



Centre for Biological Threats and Special Pathogens

Head: Prof. Dr Lars Schaade

- ▶ Health threats caused by highly pathogenic and relevant bioterrorist biological agents (microbes and toxins): identification, assessment, management support
- ▶ Federal Information Centre for Biological Threats and Special Pathogens (IBBS)
- ▶ Cooperation with national and international partners in the field of biological security
- ▶ Diagnostics and rapid diagnostics
- ▶ Providing support during international health emergencies
- ▶ Research in diagnostics, epidemiology, pathogenesis and countermeasures of highly pathogenic agents
- ▶ Operating a biosafety level 4 laboratory (BSL-4)

Centre for International Health Protection

Head: Prof. Dr Johanna Hanefeld

- ▶ Information Centre for International Health Protection: monitoring global health risks
- ▶ Coordinating international projects such as the Global Health Protection Programme and the German Biosecurity Programme
- ▶ Development of evidence-based methods for international health protection
- ▶ Risk management and support, incl. training to prepare for international deployment and logistical support on the spot
- ▶ Setting up laboratory capacities and running courses for laboratory staff abroad
- ▶ Contact for the WHO Emergency Medical Teams Initiative

Project Groups and Junior Research Groups

- ▶ Science communication
- ▶ Acinetobacter baumannii
- ▶ Emerging zoonoses
- ▶ Epidemiological modelling of infectious diseases
- ▶ Systems-medicine of infectious disease
- ▶ Microbial Genomics (Junior Research Group)
- ▶ Metabolism of microbial pathogens (Junior Research Group)

National Reference Centres and Consultant Laboratories at RKI

- ▶ Bacillus anthracis
- ▶ Cryptococcosis and Rare Systemic Mycoses
- ▶ Electron Microscopic Diagnostics in Infectious Diseases
- ▶ Gonococci
- ▶ Influenza
- ▶ Listeria
- ▶ Measles, Mumps, Rubella
- ▶ Neurotoxin-producing Clostridia
- ▶ Noroviruses
- ▶ Poxviruses
- ▶ Poliomyelitis and Enteroviruses
- ▶ Respiratory Syncytial Viruses, Parainfluenza, Metapneumoviruses
- ▶ Rotaviruses
- ▶ Salmonellosis and Other Enteric Pathogens
- ▶ Staphylococci and Enterococci
- ▶ Tularemia

WHO Reference Laboratories and Collaborating Centres

- ▶ Regional WHO Reference Laboratory for Poliomyelitis
- ▶ Regional WHO Reference Laboratory for Measles and Rubella
- ▶ WHO Collaborating Centre for Emerging Infections and Biological Threats
- ▶ WHO Collaborating Centre for the Global Outbreak Alert and Response Network (GOARN)

The Public Health Institute for Germany

The Robert Koch Institute's aim is to protect the population against disease and improve its state of health. To this end, 1,400 individuals from 50 nations and 90 different occupational fields work together at RKI every day; around 600 of them are scientists. They investigate the manifold impacts on health and disease, draw up and verify evidence-based recommendations and develop new methods of health protection.

Directorate

Prof. Dr Lothar H. Wieler (President)
Prof. Dr Lars Schaade (Vice President)

Locations

- ▶ Nordufer 20, 13353 Berlin-Wedding (main site)
- ▶ Seestraße 10, 13353 Berlin-Wedding
- ▶ General-Pape-Straße 62–66, 12101 Berlin-Tempelhof
- ▶ Burgstraße 37, 38855 Wernigerode

Scientific Committees

Currently, 17 scientific committees that draw up recommendations are based at RKI. They include the Standing Committee on Vaccination (STIKO) and the Commission for Hospital Hygiene and Infection Prevention (KRINKO). The committees are composed of external experts in various disciplines.

Selected Publications

- ▶ Epidemiological Bulletin
- ▶ Journal of Health Monitoring
- ▶ Epidemiological Yearbook of Notifiable Infectious Diseases
- ▶ RKI fact sheets
- ▶ Bundesgesundheitsblatt (co-editor)
- ▶ Publications in peer-reviewed scientific journals

THE PUBLIC HEALTH INSTITUTE

The Robert Koch Institute at a Glance

ROBERT KOCH-INSTITUT



Nordufer, Berlin



Seestraße, Berlin



General-Pape-Straße, Berlin



Wernigerode

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The Robert Koch Institute is a Federal Institute within the portfolio of the German Federal Ministry of Health

Main Areas of Activity

Department of Infectious Diseases

Head: Prof. Dr Martin Mielke

Public health microbiology

- ▶ Molecular epidemiology of pathogens, incl. resistance to anti-infectives
- ▶ Pathogenic and resistance mechanisms; pathogen-host interaction

Healthcare-associated infections and hospital hygiene

- ▶ Prevention of healthcare-associated infections
- ▶ Inactivation of infectious agents/tolerance

Viral infections

- ▶ Viral infections in newborns and immunosuppressed patients
- ▶ HIV, retrovirology
- ▶ Influenza, SARS-CoV-2 and other respiratory viruses
- ▶ Measles, mumps, rubella
- ▶ Herpesviruses
- ▶ Poliovirus and other enteroviruses
- ▶ Gut-associated viruses (norovirus, rotavirus); hepatitis viruses (HEV)

Bacterial infections

- ▶ Healthcare-associated infections and antimicrobial resistance
- ▶ Salmonella and other enteric pathogens (EHEC, Listeria)
- ▶ Legionella
- ▶ Chlamydia and other sexually transmitted bacterial pathogens

Fungal, parasitic and mycotic infections

- ▶ Diagnostics, therapy and prevention (toxoplasmosis, lamblia, scabies, non-tuberculous mycobacteria)
- ▶ Diagnosis of invasive mycotic infections

Persistent infectionsx

Department of Epidemiology and Health Monitoring

Head: N. N.

Nationwide continuous health monitoring

- ▶ Representative health surveys (longitudinal and cross-sectional studies) of children, adolescents and adults in Germany: local examinations
- ▶ Regular European Health Interview Surveys
- ▶ Collecting health data on special sections of the population
- ▶ Diabetes surveillance
- ▶ Construction of a panel for immediate-response studies

Federal Health Reporting

- ▶ Journal of Health Monitoring, including articles by RKI on public health topics
- ▶ Regular, comprehensive reports on health in Germany

Epidemiological research

- ▶ Surveillance of non-communicable diseases and mental health
- ▶ Health and care of vulnerable groups, e.g. children and adolescents, elderly people, people from migrant backgrounds
- ▶ Burden of disease
- ▶ Risk factors in common, non-communicable diseases, e.g. physical activity, nutrition, social determinants

German Centre for Cancer Registry Data

- ▶ Pooling and quality control of data from regional cancer registries
- ▶ Regular publication of a verified overall dataset
- ▶ Analyses of cancer incidence, prevalence and survival
- ▶ Reporting on cancer in Germany

Network of public health players in Germany

- ▶ Office of the 'Zukunftsforum Public Health'

Department of Infectious Disease Epidemiology

Head: Dr Osamah Hamouda

National surveillance of infectious diseases

- ▶ Comprehensive reporting on notifiable infectious diseases
- ▶ (Continued) development of surveillance systems, e.g. sentinels
- ▶ Implementing the German electronic reporting and information system for protection against infection, DEMIS

Infectious disease control

- ▶ Advising public health services and the medical profession
- ▶ On-call service for infectious disease epidemiology
- ▶ Point of contact for international bodies, e.g. ECDC and WHO

Investigation of national and international outbreaks

- ▶ Support in assessing, elucidating and managing outbreak events

Epidemiological research

- ▶ Vaccine-preventable diseases and vaccination rates
- ▶ Sexually transmittable or bloodborne diseases
- ▶ Foodborne diseases
- ▶ Zoonoses
- ▶ Respiratory illnesses
- ▶ Antibiotic resistance and consumption

Prevention strategie

- ▶ Studies on disease risk factors
- ▶ Development, communication and evaluation of evidence-based public health recommendations
- ▶ Contingency planning, including pandemic planning

Training in infectious disease epidemiology

- ▶ Courses for public health professionals
- ▶ Postgraduate Training for Applied Epidemiology (PAE)
- ▶ Master of Science in Applied Epidemiology (MSAE) with Charité – Universitätsmedizin Berlin

Department of Methodology and Research Infrastructure

Head: Prof. Dr Lothar H. Wieler

Bioinformatics

- ▶ development of new data analysis methods for high-throughput experiments, machine learning and data integration with applications in infection research, e.g. pathogen detection and microbiome research

Genome sequencing

- ▶ central sequencing service implementing state-of-the-art Next-Generation Sequencing (NGS), adapting and establishing it for time-independent, automated processing as well as analysing consistency and scalability for applications, e.g. for the molecular surveillance of various infectious agents

Central laboratory animal husbandry

- ▶ service facility for infection research involving laboratory animals and animal-based experimental techniques
- ▶ Developing alternative and supplementary methods to animal experiments

Research data management

- ▶ management and publication of verified, cleaned research data
- ▶ Developing and expanding RKI's Research Data Centre

