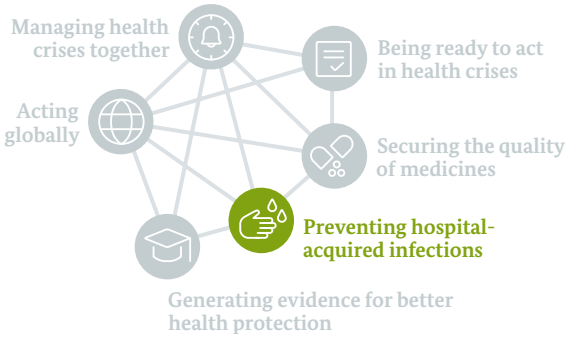


GHP Programme

Real-Time Tracking of Neglected Bacterial Diseases and Resistance Patterns in Asia

TuNDRA

Aetiology, Disease Burden and Antimicrobial Resistance (AMR) Profiles of Outpatient or Hospital-Acquired Bacterial Infections

TuNDRA PLUS

Extension of Project Area to additional Rural Site in Bangladesh, Advanced Diagnostics of Infections caused by Respiratory Syncytial Virus (RSV), Cost-of-illness Study

Duration
TuNDRA 2017–2021
TuNDRA PLUS 2019–2021

Budget/year
TuNDRA
approx. 324,000 EUR
TuNDRA PLUS
approx 424,000 EUR

Partner countries
Bangladesh
Cambodia
Vietnam

Challenges addressed by the project

Despite the availability of antibiotics and vaccines, bacterial diseases remain a major public health problem. AMR is spreading worldwide and may be responsible for up to 700,000 deaths per year. However, AMR is still insufficiently investigated by existing surveillance systems. Data on the actual burden of infectious diseases and on the severity of AMR are patchy, especially in low and middle-income countries.

Objectives

Collection of relevant data required for the implementation of control measures against major infectious diseases, for the implementation of AMR control activities and for the development of potential targeted vaccination programmes.

The TuNDRA project identifies and describes the AMR profiles of target pathogens causing febrile and respiratory infections in children < 5 years old in South and Southeast Asia. Resulting genome sequencing data are published in an Open Access database for global comparability and use.

Through the additional identification of infections caused by RSV, preliminary work is done for the modelling of costs of illness that could be averted once a specific RSV vaccine will become available. The integrated cost-of-illness study also records direct and indirect costs arising from AMR that could be prevented by appropriate control measures.

The project also contributes to the development of sustainable research structures, including the training of clinical and laboratory staff, as well as local researchers and project managers.

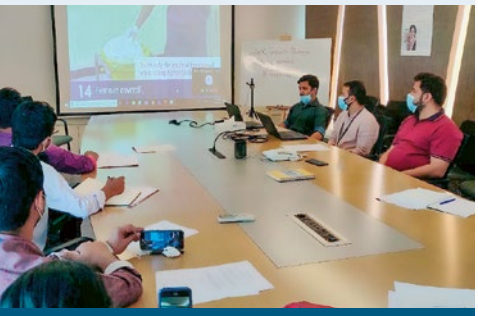
Supported by:

Federal Ministry of Health

on the basis of a decision by the German Bundestag

Members of the Child Health Research Foundation in Bangladesh

The detection of SARS-CoV-2 nucleic acid by real-time PCR



Online training for COVID-19 sites: Process of specimen collection and use of personal protective equipment

Taking patient samples for PCR diagnostics on COVID-19, Bangladesh (Photo ©RKI)

Overview of activities

The following activities are carried out in the urban sites in Dhaka (Bangladesh), Siem Reap (Cambodia) and Ho Chi Minh City (Vietnam) as well as in the additional rural site in Mirzapur (Bangladesh):

- Clinical screening and patient recruitment
- A wide range of laboratory tests, e.g., RT-PCR for RSV and influenza, blood culture, AMR testing, realtime full genome sequencing (MiSeq and iSeq systems) following DNA extraction
- Training of clinical personnel on study enrollment procedures according to the study protocol
- Training of laboratory personnel in all aspects of required laboratory tests
- Additional generation of genome sequence data from archived samples at all study sites
- Inclusion of all data into a central database for joint analysis
- Performance of a study on direct and indirect costs of illness of enrolled patients
- Continuous monitoring and evaluation, including sixmonthly quality assurance and quality control
- Regular compilation of reports for the Global Health Protection Programme / German Ministry of Health
- COVID-19-response including testing and treating patients, training and educating health care workers to not only protect themselves but also impart their knowledge and raising awareness about COVID-19

Partner institutions

- Child Health Research Foundation (CHRF), Bangladesh
- Kumudini Hospital Mirzapur, Bangladesh
- Cambodia-Oxford Medical Research Unit (COMRU), Angkor Hospital for Children, Cambodia
- Oxford University Clinical Research Unit (OUCRU), Vietnam
- Wellcome Trust Sanger Institute (WTSI), United Kingdom
- Big Data Institute (BDI), United Kingdom
- International Vaccine Institute (IVI) in Seoul, South Korea[1]

Supporting institution in Germany / Contact

Robert Koch Institute
Department for Infectious Disease Epidemiology
Unit 33 | Immunization
Dr Ole Wichmann wichmanno@rki.de
Dr Kerstin Kling klingk@rki.de
www.rki.de/en

1 International organisation focusing on research and development of vaccines, vaccination strategies focusing on poorer populations and development of international research partnerships; IVI is the executing institution of this project