

Improving patient safety: preventing and controlling nosocomial infections, multi-resistant pathogens and highly contagious diseases in Rwanda



**HOSPITAL
PARTNERSHIPS**

Charité Berlin and the University Teaching Hospital of Butare, Rwanda

The challenge

Nosocomial infections and multi-resistant pathogens represent a massive problem for Rwanda's health system. The two challenges are closely linked. Poor hygiene leads to a heightened risk of nosocomial infection, which in turn leads to an increased use of antibiotics and other antimicrobial substances. The increased use of antimicrobial substances for its part causes microbial resistance.

In Rwanda, it has been demonstrated that half of the patients admitted to the University Teaching Hospital of Butare are colonised with extended-spectrum beta-lactamase-producing enterobacteria (ESBL-PE). Post-discharge, 65% of them tested positive for ESBL (*Tropical Medicine and International Health* 2017; 22; pp. 210-220). The enzyme causes bacteria to be resistant to many conventional antibiotics.

The difference between the pre-admission and post-admission colonisation rates can most likely be attributed to inadequate hospital hygiene. The reason for the high overall rate of ESBL carriers has not been determined to date.

Partnership activities

The partnership focuses on promoting patient safety by preventing and reducing nosocomial and highly contagious infections, as well as microbial resistances. While the partnership relates in particular to the University Teaching Hospital of Butare (CHUB), an operational research study is also investigating the resistance profiles of referring health facilities.

Under the auspices of the partnership, a large number of capacity development training courses and workshops are conducted in both Europe and Africa in association with

other ESTHER partnerships (for example, the network workshop in Butare, September 2017). The thematic focus covers measures for detecting resistant pathogens, proper handling of highly contagious diseases, as well as the data analysis of research results.

The partnership also promotes capacity-building measures. The CHUB personnel is provided with equipment such as protective clothing and disinfectants for preventing nosocomial infections and for handling highly contagious diseases. In order to achieve sustainability, the partnership promotes the local production of disinfectants and is introducing a distribution system.

Furthermore, a study on the origins of the high rate of colonisation with multi-resistant pathogens is under way. Based on the results, more specific measures for prevention can be taken in future.



Disinfectant storage containers © GIZ / Frank Mockenhaupt



Federal Ministry
for Economic Cooperation
and Development





The CHUB Hospital in Butare © GIZ / Frank Mockenhaupt

Financing

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Results

- Materials for preventing infection will be produced and/or procured locally and a distribution system developed.
- Capacity development is to be carried out for the personnel on handling highly contagious diseases, nosocomial infections and multi-resistant pathogens.
- Routine monitoring of multi-resistant pathogens will be introduced.
- Research will be conducted to determine the aetiology of the high rate of colonisation with multi-resistant pathogens in the surroundings of CHUB.

The partners

The partnership between the two hospitals has been in place since 2009. Previous projects promoted by ESTHER focused on proper handling of HIV and on measures for strengthening hospital hygiene.

Institution in Rwanda:

The University Teaching Hospital of Butare (CHUB) is one of three referral health facilities in Rwanda and a teaching hospital of the University of Rwanda. It has more than 500 beds and 370 employees.

Institution in Germany:

Charité in Berlin, with 3000 beds, is one of Europe's largest hospitals. The Institute of Tropical Medicine and International Health (ITMIH; direct cooperation partner) is a 'classic' tropical medicine institute with 60 staff.

Overview

Name	Improving patient safety: preventing and controlling nosocomial infections, multi-resistant pathogens and highly contagious diseases	
Impact	Nosocomial infections are reduced through the promotion of hygiene measures within the hospital.	
Countries	Rwanda	Germany
Cities	Butare	Berlin
Institutions	University Teaching Hospital of Butare	Charité Berlin
Term	July 2017 – April 2019	
Budget	110.000 EURO	

Contact person for the partnership

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