RRCS NEWS

Research and Related Capacity Strengthening

Issue 01/2025





Developing Capacities to Strengthen Africa's Research Ecosystem

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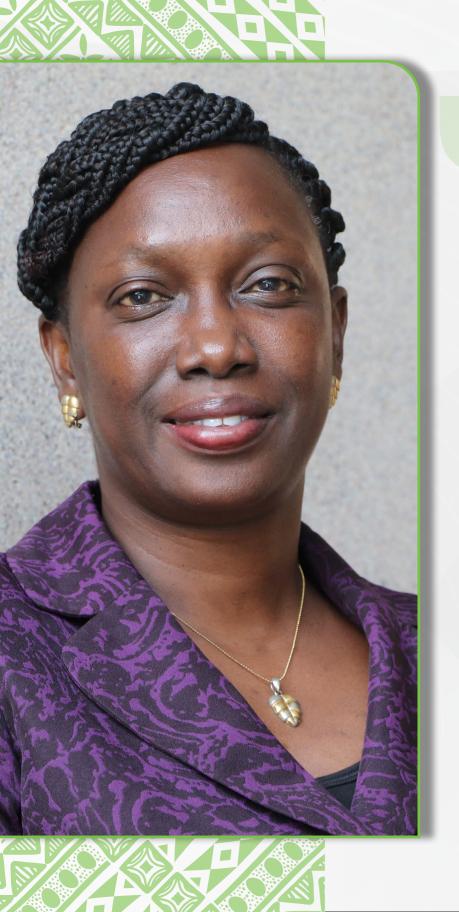
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Welcome Note

By Florah Karimi

Head of the RRCS Division

It is with immense pleasure that I welcome you to the inaugural issue of RRCS news, dedicated to sharing the work, achievements, and aspirations of the Research and Related Capacity Strengthening (RRCS) Division.

As one of the programmatic arms of the African Population and Health Research Center (APHRC), the RRCS Division is committed to advancing Africa's research ecosystem by building human capacity, strengthening institutional frameworks, and fostering systemic collaborations that address the continent's pressing challenges.

Throughout 2024, the RRCS Division made tremendous strides in advancing our goal of developing capacities to strengthen the research ecosystem in Africa and contributing to the development and implementation of a blueprint for Africa's self-sufficiency in research and development (R&D) through various interventions that we undertook at individual, institutional, and systemic levels.

Highlights of our 2024 RRCS performance included our collaboration with the Ministry of Education in Kenya to convene the National Stakeholders' Engagement on the Research, Science, Technology, and Innovation (RSTI) Ecosystem, which led to conversations around synergy with the various R&D ecosystem players and the drafting of the national RSTI Framework. We have also continued to engage in other countries, including Nigeria and Ethiopia, seeking to strengthen their national R&D Ecosystem.

In addition, through our partnership with the Inter-University Council for East Africa (IUCEA) and its associated universities in the region, we co-created a gender-lensed Supervision and Mentorship Framework (SMF) for optimal postgraduate training in East Africa. The framework was approved at the regional level and is currently being piloted in four East African countries - Burundi, Kenya, Uganda, and the Republic of Tanzania. Further, we launched the African Research Connect (ARC) to serve as a premier web-based hub to foster research collaborations across Africa, and to transform how institutions, researchers, and funders connect and collaborate. Another highlight was the recruitment of 55 interns in 2024 against the planned 20 internship positions, through our Internship Program. This constituted only 2% of the total number of 2,400 applications. We will continue to strengthen the Internship Program in the coming year, leveraging on the lessons learned and ensuring that it remains of high quality.

These and many other accomplishments underscore our dedication to building individual, institutional, and ecosystem-wide capacities. As we celebrate these achievements, we are reminded of the collective effort that made them possible. We are excited to build on this momentum, working together to shape a future defined by research excellence, innovation, and impactful solutions for Africa's development. Thank you for being part of this journey!

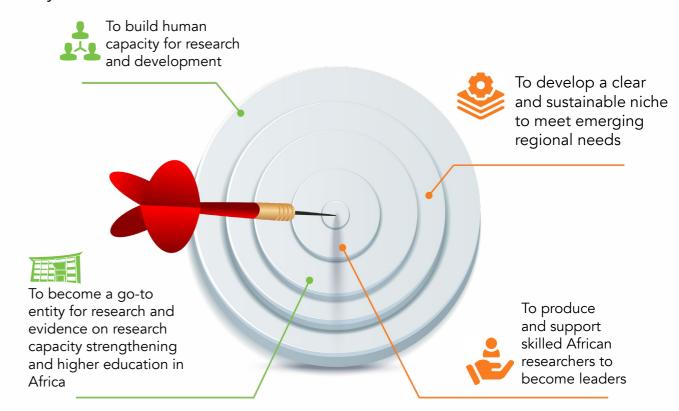


The Research and Related Capacity Strengthening (RRCS) Division is nested within the African Population and Health Research Center (APHRC), a premier research-to-policy institution. APHRC generates evidence; strengthens research and related capacity in the African research and Development (R&D) ecosystem; and engages policy to inform action on health and development.



Objectives

In line with the Center's strategic direction (2022 – 2026), RRCS has four key objectives namely:



Approaches

RRCS seeks to co-design and implement capacity-strengthening initiatives that take a systems-thinking approach, exploring the interactions between social, technical, economic, environmental, and political forces to inform decision-making and shape strategy. RRCS has an internal and external orientation, seeking to strengthen research and related capacities within APHRC and beyond.

We seek to achieve this through three interlinked focus areas - individual, institutional, and systemic (research and development (R&D) ecosystem). The three focus areas, whose objectives are provided below, enhance our ability to deliver tried-and-tested innovative and effective models of impactful and sustainable capacity-strengthening initiatives for APHRC and the African continent.

They include:

Individual Capacity Strengthening: To strengthen the technical, intrapersonal, and interpersonal aspects of an individual's capacity to undertake highquality research or related functions.

Capacity Strengthening for Institutions: To strengthen institutional capacities to collaboratively develop and enhance systems, structures, and processes that promote research and development in Africa.

R&D Ecosystem Strengthening: To strengthen support structures, regulatory framework, and linkages for African research institutions and researchers to become critical voices and drivers of the development agenda in Africa.



By Peterrock Muriuki - Program Officer, RRCS

n sub-Saharan Africa (SSA), women remain vastly underrepresented in science, technology, engineering, and mathematics (STEM) fields. Despite accounting for 15% of the global population, SSA produces comparatively low research outputs and even fewer research scientists. Within this already limited pool, women researchers are in the minority, holding just a third of all leadership positions in science and technology. The picture becomes even bleaker in higher education, where less than 3% of universities are led by female vice-chancellors. These disparities raise serious concerns about whether women's voices are being adequately represented at decision-making levels in the region.

Recognizing the urgency of addressing these gaps, APHRC, in collaboration with the Inter-University Council for East Africa (IUCEA), launched an initiative to promote gender equity in postgraduate STEM education. This effort, initiated in 2020, sought to examine the supervision and mentorship experiences of women in STEM programs in East Africa, with the

ultimate goal of fostering inclusive and effective academic environments. The study spanned five East African countries-Kenya, Uganda, Tanzania, Rwanda, and Burundi-drawing on the unique convening power of IUCEA. Together with APHRC, IUCEA facilitated connections with universities across the region, enabling the researchers to explore perspectives of students, staff, and research leaders through online surveys and interviews. The study also included focus group discussions with women who held postgraduate STEM qualifications, allowing for in-depth insights into their lived experiences.

From the data collected, both positive and negative trends in supervision and mentorship emerged. On the positive side, respondents spoke of supervisors who not only guided their research but also understood the complexities of their personal lives, offering emotional and academic support. Supervisors who were empathetic to the challenges of balancing family responsibilities, such as pregnancy and caregiving, were noted as being

instrumental in ensuring progress and success. Effective mentors, too, played a pivotal role in building trust and providing encouragement, helping women advance both personally and professionally. However, systemic challenges were just as prevalent. Many women reported difficulties with supervisors whose expertise did not align with their research areas, creating barriers to meaningful guidance. Instances of sexual harassment and a lack of sensitivity to gender-specific challenges further compounded their struggles, creating an environment that often felt unsupportive and discriminatory. In terms of mentorship, misaligned expectations, insufficient engagement, and lack of time investment from mentors were cited as recurring issues.

Armed with these insights, APHRC and IUCEA brought together stakeholders from across the region to co-create a gender-lensed supervision and mentorship framework. The framework was designed to address the unique challenges faced by women in STEM postgraduate training, with strategies tailored to institutional, national, and regional contexts.

Key elements of the framework include clear execution and management guidelines for supervision and mentorship, capacity-strengthening initiatives to equip mentors and supervisors with gendersensitive approaches, and governance structures to monitor and enhance the framework's implementation. Stakeholder engagement was prioritized throughout

the process, ensuring that the resulting framework reflected the needs and aspirations of the diverse institutions involved.

The gender-lensed supervision and mentorship framework is a strategic step toward addressing long-standing inequities in STEM education in East Africa. By embedding gender-sensitive practices into postgraduate training programs, the framework aims to create an environment where women can thrive academically and professionally.

More than a theoretical model, the framework has practical implications for institutions looking to standardize and improve supervision and mentorship practices. It empowers universities to adopt strategies that foster inclusivity and collaboration, paving the way for more women to take on leadership roles in STEM and contribute meaningfully to research and innovation in the region.

As SSA continues to strive toward global development goals, ensuring women's full participation in STEM is not just a matter of equity but a critical driver of progress. With initiatives such as this, APHRC and IUCEA are laying the groundwork for a future where women in STEM are not just participants but leaders, shaping the research landscape in East Africa and

beyond.

Strengthening Management of Cardiometabolic Diseases Through Education of Health Professionals

By Topistar Karani - Communications Officer & Jarim Elly Omogi Oduor - Project Coordinator, **RRCS**



ardiovascular-metabolic diseases →(CMDs), which include ailments such as diabetes, hypertension, and cardiovascular diseases, have grown to be a serious health concern in sub-Saharan Africa (SSA). These diseases contribute to a considerable portion of the noncommunicable disease (NCD) burden, with CMDs alone causing approximately 18 million deaths worldwide in 2019.*

Despite the growing burden, the healthcare workforce in Africa is not adequately equipped to manage these conditions. Africa bears 24% of the global disease burden but has only 3% of the world's healthcare workers.* The World Health Organization (WHO) estimates that for Education of Health Professionals (PEP)

the continent has a shortage of 4.2 million healthcare workers, a number projected to increase to 6.1 million by 2030. This shortage is particularly concerning for CMD management, which requires specialized skills and knowledge.

Kenya like most countries in SSA, shares a similar outlook for both disease burden and qualified care. Over 50% of in-patient hospital admissions and 41% of all deaths annually are due to NCDs, with CMDs taking a major share of these statistics. There is a severe lack of qualified healthcare professionals in the country who can treat these CMDs. Acknowledging this gap, the Partnership

program seeks to improve healthcare providers' (HCPs) ability to prevent and manage CMDs throughout Kenya. Specifically, PEP aims to improve the management of CMDs in Kenya through research evidence generation and capacity strengthening. This work targets medical training institutions (MTCs) across six hubs in Kenya's Nairobi, Mombasa, Embu, Kisumu, Uasin Gishu, and Nakuru counties. These hubs were selected based on the criteria of infrastructural availability, CMD prevalence, and geographical balance.

To ensure that aspiring and experienced healthcare professionals are equipped to handle the complicated requirements of patients with CMDs, the program places a strong emphasis on pre-service and inservice training for HCPs. The inclusion of online and blended learning methods in MTC curricula is a crucial aspect of this endeavor. Adopting these contemporary teaching strategies gives HCPs access to more flexible and accessible learning opportunities as well as up-to-date information and techniques for managing CMDs. Furthermore, the program emphasizes building research capacity to make sure that HCPs are not just practitioners but also researchers who add to the expanding library of information on CMDs.

PEP aims to bridge the gap between the healthcare system's ability to respond to the increasing prevalence of CMDs and providing HCPs with the resources and training necessary to manage them successfully. In addition to enhancing healthcare providers' skills, PEP also addresses the need for better patient satisfaction in CMD care. In Kenya, only

50.7% of patients are satisfied with the quality of healthcare services they receive, highlighting a significant area for improvement*. By strengthening the training of healthcare providers, the program aims to improve patient outcomes and increase satisfaction with CMD services.

The PEP program has the potential to change Kenya's healthcare system in the long run by lowering the financial burden of CMDs, increasing patient outcomes, and more. Through research, contemporary learning methods, and improved training, the program is contributing to the development of a strong healthcare workforce that can handle the nation's rising cardiometabolic disease burden.

A collaborative project, PEP is funded by the Novo Nordisk Foundation, and its implementation is led by the APHRC together with partners: the Kenya Ministry of Health (MoH), Christian Health Association of Kenya (CHAK), Kenya Conference of Catholic Bishops (KCCB), Non-communicable Disease Alliance of Kenya (NCDAK), Kenya Medical Training College (KMTC) and Amref Health Africa.

APHRC is spearheading all the research activities and capacity-strengthening efforts of MTCs, faculty, and other PEP Kenya partners. In 2024, APHRC led the development of a joint work plan, review of a curriculum on CMDs, and recruited a project coordinator. Additionally, APHRC collected baseline data across 20 counties among patients, heads of departments (HoDs), clinical mentors, health facility incharges, and faculty members in medical training colleges.

^{*}Some of the data and statistics in this blog have been derived from the PEP Study Protocol, 2024

By Rita Karoki - Program Officer, RRCS

Since its inception in 2008, CARTA has been dedicated to strengthening the capacity of African universities to generate impactful research. By supporting African researchers within its African partner institutions and strengthening the institutional systems and processes related to research training and management, CARTA ensures that universities become self-sustainable engines of knowledge generation and innovation. This commitment extends across multiple levels, from research capacity strengthening to faculty development, supervision enhancement, governance, and financial management improvements.

One of CARTA's most transformative initiatives is its PhD training program, the Joint Advanced Seminars (JASes), which has become a gold standard in doctoral training. The program operates by selecting fellows who are staff at partner institutions, equipping them to drive research excellence and institutional transformation. The impact is substantial: to date, 245 fellows have been enrolled with 181 fellows graduating (as of the end of 2024), with many of

them leading influential initiatives in their home countries. Beyond supporting them during the PhD journey, CARTA provides postdoctoral opportunities to its graduates facilitating their transition into independent researchers and leaders. Cumulatively, the program has granted 84 awards (postdoctoral fellowships and reentry grants) to 64 graduates.

CARTA's mission extends beyond training individuals—it is about transforming institutions to sustain research excellence. The program strengthens universities by providing structured support for academic, professional, and administrative staff, supervision training, and associated training-of-trainers (ToT) programs. The ToTs are part of CARTA's sustainability efforts, which include mainstreaming the CARTA interventions and best practices at partner institutions.

Additionally, CARTA collaborates with its African partners to support their assessment and implementation of Good Financial Grant Practice (GFGP) standards, ensuring best practices in financial and grant management.

These initiatives create a ripple effect of knowledge-sharing across institutions, ensuring long-term sustainability.

Another milestone is the establishment of research hubs, which serve as centers of excellence to support multidisciplinary research and collaboration. In 2024, the first hubs were launched at the University of the Witwatersrand, South Africa, and Makerere University, Uganda. These hubs provide early career researchers and CARTA graduates with the resources, mentorship, and environments needed to thrive. One of the hubs, the Emerging and Re-Emerging Infectious Diseases (TERID) Hub at Makerere, is led by Charles Kato, a CARTA cohort 3 graduate.

CARTA research hubs are more than just projects—they are platforms for multidisciplinary innovation, enabling researchers to address thematic challenges of critical importance to Africa's development. By fostering collaboration among CARTA fellows and connecting them to global networks, these hubs nurture ecosystems where ideas flourish, and solutions are born.

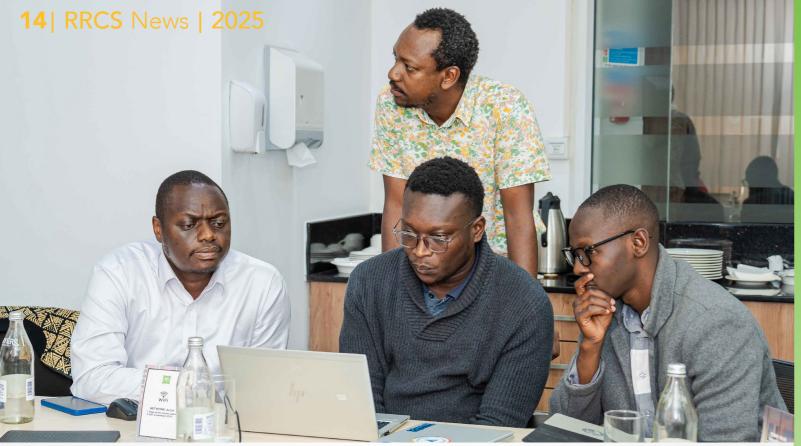
At the forefront of Africa's academic transformation, CARTA is reimagining how universities train and support researchers. More than just a capacity-building initiative, CARTA represents

a bold and innovative approach to developing sustainable research ecosystems. By combining institutional support, interdisciplinary collaboration, and advanced training, CARTA is not only shaping individual scholars but also empowering universities to become world-class research and leadership centers.

After a four-year hiatus in the recruitment of PhD fellows, CARTA is excited to welcome its eleventh cohort of 20 fellows in March 2025, supporting them to undertake their doctoral studies in the eight African partner universities. This has been made possible through the continued support of the Swedish International Development Cooperation Agency (Sida) and a new partner, the OAK Foundation.

Looking ahead, CARTA remains committed to fostering institutional transformation across Africa. By expanding its network of research hubs, enhancing training initiatives, and securing strategic partnerships, the program continues to lay the groundwork for sustainable research excellence. Through these efforts, CARTA is not only shaping the next generation of scholars but also ensuring that African universities emerge as global leaders in knowledge production and innovation.





Revolutionizing Capacity Strengthening Through APHRC's Virtual Learning Academy

By Benard Ondiek - Virtual Learning Academy Coordinator, RRCS

APHRC is revolutionizing capacity strengthening through the <u>Virtual Learning Academy</u> (VLA), a platform that offers flexible, accessible, and comprehensive training for individuals across sub-Saharan Africa. Aligned with APHRC's 2022–2026 Strategic Plan, the VLA has become a cornerstone for both internal and external individual capacity-strengthening efforts.

Adapting to the Times: Since 2015, APHRC has been delivering short courses on key topics such as Scientific Writing, Grant Proposal Writing, Systematic Review and Meta-Analysis, Research Governance, and Quantitative Data Analysis. These courses were traditionally conducted in person. However, the COVID-19 pandemic accelerated the need for virtual alternatives. In response, APHRC

conducted a needs assessment, gathering input from staff and stakeholders to identify challenges in traditional online learning. The resulting roadmap for the VLA focused on four key phases: planning, capacity building, implementation, and scaling. Launched post-COVID, the VLA has quickly scaled up its offerings, becoming a pivotal tool in expanding APHRC's reach and impact across Africa.

Milestones So Far: The VLA has achieved remarkable milestones in its mission to expand access to high-quality training. With 12 completed courses, the Academy has a notable reach across sub-Saharan Africa. To ensure inclusivity, courses are now bilingual, catering to both Anglophone and Francophone participants. One standout course, the Graduate Grant Writing Workshop, exemplifies a hybrid model of three weeks of self-paced learning followed by one week of in-person training—a format that has been highly effective and replicable across other projects.

In addition to course offerings, the Academy has fostered thriving communities of practice, growing from 3 communities in 2023 to over 15 in 2024. These communities, such as the Grants Writing Community, now boast more than 300 participants, facilitating ongoing knowledge sharing and collaboration. To further institutionalize the VLA, awareness campaigns have encouraged projects across APHRC to incorporate the Academy into grant proposals as a critical capacity-strengthening component.

On the infrastructure front, significant upgrades were made to enhance the platform's security and sustainability. The Academy's infrastructure was migrated to a local data center to reduce costs and ensure long-term viability. Additionally, a Systems Administration course was developed and delivered to the technical team supporting the Academy, ensuring continued operational excellence.

Scaling and Innovating

As the VLA continues to scale, APHRC is planning several exciting initiatives to expand its impact. Upcoming goals include:



Expanding Reach: Scaling courses to reach a larger audience across the region, ensuring greater impact.



Introducing a Mobile App:
Developing a dedicated
application for communities
of practice to increase
accessibility, usability, and
knowledge exchange.



Raising Awareness:

Strengthening outreach to APHRC's thematic units and external partners to integrate self-paced courses and communities of practice into their work.



Access: Adding courses in more African languages to ensure inclusivity and reach a diverse audience.

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Supporting the Fight Against **AMR** in Africa Through Fund Management and Capacity Building

By Gael Bidzogo Ekobono - Senior Project Officer, RRCS, and Ann Waithaka - Senior Communications Officer, Policy Engagement and Communication

(AMR) Antimicrobial resistance emerged as a global public health crisis, disproportionately impacting Africa. The continent bears the world's highest AMR mortality rate, accounting for over 700,000 deaths annually—a number projected to animals, humans, plants, and through the soar to 10 million by 2050 without urgent i environment thus requiring coordinated intervention according to the Africa CDC (2024.

AMR occurs when bacteria, viruses, fungi, and parasites no longer respond to the effects of drugs that once killed them or inhibited their growth. This resistance, often driven by the overuse and misuse of antibiotics, makes previously treatable infections increasingly difficult or impossible to cure. As a result, antibioticresistant infections are leading to longer hospital stays, higher medical costs, and, tragically, more deaths.*

To fight against antimicrobial resistance, several initiatives are ongoing on the continent, supporting country health systems and laboratories. One such initiative is the Joint Programming Initiative on Antimicrobial Resistance (JPIAMR). This global collaborative platform is funded and driven by several participating countries to curb

has antimicrobial resistance (AMR) with a One Health approach. The One Health approach and AMR are closely related concepts because drug-resistant pathogens can spread between and within action and collaboration across sectors.

Sida-APHRC Partnership: JPIAMR Fund Management

Under the JPIAMR initiative, several consortia, comprising both European and African partners, have been awarded funding to tackle the complex challenges of AMR. Recognizing the importance of strengthening African participation, the Swedish International Development Cooperation Agency (Sida) committed to supporting African institutions and universities within the framework of JPIAMR. To ensure efficient fund management and build capacity, Sida assigned its fund management role to the African Population and Health Research Center (APHRC). In addition to managing the grants, APHRC proposed and incorporated capacity-building activities to strengthen the institutional and grant management capabilities of sub-grantees, ensuring the successful implementation of projects and long-term sustainability of outcomes.

The initiative advances the One Health approach by building networks of AMR researchers across human health, animal health, and environmental sectors, and strengthening engagement with policy actors. By promoting South-South cooperation, the initiative enables African institutions to collaboratively design solutions tailored to the continent's unique challenges. With the initiative envisioned to run up to 2028, there is immense potential to deepen its impact. Raising awareness, enforcing regulations on antibiotic use, and investing in innovative research and treatments remain critical components of this fight.

Under the initiative, four cohorts of project teams have been sub-awarded with some projects successfully closing out in 2024 while the rest will continue to implement activities up to 2028. So far, projects have realized notable success as follows:

Community Engagement: Many implementing partners have rolled out community engagement activities, expanding the awareness of AMR issues to the public. An example is the Kimpese Evangelic Medical Institute in the Democratic Republic of the Congo, which has organized several community awareness-raising sessions at night through video projection on the proper use of antibiotics and WASH aspects, followed by question and answer games.

During the implementation of the projects, policy engagement has been crucial to ensure more impact. Almost all the institutions organized a start-up

meeting with policymakers to involve and inform them of the project activities. This also initiated the possibility of translating research products into policy.

Academic Mentorship and Training:

Forty-seven (47) students (W*:25; M:22**) across Africa have received training and mentorship under the JPIAMR Fund Management initiative, spanning 14 bachelor's (W:8; M:6), 21 master's (W:12; M:9), 10 PhD (W:4; M:6), and 2 postdoctoral (W:1; M:1) programs. This investment is building a generation of researchers and professionals committed to addressing AMR.

Evidence Generation: The initiative has facilitated the publication of 13 research papers, with over 30 more in progress. This growing body of evidence is crucial for informing policies and interventions.

Institutional Strengthening: The initiative is supporting the implementing partners with Good Financial Grant Practices (GFGP) certification. The certification is designed to help organizations align their financial governance with internationally recognized best practices. All the JPIAMR institutions have already been assessed for GFGP compliance

Laboratory Advancements: Medical laboratories of several institutions from the project have acquired state-of-theart equipment, and lab technicians have received specialized training, significantly improving the capacity to detect and manage AMR threats.

^{*}W:Women

^{**}M:Men

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Kudos Corner

2024 RRCS Staff Promotions and Appointments



Marta Vicente-Crespo
Promoted to Program Manager I



Patrick Owili
Promoted to Program Manager II



Alypio Nyandwi *Appointed as Program Coordinator*



Lisa Omondi
Promoted to Program Administrative
Officer II



Individual Capacity Strengthening Unit (ICS)

- African Doctoral Dissertation Research Fellowship (ADDRF)
- Africa Research Excellence Fund (AREF) Fellowship Programme
- APHRC Bespoke Training
- Capacity Development and Applied Epidemiology (CDAE)
- Count Down 2030 Fellowships
- Demand-Driven Internships, Visiting-Schola and Fellowship Programs
- Multimorbidity in Africa: Digital Innovation, Visualization, and Application (MADIVA)
- Partnerships for Education of Health Professionals (PEP) Program
- UN Women-WHO Global Joint Program

Capacity Strengthening for Institutions Unit (CSI)

- Consortium for Advanced Research Training in Africa (CARTA)
- Joint Programming Initiative on Antimicrobial Resistance (JPIAMR) Fund Management

R&D Ecosystem Capacity Strengthening Unit (R&D ES)

- Catalyze Impact via Africa-led Implementation Research Platforms
- EU-Africa PerMed: Building Links Between Europe and Africa in Personalised Medicine
- Examining Participation and Quality of Experiences of Women in Science Technology Engineering and Mathematics
- State of Data Science in Africa Workshops
- Virtual Learning Academy
- Wellcome Afrique Research Support Hubs
- World Health Organization Human Reproduction Program (WHO-HRP) Alliance Research and Knowledge Transfer Hub



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