The Robert Koch Institute (RKI) monitors public health. It is the Federal Government’s central institution for the detection, prevention and combating of infectious diseases as well as the improvement of the health situation in Germany. Its focus is on research, prevention and controlling of infectious diseases and on the improvement of the health situation in Germany. The institute is the German centre for the detection, assessment and handling of biological threats. RKI advises the specialist public and government and functions as an important interface in relations to international organizations such as the European Centre for Disease Prevention and Control (ECDC) and the World Health Organisation (WHO). It is also very active in training scientists and has a broad-based portfolio of educational opportunities.

Averting biological dangers

A man buys castor beans online and manufactures ricin, the toxic ingredient for a bioterrorist attack. RKI experts support the security services. The institute is the German centre for the detection, assessment and handling of biological threats. Scientists collate information on highly pathogenic agents and toxins, draw up recommendations for protective measures, and offer courses for the emergency services. Employing a whole range of methods and tools, as well as raw files, the RKI’s instructors are able to identify pathogens quickly and efficiently and thus avoid false alarm situations.

Identifying health trends and preventive measures

Researchers assess the state of health in Germany, including chronic diseases, cancer and diabetes mellitus are on the rise. On average, they reach a greater age. The result of this, however, is that chronic illnesses like cardiovascular disease, cancer and diabetes mellitus are on the increase. Scientists want to elucidate the risk factors relating to these diseases and thus create the preconditions for healthy aging.

What is public health? Public health is the science of improving the conditions by which populations lead healthy lives, and of understanding and addressing health inequalities. It is concerned with protecting the health of individuals and communities, and also with understanding the determinants of health and preventing ill health, disability and premature death. Public health is the mission of RKI. RKI advises the specialist public and government on issues like preventative measures and the targeting of interventions, and it also very actively promotes public health by training scientists and offering a broad-based portfolio of educational opportunities.

The RKI has roots that are both ancient and modern. The institute is named after Robert Koch, who founded the institute in 1891 as the “Königlich Preußische Institut für Hygiene” (Royal Prussian Institute for Hygiene). In 1905, Robert Koch receives the Nobel Prize in Medicine for his discovery of the tuberculosis pathogen in 1882. His discovery of the tuberculosis pathogen in 1882 and the subsequent development of the bacterium that causes tuberculosis has saved millions of lives and reinforced RKI’s portfolio in the domain of communicable diseases. RKI becomes part of the new Federal Health Office in 1994, a new laboratory building at the Nordberliner Strasse site, becomes operational – one of the most modern laboratories in Europe. Since then, RKI has been an important player in the field of infectious disease control and works with its international partners to improve the health situation in Germany, to prevent and fight infections and to protect the health of the German population.

The new Protection against Infection Act (IfSG) and the Federal Health Office (Bundesgesundheitsamt) are set up in 2001, the Federal Health Office is dissolved; RKI is transferred to the new Federal Health Office. RKI advises the specialist public and government on issues like preventative measures and the targeting of interventions, and it also very actively promotes public health by training scientists and offering a broad-based portfolio of educational opportunities.

The Robert Koch Institute 2019

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Examining a bat in Guinea

Traces of bacteria on a hand

Surveillance – is essential. Data on notifiable diseases and nationwide infection monitoring – also known as epidemiology – is vital in order to quickly identify trends and outbreaks. In Germany, Professor Dr Lothar H. Wieler, President of RKI, and his team investigate which flu viruses are in circulation and the course of flu epidemics for years. They provide yearly surveillance reports to RKI for investigating which flu viruses are in circulation and what measures should be taken – if necessary, they help to fight the outbreaks on the spot.

In order to identify trends and outbreaks and to inform the public on an annual basis, RKI also continually evaluates the efficacy of vaccination. The RKI-based Standing Committee on Vaccination (STIKO) analyses recommendations on an annual basis and decides on the vaccination targets for the coming year. The STIKO, too, is dependent on RKI infection epidemiologists assessing the actual risk to Germany and deciding which measures should be taken – if necessary, they help to fight the outbreaks on the spot.

In the high-risk regions of Africa, WHO trains local surveillance officers in the animal kingdom that could be a danger to humans. RKI teams search for unknown pathogens, including the Ebola epidemic in West Africa and the plague outbreaks in Madagascar in 2017. They help partner countries to build modern laboratories and train colleagues on the spot – in diagnosing unusual or rare diseases, they want to open this treasure trove of data – with the aid of digital epidemiology. Artificial intelligence, data science, bioinformatics algorithms and mathematic models are some of the methods for tomorrow’s health protection.

The Robert Koch Institute have been monitoring infections and antibiotic resistance since 1995. In recent years, the number of infections and antibiotic resistance has increased worldwide. RKI infection epidemiologists assess the actual risk to Germany and decide what measures should be taken – if necessary, they help to fight the outbreaks on the spot.

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