

# Increasing bacterial resistance against antibiotics

A global problem of unknown dimensions

## Partnership between

University of Leipzig, Division of Infectious Diseases and Tropical Medicine / GERMANY

and

Kiruddu Referral Hospital Kampala / UGANDA





# UGANDA

The country has 37.6 million inhabitants living on an area of 241,038 sq. km.

The average fertility rate is 5.8 children per woman.

Since becoming independent from Britain in 1962, the east African nation has endured a military coup, followed by a brutal military dictatorship which ended in 1979, disputed elections in 1980, and a five-year war that brought current President Yoweri Museveni to power in 1986.

The country has won praise for its vigorous campaign against HIV/AIDS.

Life expectancy at birth is 52 (m) / 62 (f) in Uganda.

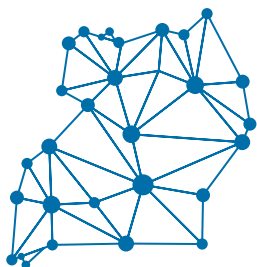
## CREATING CHANGE IN HEALTHCARE

The programme “University and Hospital Partnerships in Africa” supports partnerships between hospitals and universities in Germany and in African countries in Sub-Saharan Africa.

The main effort is focused on capacity strengthening, experience sharing and knowledge exchange through professional dialogue, repeated visits and training.

The difference and advantage compared with other international cooperation initiatives is the collaboration with medical professionals in partner countries which builds a high degree of trust and acceptance. The problem is jointly identified, and the activities collectively developed and always in line with national strategies.

In addition to the medical professionals, IT experts are also involved in the partnerships to discuss and find IT solutions to improve medical care.





# ANTIBIOTIC RESISTANCE IN UGANDA



Bacteria and other germs change when they are exposed to antimicrobial treatments like antibiotics. This results in resistance against the substances used and medications lose their effect. Antimicrobial resistance (AMR) can render it impossible to treat common infections and leads to substantially increased costs of healthcare, prolonged treatment, disability and death.

AMR is a global problem and thus needs to be tackled globally. It exists in every country.

Main causes of this development are the overuse of antimicrobial medicine – especially in agriculture and animal farming – and unnecessary prescriptions for patients. Inappropriate use, wrong dosage, and lack of knowledge by medical doctors and patients alike aggravate the problem. The extent of AMR in low- and middle-income countries (LMIC) is largely unknown, mainly because respective data is missing.

Like all countries, Uganda is facing the continuous development of resistance against available antibiotics. However, like in many LMIC, the full extent of the problem is largely unknown because respective data is not available.

The Ugandan government has recognised the need for improving this situation.

Based on national as well as existing international commitment, the two partnering institutions decided to tackle this important public health problem and join the global efforts to stop the further development of AMR.

Joint efforts include the establishment of a data collection system, a so-called surveillance system, the training of laboratory personnel to identify bacteria causing an infection and possible resistance against the available antibiotics, training of medical doctors on the rational use of antibiotic treatment, and support of the Ugandan government in the development of standard treatment guidelines.

## Our eHealth Contribution

One important problem identified is the communication between medical doctors caring for patients and the respective laboratories performing necessary analyses. Specimen and requests for testing are paper-based and frequently go lost on the way between these

two entities or reach the laboratories too late. The same applies to test results: These often reach the doctor too late or never which makes it impossible to base clinical decisions on them.

Therefore, the partnership decided to use an innovative approach and develop together with IT specialists an app-based communication system between the laboratory and medical doctors. This will ensure timely delivery of the request and test result as well as the collection of valid data for subsequent analyses and the development of local evidence-based guidelines.

All tools developed consist of free and open-source software which has been adapted in teamwork with neighbouring African regions: six partnerships collaborate closely because they use the same approach. This collaboration is called the COMBAT AMR network.

The COMBAT AMR network allows comparing/sharing of as well as joint discussions on data, the exchange of experiences, discussions on possible solutions, regional recommendations, and it creates substantial synergies.

## University of Leipzig, Division of Infectious Diseases and Tropical Medicine / GERMANY

As a permanent cooperation partner of the University of Leipzig, the University Hospital Leipzig is an essential part of out- and in-patient care in the state of Saxony. The campus comprises approx. 50 clinics and institutes which cover almost all medical disciplines at university level. Currently, over 6,000 employees are engaged in clinical care, research, and education.

The Department of Infectious Diseases and Tropical Medicine is part of the Clinic of Gastroenterology. Currently, the department has three specialised consulting physicians, two residents, a nurse and a secretary. The consulting physicians are responsible for in- and out-patients with the full range of infectious and tropical diseases.

## Kiruddu Referral Hospital Kampala / UGANDA

Kiruddu Referral Hospital is a public, tertiary hospital located in Kampala, the capital of Uganda. The hospital is directly subordinated to the Ministry of Health. Patients from all over the country are referred to Kiruddu for care. Furthermore, Kiruddu serves as a teaching hospital for medical students of the College of Health Sciences of Makerere University. The hospital is led by Dr. Charles Kabugo, a senior consulting physician specializing in infectious diseases. The hospital has a capacity of 200 beds for in-patient treatment and 14 out-patients clinics, which serve approx. 300-500 patients daily. Among other facilities, the hospital has the largest infectious disease ward in the country, as well as the only ward specialising in the treatment of patients with burns.



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## More information

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