GHPP Global Health Protection Programme

SMART

Surveillance of antiMAlarial ResisTance in Ghana

Context

The project addresses the third United Nations Sustainable Development Goal (Good health and well-being), contributing to the fight against communicable diseases. In modern human medicine, the use of drugs is essential for the treatment of infectious diseases. However, many pathogens develop resistance to drugs through genetic adaptation, and this poses an increasing threat to effective disease control and eradication. Drug resistance also affects the treatment of malaria, one of the most common infectious diseases in Africa, with approximately 230 million cases and 620,000 deaths a year. Early detection is key to reducing the spread of resistance and maintaining the efficacy of antimalarials. A surveillance system that can generate quality data using standardised methods consistent with WHO guidelines therefore needs to be established. SMART aims to implement a three-step antimalarial resistance surveillance programme in three hospitals in Ghana. This will benefit the rural and semi-rural population in malaria-endemic settings by increasing awareness among hospital staff and communities. The reporting system based on therapeutic efficacy, targeted molecular detection methods and drug sensitivity testing will support stakeholders in controlling antimalarial drug resistance in Ghana.

Objective

Strengthening a three-step antimalarial resistance surveillance system in selected hospitals in Ghana.

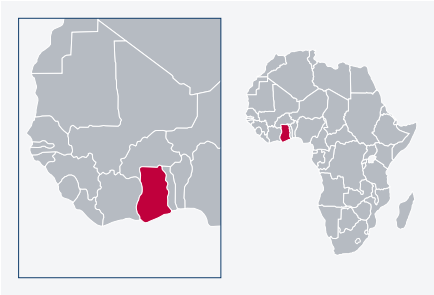
Key facts

Duration
1 January 2023 to 31 December 2025

Budget
~ EUR 920,000

Partner countries
Ghana

Region
Western Africa



Implemented by
Bernhard Nocht Institute for Tropical Medicine (BNITM)

Commissioning party
German Federal Ministry of Health (BMG)

Thematic focus

Strengthening of public health systems | Infection prevention and control | Clinical management | Surveillance and reporting | Laboratory diagnostics | Marketing authorisation and safety of medicinal products | Resolutions and international agreements

Activities

TRAINING AND COMPETENCE DEVELOPMENT

Training laboratory personnel and health care workers in state-of-the-art malaria diagnostics, in vitro/ex vivo drug susceptibility testing and molecular surveillance methods; raising awareness among hospital staff and patients on the importance of completing drug treatment to avoid recurrent infection, the use of preventive measures, such as bed nets, and continuous reporting

RESEARCH AND PROVISION OF EVIDENCE

Conducting molecular surveillance of antimalarial drug resistance by screening for mutations using samples from symptomatic patients at three different district hospitals; carrying out ex vivo/in vitro drug susceptibility tests and conducting an antimalarial therapeutic efficacy study in patients testing positive for uncomplicated or severe malaria

CAPACITY DEVELOPMENT

Implementing a three-step surveillance framework consisting of i) a therapeutic efficacy monitoring platform for antimalarial treatment outcomes, ii) in vitro/ex vivo drug susceptibility testing and iii) a molecular surveillance system for artemisinin resistance enhancing laboratory management structures

In cooperation with

- Infectious Disease Epidemiology, Kumasi Centre for Collaborative Research (KCCR), Ghana

Contact

Dr Oumou Maiga Ascofaré / Dr Nicole Gilberger

Bernhard Nocht Institute for Tropical Medicine (BNITM)

Bernhard-Nocht-Straße 74,
20359 Hamburg, Germany

maiga@bnitm.de
nicole.gilberger@bnitm.de

GHPP, the Global Health Protection Programme of the German Federal Ministry of Health, promotes networking, exchange and cooperation between specialized German and international public health actors. By reducing health risks and strengthening health systems at the national, regional and international level, in particular relating to pandemic and epidemic preparedness and response, the GHPP fosters public health protection – worldwide.

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