SOUTH AFRICAN MEDICAL RESEARCH COUNCIL - UNIVERSITY OF VENDA ANTIMICROBIAL RESISTANCE AND GLOBAL HEALTH RESEARCH UNIT

STRATEGIC PLAN - 2022 - 2026

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EXCELLENCE IN SCIENCE, LEADERSHIP & TRAINING

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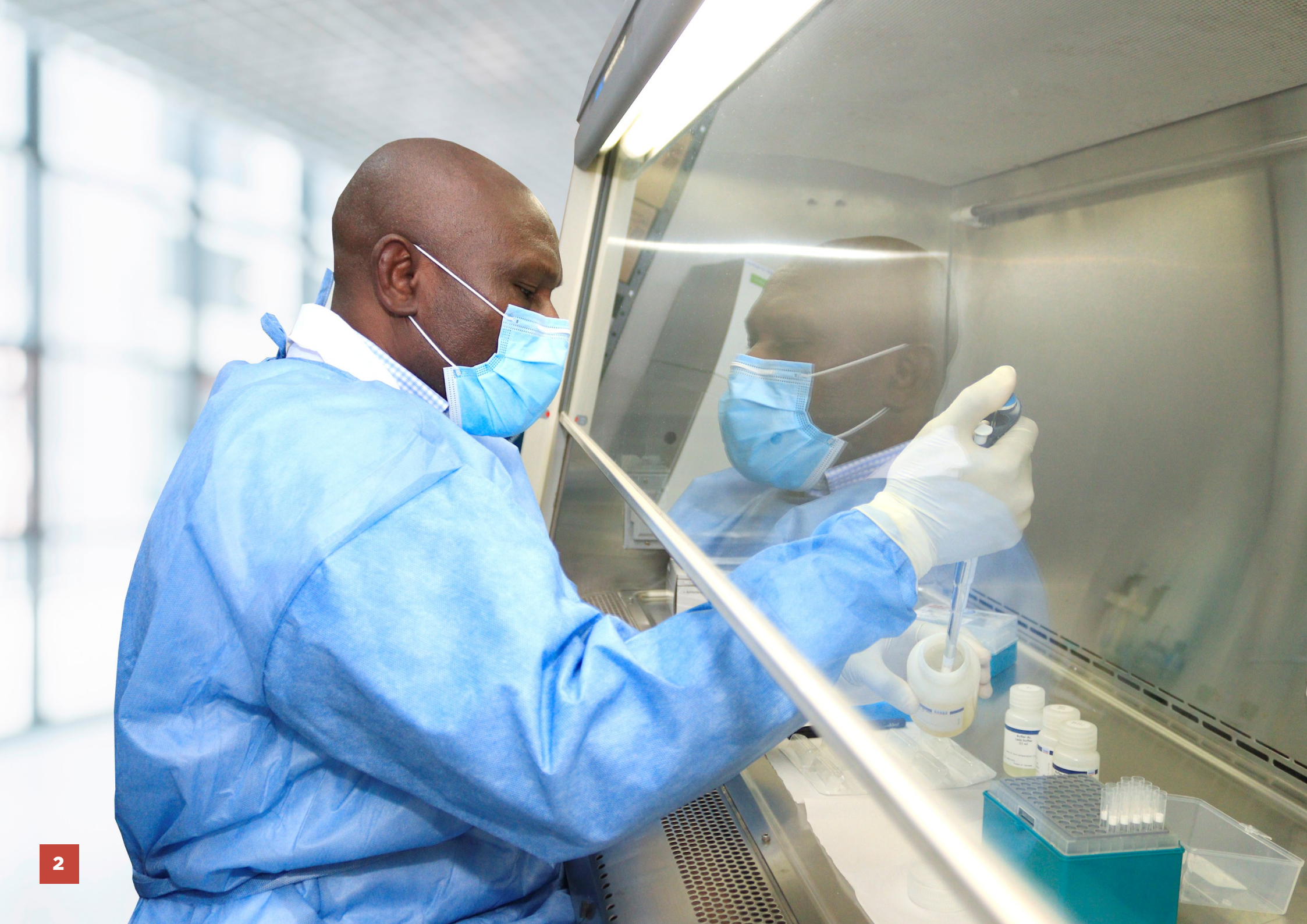
SAMRC-UNIVEN ANTIMICROBIAL RESISTANCE AND GLOBAL HEALTH RESEARCH UNIT



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OVERVIEW

The Strategic Plan of the SAMRC-UNIVEN Antimicrobial Resistance and Global Health Research Unit (SAMRC-UNIVEN AMR-GH), inspired by the mandate of the South African Medical Research Council, is to advance the health of the nation, the National Development Plan, and the Health Research Priorities of South Africa. In addition, it is based on the University of Venda's strategic objective, which seeks to carry out research and train human capital for impact.

The Strategic Plan expects to guide SAMRC-UNIVEN AMR-GH as it carries out its primary research aims between 2022 and 2026. It identifies the Unit's strengths, weaknesses, opportunities, and threats. It also provides an analysis of the macro-environmental factors that might impact the realization of the Strategic Plan, as well as describes the available resources required to achieve its strategic objectives. Working with its partners, collaborators, and study communities, the Unit conducts translational research and trains human capital for leadership in antimicrobial resistance and global health.

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EXECUTIVE SUMMARY

The SAMRC-UNIVEN Antimicrobial Resistance and Global Health Research Unit is a culmination of more than 12 years of research and human capital development on antimicrobial resistance and research infrastructure development. Central to the Unit is the AIDS Virus Research Laboratory, comprising sections for molecular biology, next-generation sequencing, tissue culture, biorepository, microbial containment, and data management. It conducts its work in collaboration with communities, and national and international partners and collaborators. The Unit positions itself to generate evidence for improved antimicrobial stewardship, drawing inputs from scientists, policy makers, educationists, and the communities it works within. Research and training outputs and outcomes should enhance equity and access to improved health.

Collaborating

to conduct translational research, to train leaders in antimicrobial resistance and to improve global health.

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VISION

To become a reference programme for antimicrobial resistance epidemiology.

MISSION

To carry out high-quality laboratory and community-based research for policy development on antimicrobial resistance stewardship.

VALUES & OPERATING PRINCIPLES

- Excellence
- Equity
- Leadership

SITUATIONAL ANALYSIS AND STRATEGY ALIGNMENT

VALUE, RARITY, IMITABILITY, ORGANIZATION ANALYSIS

- The Unit undertakes research and provides training for global health imperatives
- The Unit's team, partners, and collaborators are seasoned scientists and investigators in infectious diseases epidemiology, clinical microbiology, virology, bioinformatics, biomathematics, clinical psychology, education, communication, ethics, community engagement and mobilization, and policy development.
- The Unit's activities are embedded in local communities, health facilities, and in collaboration with the provincial Departments of Health.
- The Scientific, Bioethics, and Community Advisory Committees will strengthen the Unit's governance; and provide guidance for relevance and impact.
- The Unit recruits postgraduate students, mainly from low-income families and communities who may need additional support and guidance. The Unit carries out certain key activities in the provinces of Limpopo, Gauteng, Mpumalanga, and the Eastern Cape. Therefore, there is a need for effective and efficient coordination.
- The Unit's activities are to support the realization of the strategic objectives of the South African Medical Research Council and the University of Venda.

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SWOT ANALYSIS

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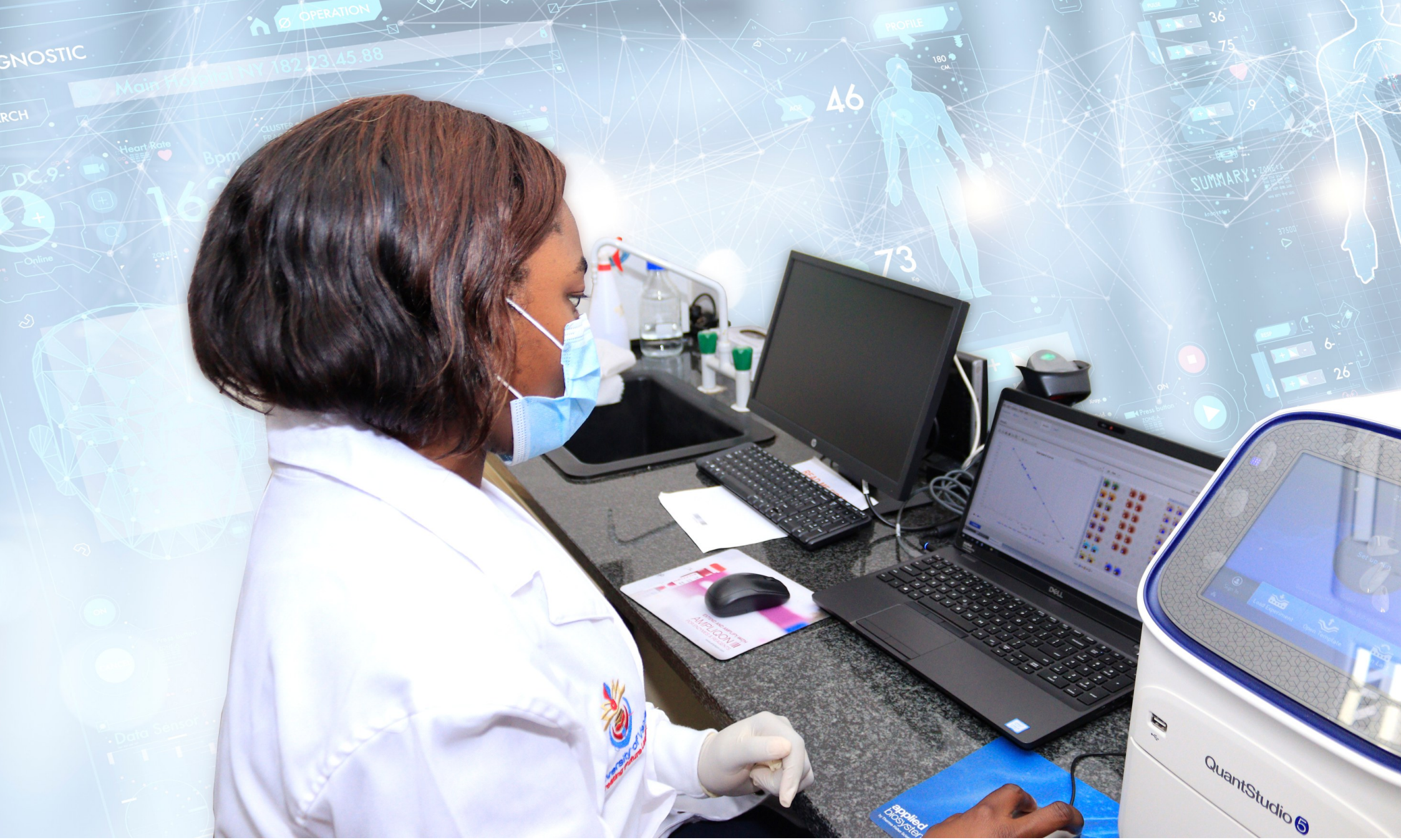
- A governance structure comprising a Scientific Steering Committee, with guidance from the Scientific, Bioethics, and Community Advisory Committees.
- A team of competent and knowledgeable investigators.
- The ability of team members to win research grant awards.
- A multidisciplinary team of investigators.
- Long-standing and competent national and international partners and collaborators.
- More than adequate research equipment infrastructure.
- Availability of quality assurance procedures and processes.
- Strong collaborations with communities, local municipalities, and primary health care facilities.
- Investigators experienced in human capacity development.
- Highly motivated postgraduate students.

- Delays in the procurement of research materials.
- Inadequate administrative and technical support.
- Underfunded postgraduate students.
- Inadequate experience in policy development.
- Inadequate bioinformatics tools.

- Availability of funding agencies keen on supporting antimicrobial resistance research.
- Possibility of data transfer agreements with the public and private health care sectors.
- Increased visibility and relevance of the Unit through impactful research.
- Collaboration with non-state stakeholders.

- Possible attrition of team members.
- Relatively higher cost of equipment maintenance and provision of consumables due to distance from the main centres of commerce, business, and industrialization.
- The national and global financial crisis may result in low funding opportunities or not securing adequate funding.
- Low potential to expand on laboratory space.
- Lengthy regulatory processes.
- Failure to meet expectations and standards may result in reputational loss.



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PESTLE ANALYSIS

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POLITICAL

- Our research is influenced by the Strategic objectives of the SAMRC, the strategic plan of the University of Venda; the National Development Plan of South Africa; the UN Sustainable Development Goals, and the African Union Agenda.
- The need for adequate institutional support.

ECONOMIC

- High capital expenditure needed for research.
- Due to budget constraints, the Unit is cognisant of limited research funding from national funding bodies.

SOCIAL

- There is a need to work closely with study community bodies and processes for mutually beneficial collaboration and co-production of knowledge.
- Postgraduate students with financial challenges may discontinue their studies.

TECHNOLOGICAL

- There is a need to keep up with developments and improved options in data acquisition, data analysis, and science communication approaches.

LEGAL

- Due diligence requirements in the execution of research and material transfer agreements.
- Adhere to the requirements of the Protection of Personal Information Act.
- Adhere to legislations and regulations on handling, containment, and transportation of biohazardous materials.
- Obtain ethical approvals for research protocols, other required permissions, authorizations and licences.
- Protection of intellectual property.

ENVIRONMENTAL

- Protection of the environment from biohazardous waste.
- Protection of personnel.

The University of Venda contributes to national agendas on research and skills development.

OUR Strategic Aims & Objectives

The overall aim of the Unit is to bring together scientists, the community, and policy makers to seek solutions to the threat of antimicrobial resistance.

To deliver on its mission, and to make substantial contributions in enhancing equity and access to health in the country, the Unit is pursuing the following strategic aims:

STRATEGIC AIM 1:

Governance for outstanding scholarship in research & community engagement

“Do little things in a heroic way.”

-St Josemaria Escriva-

Governance for outstanding scholarship in research and community engagement will be achieved by maintaining a governance structure. This will comprise of a scientific steering committee, which will be guided by the scientific, bioethics, and community advisory committees.

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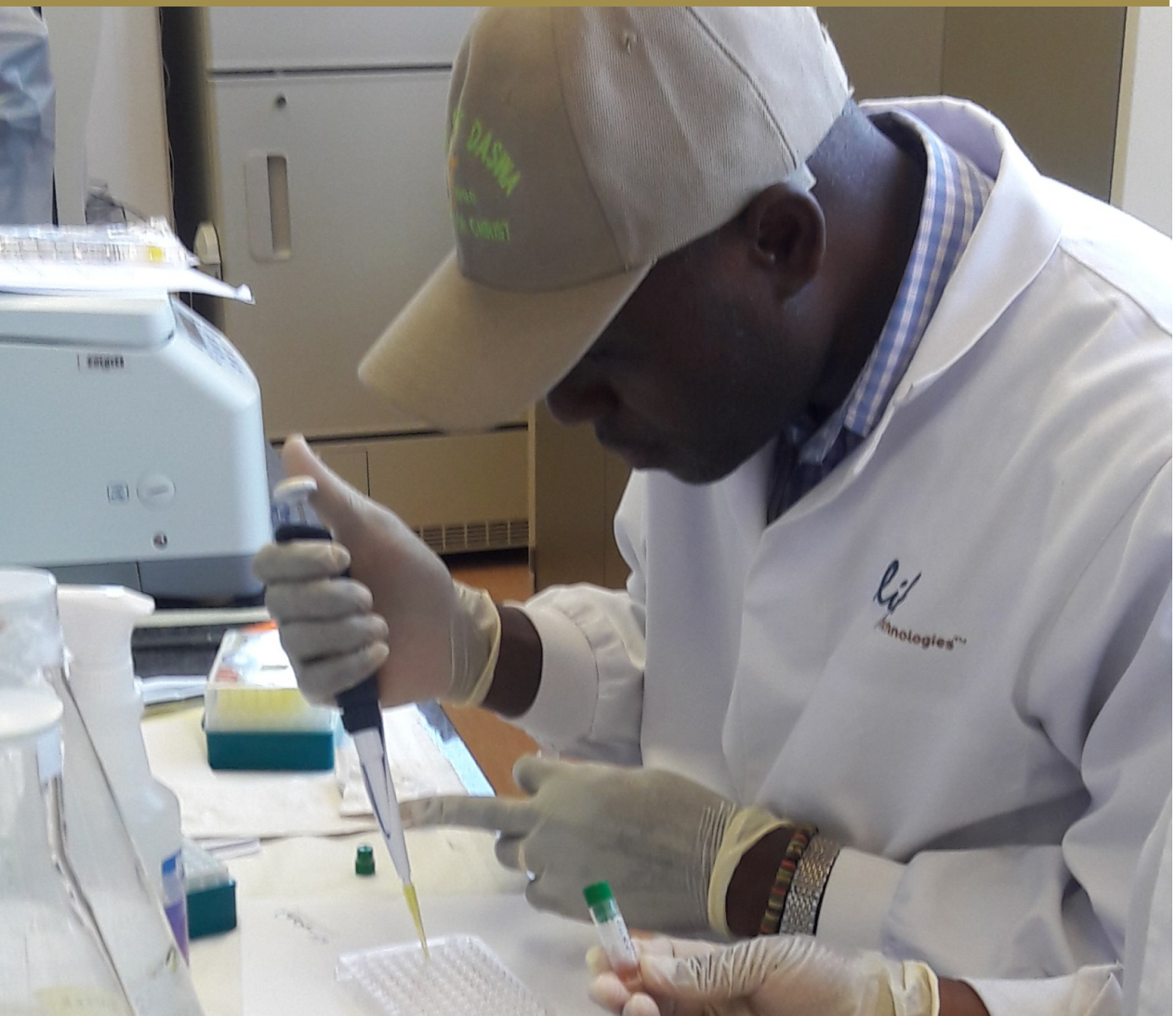
STRATEGIC AIM 2:

Enhance research infrastructure and improve training environment



An enhanced research infrastructure and improved training environment will be achieved through research grant applications, maintenance of biosafety and biosecurity measures, and continuous development of competencies of team members and collaborators.

STRATEGIC AIM 3:
Produce research outputs for innovation and impact

"It is not enough to know, we must apply."

-Johann Wolfgang von Goethe-

Producing research outputs for innovation and impact will be achieved through developing quality assurance procedures and processes, establishing prospective adult and birth cohorts to study AMR, and applying appropriate technologies and analytical approaches to generate reliable data sets.

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STRATEGIC AIM 4:

Equitably enhance leadership in AMR research and innovation

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Equitably enhanced leadership in AMR research and innovation will be achieved through the inclusive recruitment of postgraduate students and postdoctoral fellows for training in the biology, psychology, and education of AMR.

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STRATEGIC AIM 5:
Include communities in AMR stewardship

“The perpetuation of mediocrity is a habitual sin.”

-Pascal O. Bessong-

The inclusion of communities in AMR stewardship will be achieved through the co-production of packages for community mobilization, awareness, and education on AMR.

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PARTNERS & COLLABORATORS

Our partners and collaborators are from the following institutions:

- Department of Medical Virology, Sefako Makgatho Health Sciences University, South Africa.
- School of Medicine, Walter Sisulu University, South Africa.
- Rollins School of Public Health, Emory University, USA.
- School of Medicine, University of Virginia, USA.
- School of Health Sciences, University of KwaZulu-Natal, South Africa.
- School of Biological Sciences, North-West University, South Africa.
- Genomic Centre, South African Medical Research Council.
- BRIP, South African Medical Research Council.
- Department of Molecular Biology and Biotechnology, Nigeria Institute for Medical Research.

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SELECTED PUBLICATIONS

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BRIEF PROFILE OF THE UNIT DIRECTOR

Pascal Bessong is a medical virologist, having received training in South Africa, France, and the United States. He is an experienced professor with a demonstrated history of working in the higher education sector for more than 17 years. His research focuses on microbiological investigations for translational science and global health, using innovative approaches and technologies. Specifically, he is interested on viral and human determinants of HIV drug resistance and the sustainability of antiretrovirals towards the UNAIDS 2030 targets. He is also interested in the interactions of gut microbiota and antimicrobial resistance at the community level, and the interactions of gut infections, growth, cognitive development, and vaccine response in young children. He has more than 15 years of experience in the establishment and maintenance of prospective, community-based birth and adult cohorts for observational biomedical investigations.

A former Head of the Department of Microbiology, University of Venda, Professor Bessong is the Principal Investigator of the AIDS Virus Research Laboratory; Founding Head of the HIV/AIDS & Global Health Research Programme; Visiting Scholar at the School of Medicine, University of Virginia, and an Honorary Professor at the School of Health Sciences, University of KwaZulu-Natal. He is an elected member of the Academy of Science of South Africa; a Registered Natural Professional Scientist; and Associate Editor of the South African Journal of Science. Professor Bessong maintains a website and blog at https://bessongthemicrobiologist.com .

His research, human capital development, and community engagement initiatives have been supported through competitive grant awards from the Department of Health (South Africa), Department of Science and Innovation (South Africa), Department of Higher Education and Training (South Africa), Technology Innovation Agency (South Africa), National Research Foundation (South Africa), South African Medical Research Council, Fogarty International Center/NIH (USA), US National Academy of Sciences/USAID, Bill and Melinda Gates Foundation (USA), and International Society for Infectious Diseases.

His scientific contributions and opinions, in over 175 peer reviewed articles, have been published in top tier and influential journals such as Science, The Lancet HIV, PLOS Medicine, Lancet Global Health, Clinical Infectious Diseases, BMJ Global Health, The Journal of Infectious Diseases, EBiomedicine, and Bulletin of the World Health Organization. He has hosted visiting scientists on antimicrobial resistance within the framework of the Carnegie African Diaspora Fellowship awards, and the US National Science Foundation fellowships. He has given research seminars at institutions in South Africa, Botswana, Cameroon, Kenya, Nigeria, and the United States. Professor Bessong has successfully trained more than 60 MSc/PhD students and postdoctoral fellows.

Professor Pascal O Bessong

“The measure of greatness in a scientific idea is the extent to which it stimulates thought and opens up new lines of research.”

-Paul Dirac-

Improving Global Health through Excellence in Science, Leadership and Training.

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