

# Optimising microbiological diagnosis and rational antimicrobial therapy in Ghana and Côte d'Ivoire



**HOSPITAL  
PARTNERSHIPS**

University Medical Center Hamburg-Eppendorf, the Bernhard Nocht Institute for Tropical Medicine, the Komfo Anokye Teaching Hospital, Kumasi (Ghana), the Hôpital Général Abobo Nord and the Université Jean-Lorougnon- Guédé (Côte d'Ivoire)

## The challenge

The Komfo Anokye Teaching Hospital (KATH) is located in the heart of Kumasi, the second largest city in Ghana. Life expectancy at birth in Ghana is well below the global average, while child mortality rates are significantly above average. Only 5% of the population is over the age of 65. There is no statutory health insurance. The cost of medical care usually has to be borne by the patients themselves, which poses a significant barrier to health care access. Health care infrastructure in rural areas is not very different from the infrastructure in other West African countries, and is inadequate.

Côte d'Ivoire is today one of the top performing countries in West Africa even if the per capita GDP lags behind the pan-African average. As before, there is considerable room for expansion with regard to health care infrastructure; primary health care is not sufficiently guaranteed. Life expectancy at birth is only 52 years for men and 54 years for women.

Given the infrastructural deficits in both partner countries, there is potential for increasing patient safety. Since the attending physicians are unable to isolate bacteria, they are usually compelled to treat patients with suspected bacterial infections empirically. In some cases, the choice of antibiotics also depends on availability.

## Partnership activities

The focus of the proposed project is on practical training for hospital and laboratory personnel. Workshops and training courses are organised in which the German, African and other ESTHER partners will take part. With the help of a record of the current procedures applied in the key medical areas, interventions will be planned on the rational use of anti-infectives. Developing and expanding microbiological diagnosis will enable the partner hospital to offer standardised microbiological diagnosis (urine and blood culture) and, building on this, to offer a targeted antimicrobial therapy.

The documentation of antimicrobial resistance diagnostics will be consistent with other ESTHER sites, which will allow the multicentric evaluation of the results.

*'The beauty of the Esther Partnership is the enormous capacity building prospect (for both human and infrastructure); the added advantage being to have international experts coming to Ghana to impart skill and knowledge while adapting to local needs.'*

**Dr. Alex Owusu-Ofori, KATH, Head of the Department of Clinical Microbiology.**

The correct clinical indication of an antimicrobial therapy combined with the use of an effective antibiotic is therefore considered one of the key interventions for tackling antimicrobial resistance, and contributes directly to improvements in patient safety.

In addition to the North-South partnership between University Medical Center Hamburg-Eppendorf (UKE) and KATH, the project will promote a South-South partnership between KATH in Ghana and Hôpital Général Abobo (HGA) Nord in Abidjan, together with Université Jean Lorougnon Guédé.



Laboratory of the Hôpital Général Abobo Nord in Abidjan © GIZ / Christof Vinneme



Federal Ministry  
for Economic Cooperation  
and Development





From left to right: Dr. C. Vinnemeier (UKE Hamburg); Dr. Akwasi Antwi-Kusi (KATH); Dr. Mathurin Koffi (HGA); Dr. Owusu-Ofori (KATH); Dr. Thierry Rolling (UKE Hamburg) © GIZ / Christof Vinnemeier

## Financing

The funding program University and Hospital Partnerships in Africa makes part of the Hospital partnerships Initiative – Partners strengthen health. The Initiative is funded by the Federal Minister of Economic Cooperation and Development and Else Kröner-Fresenius Foundation and is a member of the ESTHER Alliance.

## Results

- Health care and laboratory personnel trained with regard to the targeted project objective
- Standardised blood culture diagnostics introduced and established for critical patients (e.g. intensive care) and a proposal for blood and urine culture tests developed for patients in normal wards
- An African network created in cooperation with four other GIZ-supported partnerships to document antimicrobial resistance as the basis for formulating future intervention strategies.

## The partners

Since the end of 2009, the I. Medical Clinic at UKE and the Bernhard Nocht Institute have been involved in the partnership with KATH in two different ESTHER promotion phases.

### Institution in Ghana

The Komfe Anokye Teaching Hospital (KATH) at Kwame Nkrumah University of Science and Technology (KNUST) in Kumasi has around 1.200 beds and is the second largest hospital in Ghana. It is the only tertiary health institution in the Ashanti Region in Central Ghana. It trains both doctors

and nurses. In terms of laboratory and academic infrastructure, the hospital offers the best conditions for the implementation of the planned project.

### Institutions in Côte d'Ivoire

Hôpital Général Abobo Nord is located in Abobo, one of the most densely populated districts in Abidjan. With a population of 4.7 million, Abidjan is the largest city in the country. Compared with other facilities in the region, the laboratory equipment is better than average and the premises allow for additional equipment for microbiology to be acquired.

Université Jean-Lorougnon-Guédé is a public university, founded in 2012. It is situated in Daloa, in the upper Sassandra region, about 400 km from Abidjan. The university has several units for training academics in the natural sciences, including study groups dealing with the resistance of various microorganisms to anti-infective drugs. In other words, we can expect synergies here with reference to the scientific issues that we have examined.

### Institutions in Germany

The I. Medical Clinic of the University Hospital Hamburg-Eppendorf is one of the largest departments for tropical medicine in Germany. In cooperation with the Bernhard-Nocht-Institute for Tropical Medicine, it conducts numerous research projects on infectious diseases such as malaria and viral diseases.

## Overview

Name	Optimising microbiological diagnosis and rational antimicrobial therapy		
Impact	Improve diagnostics and therapy for bacterial infections with a focus on establishing a standardised resistance-testing system and adapted antimicrobial therapy in accordance with it.		
Countries	Ghana	Côte d'Ivoire	Germany
Cities	Kumasi	Abidjan Daloa	Hamburg
Institutions	Komfe Anokye Teaching Hospital (KATH)	Hôpital Général Abobo Nord Université Jean Lorougnon Guédé	University Medical Center Hamburg-Eppendorf
Term	April 2017 – April 2019		
Budget	209.960 EURO		

## Contact person for the partnership

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