

Increasing bacterial resistance against antibiotics

A global problem of unknown dimensions



Partnership between

University Hospital
Goethe University Frankfurt
Department of Infectious
Diseases HIV Therapy
and Tropical Medicine /
GERMANY

and

Kenyatta National Hospital (KNH)
Nairobi /
KENYA

UNIVERSITY &
HOSPITAL PARTNERSHIPS
IN AFRICA





KENYA

Kenya is a republic located in Eastern Africa and the 7th most populous country in Africa with a population of 48 million.

Nairobi is the capital as well as the largest city, followed by Mombasa and Nakuru.

The population growth rate has been decreasing slightly since 2012 and 2.31%, is the fertility rate (3.57).

Life expectancy has been increasing significantly over the past ten years to 65.9, so people in Kenya live longer and presumably healthier lives.

The probability of dying under the age of five was 41.1 for 1,000 births in 2018.



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 KENYA



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 medium-income countries (LMIC) is largely unknown, mainly because respective data is missing.

Like all countries Kenya is facing the continuous development of antibiotic resistance caused by the inappropriate antibiotic use in human and animals. However, like in many LMIC, *the extent of the problem is unknown, because respective data is not available.*

Because there is no database available about local resistance patterns and most frequent pathogens, it is hard to choose the right antibiotics. With this knowledge, it would be possible to improve treatment, develop national treatment guidelines and reduce the inappropriate use of antibiotics.

The Kenyan government has recognised the need for improving this situation. Based on this national as well as existing international commitment, the two partnering universities have decided to tackle this important public health problem and join the global efforts to stop further resistance development. Joint efforts include the establishment of a data collection system, a so-called surveillance system, training of laboratory personal to identify bacteria causing an infection and resistance pattern against the available antibiotics, training of medical doctors to handle antibiotic treatment with care and based on the information available, and support of the Kenyan government to develop standard treatment guidelines based on the data collected.

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 Hospital Goethe University Frankfurt (UKF), Department of Infectious Diseases HIV Therapy and Tropical Medicine / GERMANY

UKF is one of 33 university hospitals in Germany. It has 32 specialty clinics and institutes, 1,488 beds, with an annual average of 51,112 inpatients and 447,939 outpatients. Its purpose is clinical care, research and teaching – “knowledge becomes health” is our mission.

Kenyatta National Hospital (KNH) Nairobi / KENYA

KNH is the prime national referral institution. It is currently the largest referral and teaching hospital in the country. Kenyatta National Hospital employs over 6,000 staff and has a bed capacity of 2,000 with an annual average of 80,000 inpatients and 500,000 outpatients.

KNH offers a wide range of specialised medical and surgical services. It works in close synergy with the College of Health Sciences of the University of Nairobi, the leading tertiary healthcare training centre in Kenya and the East Africa region.



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More information

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