14–2.12) and those registered in the Ibadan CR, and diagnosed with prostate cancer (HR 14.49, 95% CI: 6.91–30.36).

Conclusions:
Late-stage diagnosis was a common feature across all cancer types and later stage at diagnosis and older age at diagnosis were associated with significantly reduced survival. These findings underscore the importance of collecting cancer stage information, and the need for targeted interventions for early detection and down-staging cancers to improve survival rates in Nigeria..

Reducing the burden of cancers with a focus on breast and cervical cancers among women and other sub-populations in nigeria & Sub-Saharan Africa: A mixed method study

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Background:
Cancer is responsible for an estimated 533,000 deaths in Sub Saharan Africa (SSA) annually. Breast (BC) and Cervical Cancer (CC) contribute significantly about 22.7% and 16.4% respectively to the cancer burden in SSA.

Objectives:
The Network of Oncology Research in Africa (NORA) is focused on cancer registration, screening and early detection of breast and cervical cancers with the overall aim of cancer surveillance and survival estimation of common cancers and establishing evidence-based BC and CC screening and treatment pathways in SSA. NORA will also provide masters and doctoral level training for young scientists to enable them take on long-term applied research within the framework of national strategies for cancer control.

Methods:
This project will be implemented in FCT, Rivers and Nasarawa in Nigeria. For cancer surveillance and cancer survival estimation, data abstraction of 18,080 cancer cases comprising seven cancers (breast, cervical, ovarian, prostate, colorectal, bladder, liver) from 35 cancer registries across SSA is planned. We will also assess current practices, and barriers to BC and CC screening uptake at the PHC level in the 3 States. Data will be entered into REDCap and analyzed using STATA MP 17 and Dedoose. The study will last from 2023-2028 and results will be presented in tables, figures and text.

Expected Outcome/Results:
So far, 2977 of 18,080 cancer cases have been abstracted from seven of the thirty-five cancer registries across SSA. Advocacy and community engagement activities are currently ongoing to understand the role of community gatekeepers in influencing women's willingness to seek breast and cervical cancer screening in rural communities in Nigeria.

Conclusion:
The overall goal is to reduce the mortality and morbidity of cancers, especially CC and BC. Futuristically, improved data completeness and quality in cancer registries can enable policy makers to develop strategies that will reduce the burden of the disease in SSA.

Impact of Community Advocacy Programs in Local communities in Sub-Saharan Africa. Case study: The Network for Oncology Research in Sub-Saharan Africa (NORA) project in Nigeria

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Background:
Breast and Cervical cancers are the leading causes of deaths among women in sub-Saharan Africa. Early detection and treatment are paramount in reducing cancer related mortality and morbidity. The NORA project is committed to establishing evidence-based Breast Cancer (BC) and Cervical Cancer (CC) screening and pathways to treatment in Sub-Saharan Africa.

Objective:
The advocacy program was set out as a tool to engage and sensitize stakeholders and community gate keepers on BC and CC in select rural areas in Nigeria.

Methodology:
The engagement, spanning two (2) weeks across three (6) local communities in Nigeria, involved a multi-faceted approach encompassing didactic lectures, collaborative discussions and sensitizations. The sessions involved a three-hour didactic and evidence-based sensitization lecture delivered by a NORA expert followed by one hour of engagements, further sensitizations and feedback from the participants. The program impact evaluation employed a mixed-methods approach, integrating quantitative and qualitative data using statistical methods.

Result:
The stakeholders and community gate keepers that were sensitized (N=76) were mostly religious leaders, traditional leaders, traditional healers, community influencers, women leaders, and support groups from local communities in Abuja, Nasarawa and Rivers states in Nigeria.
The advocacy on the NORA project reached a diverse group of stakeholders and community gatekeepers.
A significant majority (93%) reported increased knowledge about BC and CC.
The majority (66%) felt they were quite or very knowledgeable, while a smaller group (27%) felt moderately knowledgeable.

Conclusion:
The impact evaluation findings demonstrate that the NORA program in Nigeria can serve as an effective mechanism for advocacy and sensitization. Lessons learned and knowledge garnered can serve as valuable guidance to BC and CC advocacy campaigns in rural communities in Sub Saharan Africa.

Association between viral load and pre-cancerous lesions or lesions suspicious for invasive cervical cancer among Women Living with HIV in 3 States in Nigeria.

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Introduction

Cervical Cancer is the second commonest cancer in Nigeria with a 6-fold preponderance among Women Living with HIV (WLHIV). HIV is known to worsen the immune states, thus predisposing to reduced HPV clearance and increased progression to cervical cancer among WLHIV. Given the role of viral load in immune state, this study assesses the relationship between VL and the type of cervical cancer lesion (i.e., precancerous or suspected cancer lesions) among WLHIV in Nigeria.

Methodology

Using the cervical screening register, we identified WLHIV with precancerous lesions and lesions suspected of cervical cancer following visual inspection with acetic acid and visual inspection with Lugol's Iodine across three States in Nigeria (i.e., Federal Capital Territory, Rivers, and Nasarawa states) within a period of 12 months (October 2022 – September 2023) and abstracted their viral load status at the time of screening. We measure the median VL across both groups of cervical lesions (i.e. precancerous and suspected for cancer lesions) and compared using the Wilcoxon rank sum test. Data was analyzed using Stata version 18.

Results

Among the 226 WLHIV with positive cervical cancer screening outcome, 204 exhibited precancerous lesions and 22 were identified as suspected for cancer. When stratified across the three states, Nasarawa state had the highest number of WLHIV (i.e., 99) with precancerous lesion/suspected cancer lesions. The median age across the states varied between 35 and 38 years (see table) while the proportion with unsuppressed viral load ranged between 36.7% to 45.1%. However, there was an association between VL and type of cervical cancer lesion among WLHIV in Nasarawa state only (pvalue – 0.021).

Table – Age and viral load association with precancer/cancer among WLHIV stratified states

Federal Capital Territory - FCT				
Variable	**Precancer**	**Suspected cancer**	**Overall**	**Pvalue**
Age, mean (range)	36[21,48]	43[36,54]	36[21,48]	0.556
Age category				
below 30	6(10.0)	1(9.1)	7(9.9)	
30-34 years	14(22.3)	3(27.3)	17(23.9)	
35 above	40(66.7)	7(63.6)	47(66.2)	0.960
Viral load median (range)	20[19,2370000]	20[19,405]	20[19,2370000]	0.645
Viral load category				
Suppressed (<1000)	33(55.0)	6(54.5)	39(54.9)	
Unsuppressed (>1000)	27(45.0)	5(45.5)	32(45.1)	0.978
Nasarawa				
Variable	**Precancer**	**Suspected**	**Overall**	**Pvalue**
Age, mean (range)	38[24,53]	38[27,48]	38[24,54]	0.200
Age category				
below 30	14(14.7)	0(0.00)	14(14.3)	0.407
30-34 years	22(23.2)	0(0.00)	22(22.5)	
35 above	59(62.1)	3(100.0)	62(63.3)	
Viral load median (range)	20[19,818000]	267[22,806000]	20[19,2370000]	**0.035**
Viral load category				**0.021**
Suppressed (<1000)	62(65.3)	0(0.00)	62(63.3)	
Unsuppressed (>1000)	33(34.7)	3(100.0)	36(36.7)	
Rivers				
Variable	**Precancer**	**Suspected**	**Overall**	**Pvalue**
Age, mean (range)	35[20,57]	35[22,40]	35[20,57]	0.645
Age category				
below 30	13(26.5)	1(25.0)	15(25.3)	0.843
30-34 years	10(20.4)	1(12.5)	11(19.3)	
35 above	26(53.1)	5(62.5)	31(54.4)	
Viral load median (range)	20[19,818000]	20[19,148000]	20[19,818000]	0.383
Viral load category				
Suppressed (<1000)	27(55.1)	5(62.5)	32(55.1)	0.696
Unsuppressed (>1000)	22(44.9)	3(37.5)	32(43.9)	

Conclusion:

Viral load is seemingly associated with type of cervical cancer lesions. However, additional studies are needed to explore this further. Nonetheless, we recommend cervical screening for all WLHIV especially among those with unsuppressed viral load.

Outcome of Hydroxyurea Use in SCD and Evaluation of Patients' Perception and Experience in Nigeria

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Introduction:
Hydroxyurea (HU) has been shown to be beneficial in the management of sickle cell disease (SCD) as it improves treatment outcomes. However, despite the benefits of HU, its uptake among SCD patients in Nigeria remains low. Objective: This study aimed to assess the perception and experience of patients with SCD in Nigeria who are using or have used HU, thereby informing and promoting its use.

Methodology:
A multi-center, cross-sectional study was conducted among 378 SCD patients aged 1-53 years who have enrolled on Sickle Pan African Research Consortium (SPARCO) registry as HU users. The SPARCO project was funded by the National Institutes of Health (NIH) to establish a sickle cell disease (SCD) registry, strengthen skills and plan research in three African countries. The Nigerian SPARCO registry had 6453 SCD patients at the time of this report with <15% of this population on HU. Data on sociodemographics, perception and experience about HU use were obtained and analyzed using descriptive statistics.

Findings:
Out of the 378 participants, 339 (89.7%) were using HU while 39 (10.3%) had stopped using HU at the time of the study. 281(74.3%) found HU expensive, while 194(51.3%) reported none to minimal side effects while using HU. Among patients that stopped HU, cost (59%) and availability (51.3%) were the commonest reasons for discontinuing the drug. Furthermore, 347(92.5%) had fewer pain crises, 173(84.8%) had a fewer need for blood transfusion, 145(86.3%) had improved PCV and 318(84.6%) had fewer hospital admissions. Finally, the study also showed that 322 (85.2%) respondents would recommend the drug to other patients, whereas 14 respondents (3.7%) would not. Mean corpuscular volume (MCV) and fetal hemoglobin (HbF) levels were not collected in this study and may have improved findings.

Conclusion:
This study showed that the majority of the SCD patients had good perception and experience with the use of HU while a few had to stop the medication mostly on account of cost and availability. Patients' based advocacy could be leveraged to improve HU uptake while more efforts are needed to ensure that it is readily available and affordable.

Keywords: Sickle cell disease, Hydroxyurea, patients' perception, patients' experience, Nigeria

Barriers to Care and Quality of Healthcare Services in Children and Adults with Sickle Cell Disease in Abuja, Nigeria

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Introduction:
Sickle cell disease (SCD) is a major genetic disease that manifests early in life and may lead to a lifelong illness with complications. Despite recent advances in the management of this disorder, numerous barriers to care affect the quality of care received by SCD patients. Objectives: The study aims to assess the barriers to care, and quality of care among children and adults with sickle cell disease in Abuja, and to describe the association between the barriers to the care and quality of care.

Methods:
A mixed-methods, descriptive cross-sectional study was conducted between September 2022 and May 2023 in three Sickle Pan African Research Consortium (SPARCO) sites (hospitals) in Abuja, Standardized tools were adapted for the data collection. Chi-squared test was used to compare proportions and thematic analysis was used to analyze the qualitative data.

Results:
A total of 308 participants were assessed with 52(16.9%) being adults and 256(83.1%) being children. The age of participants ranged between 4 months to 39 years. The highest barriers were due to logistics – long waiting time at pay-point (40.6%), long distance to clinic (38.6%) and cost of hospitalization (21.4%). The quality of care was highest under the availability of same-day appointments when sick (91.6%). The barriers to care scores and quality of care scores showed a weak negative correlation ($r = -0.410$, $p<0.001$). The distribution of barriers and quality of care significantly differed across hospitals. Themes identified under barriers included – long waiting times, high cost of care, lack of health insurance, absenteeism from work, etc. Many participants reported good quality of care.

Conclusion:
SCD patients face numerous barriers while accessing care and a varying degree of quality of care. Minimizing these barriers may improve the quality of care and prevent complications.

Keywords: Sickle cell disease, barriers, quality of care, children, adults, Nigeria

Evaluation Of Vitamin D Receptor Polymorphism, Bone Mineral Density and Association with Bone Complications in Patients with Sickle Cell Disease in Lagos, Nigeria

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Vitamin D receptors (FokI and BsmI) polymorphisms are closely related to low bone mineral density (BMD) and can be used as useful genetic markers in determining BMD and osteoporosis risk. Many other factors contribute to bone disease and one very important factor is disorder of vitamin D metabolism. Vitamin D deficiency (VDD) is a major global health problem. The study evaluated vitamin D receptor polymorphism, bone mineral density and their association with disease severity in patients with sickle cell disease in Lagos. This comparative cross-sectional study was conducted among forty-two patients with sickle cell disease and 42 age and sex matched Hb AA control. Blood samples were assayed for full blood count, and reticulocyte count and vitamin D levels was determined y ELISA method. Bone mineral density (BMD) was measured by Dual x-ray absorptiometry (DEXA) and Vitamin D receptors Bsm1 and Fok1 were evaluated by PCR-RFLP method. The data was analyzed using Statistical Package for Social Sciences version 25, and statistical significance (p-value) was set at <0.05. The mean age of participants in SCD groups was 19.26±2.32years and 19.95±2.15years for HbAA controls. Vitamin D level was significantly lower in the SCD participants (41.6±15.8 ng/ml) compared to the HbAA control (67.5±22.8 ng/ml), p<0.001. Two and half percent (2.4%) of the SCD participants had VDD and 12 (28.6%) had vitamin insufficiency compared to none and 7.1% in the control, P =0.002. Bone health was significantly poorer in the SCD participants with a significantly lower median (IQR) BMD T score of -1.3 (-1.7- (-1.2)) compared to the median (IQR) of -0.5 (-1.0-(-0.08)) in controls, p<0.001. While 11.9%, 31.0% and 42.9% of SCD had osteoporosis, moderate osteopenia, and mild osteopenia respectively, none (0%), 2.5% and 27.5% of controls had osteoporosis, moderate osteopenia, and mild osteopenia respectively.

Half of the subjects with SCD have moderate disease severity, 36% with mild disease while 14% has severe disease however there is no statistical difference between the subjects with different VDR alleles.

The study also demonstrates that Bsm1 and Fok1 SNPs in the VDR gene do exist in our population but with differing frequencies from what is reported in the literature for other populations and there is no statistical difference between the VDR polymorphic alleles of the cohort and control subjects. However, it did not show any association with vitamin D status, bone mineral and disease severity

The high prevalence of vitamin D deficiency/insufficiency and low BMD in SCD suggest that they should be targeted for vitamin D supplementation and DEXA screening and osteoporosis prevention. Further research of VDR on a wider scale is required to clarify its precise genetic mechanism and effect in our population.

Keywords: Vitamin D, SCD, BMD, osteoporosis, VDR gene polymorphisms

Characteristics Of Children Living with Sickle Cell Disorders in Nigeria

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An estimated 50,000,000 people are living with sickle cell traits, while about 10,000,000 people have severe sickle cell disorders. Despite the physical, financial, and emotional burdens that sickle cell patients and their families go through, over 100,000 babies are born with sickle cell disorders annually in Nigeria. An understanding of the demographic attributes of children is crucial for health interventions. This study investigates the characteristics of children (6-59 months old) living with sickle cell disease in Nigeria. In addition, we show the characteristics of their parents and the socioeconomic and environmental conditions of the parents of the children. We analysed the latest Nigeria Demographic and Health Survey containing embedded sickle cell data. We found that of the 11,243 children with complete genotype information, 77.7% (8741) were AA, 19.6% (2201) were AS, 0.9% (102) were SS and 0.3% (34) were SC. Of the 136 children who had severe sickle cell disorder (SC and SS), 23.9% were the first child, while 21.4% were the fourth child. Most (76.5%) had mosquito bed nets for sleeping, but 37.5% lived in a household with no water at the hand washing facility. South West recorded the highest proportion of children with severe sickle cell disease (24.3%), followed by North West (23.5%), while the South-South recorded the lowest with 4.4%. The findings have several implications. First, the findings have implications for genetic counselling. Second, considerable variations exist within regions, especially between contiguous South West and South-South regions, which requires diverse approaches to health interventions. Finally, having more than half of the children in rural areas has implications for quick access to healthcare in times of need.

Keywords:
Sickle cell, north-south differences, health implications

Improving Understanding of Sickle Cell Anaemia Inheritance Patterns through an Interactive Educational Tool in Nigeria

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Background:
The inheritance pattern of sickle cell anaemia is often misunderstood. There is a 25% chance of inheriting the homozygous recessive hemoglobin genotype (HbSS) from both parents who each carry the sickle cell trait (HbAS). Many people wrongly believe that in a family of four, the children will have genotypes AA, AS, AS, and SS, respectively, and that choosing to have no more than three children can prevent sickle cell anaemia. This eventual realization of the truth after birthing a child with the disease within the first 3 deliveries usually leads to unexpected occurrences and significant distress. Objective: To address this misconception, we developed the "Sickle Cell Ball Game," an educational tool designed to clearly demonstrate the probabilistic nature of sickle cell inheritance to the community.

Methodology:
The Sickle Cell Ball Game uses two containers, each filled with equal numbers of blue and red balls, representing the A and S hemoglobin genotypes, respectively. Participants, simulating a couple, each receive a container and, after vigorous shaking to ensure randomness, pick a ball blindly. The possible outcomes are:
Two blue balls (AA): Child has no sickle cell trait.
One blue and one red ball (AS): Child is a carrier.
Two red balls (SS): Child has sickle cell disease.

This game was introduced in marriage counseling sessions, marketplaces, religious gatherings, and educational institutions in Jos, Nigeria, to educate on the inheritance patterns and the importance of knowing their genotypes before relationships.

Results:
The Sickle Cell Ball Game improved participants' grasp of the probabilistic nature of sickle cell inheritance. Feedback showed better understanding of genotype distribution and risks, making informed decision-making more likely among intending couples.

Conclusion:
Expanding this intervention across more regions and integrating it into educational and public health programs could reduce the incidence of sickle cell disease by promoting better-informed reproductive choices. This approach is promising for public health education and disease prevention.

Keywords: Sickle cell anaemia, inheritance patterns, interactive educational tool

Managing sickle cell disease in Nigeria beyond Niprisan: a systematic review

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Background/Objective:

Despite the acceptance and approval of several medications and techniques to reduce vaso-occlusive episodes (VOEs), Hydroxyurea along with other analgesics have remained the primary treatment option for Sickle Cell Disease (SCD) in Nigeria. However, in terms of cost-effectiveness and fewer side effects, Niprisan® remains the preferred option. In this review, we discussed new drugs/technologies as well as previously approved medications that could ameliorate SCA aside Niprisan; and we hope to inspire our readers by providing insights into new inventions to overcome current challenges in the field.

Methods/Results:

This review involved a comprehensive examination of existing literature on SCD treatments; specifically focusing on new pharmaceutical developments, innovative technologies, and previously approved medications on Google Scholar, PubMed, ResearchGate, EMBASE, and Cochrane database using SCD, novel therapies, Niprisan®, haematopoietic stem cell transplant, and gene therapy as search items. Additionally, the references of some retrieved articles were also searched. The literature retrieved included review articles, meta-analyses, clinical trials, and original research papers.

Conclusions/Recommendation:

Advanced insights into the cellular and molecular basis of the sickle cell disease processes have unveiled several established/potential drug targets on which newer SCD therapies are based. These newer therapies have varied mechanisms ranging from Fetal haemoglobin (HbF) induction, RBC membrane stabilization, oxidative stress reduction, adhesion inhibition, reduction of inflammation, prevention of polymerization, and enhanced flow dynamics to gene-directed therapies with the potential for cure. This expounded review has highlighted real progress in SCD treatment. However, an improved survival rate will depend on the participation of clinical sites across the globe, as well as the availability of funds to support studies needed to confirm the safety and efficacy of these drugs.

Knowledge and Attitude of Blood Donors Toward Sickle Cell Anemia in Ibadan

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Objective:
Sickle cell anemia (SCA) is a major healthcare burden in Nigeria affecting about 2% of the population. Different therapeutic approaches have been developed to manage SCA which include blood transfusion. In a bid to develop a sustainable solution to the blood supply pool, the SmileBuilders Initiative organizes a blood donation drive (Donate-A-Pint Project) quarterly in Ibadan, Nigeria. This study aimed to assess the awareness, knowledge, and attitude of blood donors in Ibadan, Nigeria to SCA.

Methods:
We conducted a descriptive cross-sectional study at the University College Hospital, Blood Bank, Ibadan. A validated questionnaire was designed by authors using questions from similar studies conducted in Nigeria. Data were collected from blood donors using a self-administered structured printed questionnaire. Data analysis was done using the Statistical Packages for Social Sciences (SPSS) version 23. The chi-square test of independence was used to test for association between the variables. A statistical significance level of 0.05 was used.

Result:
Out of the 205 donors included in the study, 68.8% (141) were male and 42.4% were aged over 24 years. Most (60.0%) donors were university students. Only 12.3% had never heard of Sickle Cell Anemia (SCA) before the study and 79.5% (163) were aware of their genotype. Only 20.0% (41) are willing to allow pregnancy after an intrauterine diagnosis of HbSS, 31.7% will abort and 48.3% (99) are undecided. Most (73.2%) respondents have good knowledge of SCA (mean score = 7.0/10.0). Several participants (42.9%) were undecided on what to do if their partners were found to have SCA after marriage. Participants' sex (p = 0.017) and level of education (p = 0.001) were found to have significant associations with knowledge of SCA.

Conclusion:
Blood donors have good knowledge, awareness and attitude to SCA although the population would benefit from more health education.

Sickle Cell Disorders among Under-5 Children in Africa: Analysis of prevalence and mortality across 54 countries from the Global Burden of Disease Study 2021.

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Background:

Sickle Cell Disease (SCD) is a growing public health problem, and Africa disproportionately bears the highest burden of the disease globally.

Objectives:

i. To determine the prevalence and mortality burdens of sickle cell disease among under-5 (U-5) children across 54 countries in Africa.
ii. To determine the association between socio-economic factors (gross domestic product-GDP) and U-5 SCD mortality rates across countries in Africa
iii. To predict estimates of prevalence and mortality rates of U-5 SCD by 2030.

Methodology:

This was a retrospective, cross-sectional analysis of sickle cell disorders (SCD) data from the 2000-2021 Global Burden of Disease Data (https://ghdx.healthdata.org/gbd-2021). Indicators on prevalence and deaths of SCD among U-5 children for all African countries were extracted. GDP data was obtained from World Bank estimates (https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=A9), and measured in United States Dollars (USD). Data was analysed using descriptive statistics and spearman rank correlation. Additionally, the exponential time smoothing model was used to predict 2030 estimates of prevalence and mortality rates. All analyses were conducted in Stata version 18 and Microsoft Excel.

Results:

The estimated burden of sickle cell disorders among children under-5 years across Africa in 2021 was 1.8 million children (1.4-2.1 million). Countries with the highest prevalence rates per 100,000 population in 2021 included Benin (2400), Sierra Leone (2370) and Nigeria (2161). However, U-5 cause-specific mortality rates per 100,000 population were highest in Burkina Faso (32.1), Benin (29.4) and Togo (20.7). There was a significant negative correlation between GDP and U-5 SCD mortality rate across countries in 2021 (rho=-0.374, p-value=0.006) (Fig 2). Predicted U-5 SCD prevalence rates in 2030 were highest in Nigeria- 2040 (95% CI: 1884-2197), Sierra-Leone- 2351 (95%CI: 2333-2370) and Togo- 1894 (95%CI: 1881-1907) (Fig. 1). Similarly, predicted U-5 SCD cause-specific mortality rates in 2030 were highest in Benin 23 (95% CI:17-28), Burkina Faso- 20 (95%CI: 13-27) and Togo- 15 (95%CI: 11-18) (Fig 3).

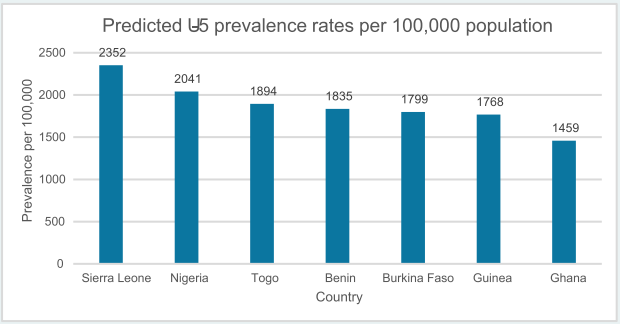

Fig.1: Predicted U-5 prevalence rates per 100,000 population across countries

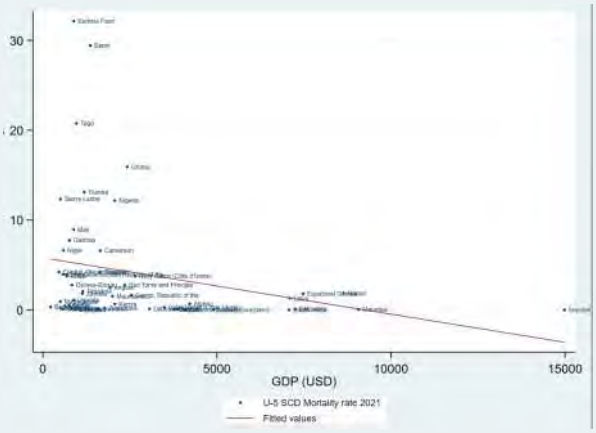

Fig 2: Country GDP (USD) and U-5 SCD mortality rate in 2021

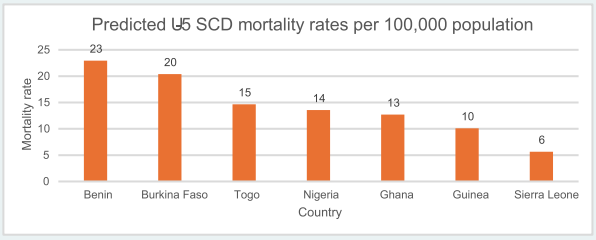

Fig.3: Predicted U-5 SCD mortality rates per 100,000 population across countries

Conclusion:

This review shows that west African countries have the highest prevalence and cause specific mortality rates of SCD among U-5 children in Africa, and will continue to bear the burden till 2030. Additionally, higher GDP across countries was significantly associated with lower U-5 SCD mortality rates, however, the correlation was weak. It is critical that policy change, resource commitment and targeted prevention activities are accelerated to reduce the prevalence and mortality of SCD among under-5 children in Africa.

Ecological Analysis Between Under 5 Sickle Cell Disorders and Associated Mortality in Africa

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Background:
Despite the established rise in the global burden of Sickle Cell Disorders (SCDs), the relationship between SCD prevalence and associated mortality is not clear. We examined the relationship between under-5 SCD prevalence and cause-specific mortality across Africa.

Methods:
We obtained prevalence and mortality rates data of 54 African countries between 2000 and 2021 from the Global Burden of Disorder Data (https://ghdx.healthdata.org/gbd-2021). Further, prevalence-to-mortality rate ratios were estimated. Correlational analysis was carried out in STATA 18, at 5%.

Results:
Our findings revealed that prevalence of under-5 SCD rose from 1.2million in 2000 to 1.7million in 2021 – with a notably high prevalence and mortality in Benin, Burkina Faso, and Togo (Figure 1). We found a significant correlation between under-5 SCD overall prevalence and cause-specific mortality rates across countries (rho=0.859, p-value<0.001). A significant positive correlation was observed between prevalence and mortality rates of Congo and Equatorial Guinea (rho=1.000, p-value<0.001), Mali and Niger (rho=0.943, p-value=0.005), Burkina Faso (rho=0.928, p-value=0.008), Gambia, Sierra Leone and Sudan (rho=0.886, pvalue=0.019), Chad (rho=0.841, p-value=0.036), Madagascar, Benin, Guinea-Bissau and Nigeria (rho=0.829, p-value=0.042). On the other hand, Cameroon (rho=0.943, p-value=0.005), DR Congo (rho=-0.829, p-value=0.042), and Guinea (rho=-0.886, p-value=0.019) were found to have a significant negative correlation. Furthermore, overall prevalence-to-mortality ratios was 2.09 per 1000 children with declining ratios observed across the years (3.99 in 2000, 2.06 in 2010, 1.69 in 2015, 1.47 in 2020 and 1.38 in 2021).

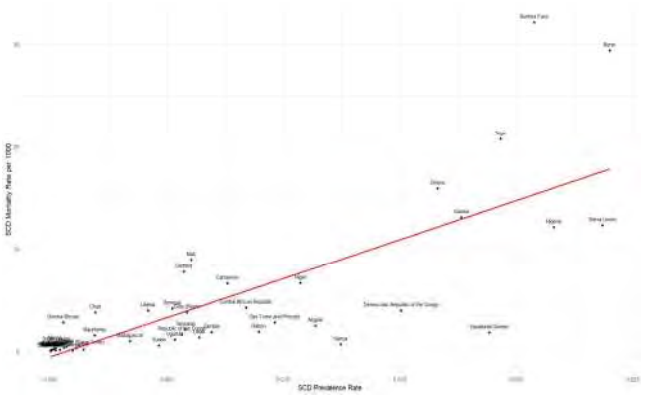

Fig 1: SCD Prevalence and Mortality Rate in 2021

Conclusions:
Majority of the African countries have a high SCD prevalence, and our study revealed a strong positive correlation between prevalence and associated mortality among children. However, a few (Cameroon, DR Congo and Guinea) were observed to experience declining mortality. Understanding practices in these countries may be useful in developing strategies to reduce SCD related mortality, especially in communities with low resources/fragile socioeconomic situations.

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CANCER

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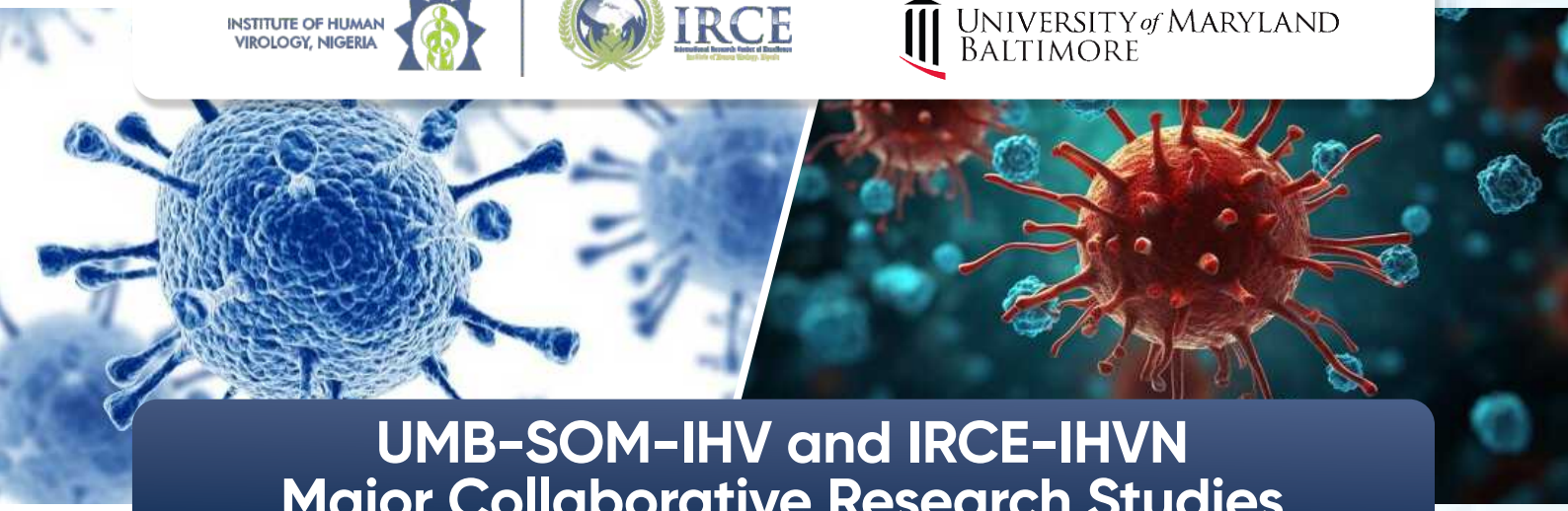

UMB-SOM-IHV and IRCE-IHVN Major Collaborative Research Studies

01 IHVN H3Africa Biorepository Initiative (I-HAB) **NIH U24HG007008**

02 Synergistic epidemics of non-communicable diseases, stigma, and economic inequalities among sexual gender minorities living with HIV in Nigeria (SYNDEMIC) **NIH RO1HL165686**

03 Role of Data Streams in Informing Infection Dynamics in Africa (INFORM Africa) **NIH U54TW012041**

04 Integrated Model for the Prevention of Anal Cancer using Screen and Treat for HSIL IMPACT-UMB (Nowak U-01) **NIH U01ACA275053**

05 Geo-enabled detect and respond system for antimalarial resistance in Ghana: GDRS – Ghana. **NIH U01TW012531**

06 Action To Sustain Precision And Integrated HIV-Response Towards Epidemic Control (ASPIRE) **CDC NU2GGH002417**

07 African Collaborative Center for Microbiome and Genomics Research (ACCME) **NIH U54HD006947**

08 Diagnostic thresholds for diabetes and prediabetes in HIV infected (BEGET) **NIH R21TW012658**

09 Strengthening Global Health Security Agenda in Nigeria (SECURE-Nigeria) **CDC NU2HGH000020**

10 Training Program in Nigeria for NCD Research (TRAPING-NCD) **NIH DT43TW009106**

11 African Female Breast Cancer Epidemiology Study (AFBRECANE) **NIH U01HG009784**

12 Network-Based Recruitment of MSM into HCT, Care, Treatment and Prevention Services at Trusted Community-Based Venues (TRUST) **NIH R01MH099001**

13 Breast Milk Microbiota Influence on Infant Immunity and Growth (BEAMING) **NIH U01HG009783**

14 Expanding the pool of Independent Investigators in Implementation Science in Nigeria through HIV research training (EXPAND) **NIH 1D43TW012280**

15 Epidemiology Research Training for Public Health Impact in Nigeria (EPI-Nigeria) **NIH D43TW010051**

16 Prospective Cohort Study of Non-Communicable Diseases among HIV-infected Individuals in Nigeria **UMB SOM IHV funded**

17 Nigeria population-Based HIV Impact Assessment (NAIIS) **CDC NUGGH002108**

18 Microbiome Affects Risk of Growth in HIV-exposed but uninfected Infants-Nigeria (MARGIN) **NIH 1500196**

19 Fogarty International Center/NIH IHV-UM AIDS International Training and Research Program **NIH D43TW001041**

20 University Technical Assistance Projects (UTAP) in support of the Global AIDS Program (PEPFAR). **CDC U62CCU322421**