



LGL

One Health at the LGL

Health protection
needs science

One Health: health for the environment, humans and animals

Health encompasses many aspects

Human health is influenced by numerous complexly interwoven factors. Knowledge of the complex interrelationships between human and animal health and their environment forms the basis of the One Health concept. This strategic, comprehensive and interdisciplinary approach emphasises responsibility for health from a holistic perspective.

The aim of the One Health concept is to recognise the diversity of the factors that have an impact on human health, to minimise possible risks to health and to create optimal conditions for a healthy life. Healthy living conditions include, in particular, good health care, healthy and safe food and intact ecosystems.

The One Health approach is particularly important in the context of the health impacts of climate change. It is therefore important to see the aspects of climate protection, climate adaptation and health protection in climate change in context and to work on them in a multidisciplinary way.

The multi-layered system of factors that affect our health can be influenced in many areas by people on an individual, but also on a social and political level. Health is to a large extent the result of systemic relationships and interconnections.

Changes in the habitats of humans, animals and plants pose new challenges for health protection.

Implementation of the One Health concept

Science as the basis for health protection

The LGL follows an interdisciplinary approach. Food safety, human medicine, veterinary medicine, pharmacy and animal feed as well as occupational health and safety and product safety are deliberately combined under one roof at the LGL. The scientifically oriented state institutes of the LGL form the solid methodological basis for the investigations. The LGL attaches great importance to interdisciplinary working methods.

Increased knowledge through research and interdisciplinary exchange, the application and further development of new methods and reliable analytics are the basis of the work at the LGL.

The scientific staff at the LGL come from the fields of food chemistry, human medicine, veterinary medicine, physics, pharmacy, psychology, nutritional science, chemistry, biology, law, the social sciences and engineering.



One Health projects at the LGL – a selection

- Elucidation of tuberculosis infection chains by next-generation-sequencing
- BARDa: Successful establishment of the Bavarian Antibiotic Resistance Database
- CAMPY-EI: Significance of table eggs with regard to the transmission of thermophilic *Campylobacter* spp. to humans
- *Corynebacterium silvaticum* – first description in wild boar and deer
- Cyanobacteria in Bavarian surface waters
- Integrated genome-based surveillance of salmonellae (GenoSalmSurv)
- LAGiK: Bavarian State Working Group on Climate Change-Associated Health Protection
- *Listeria monocytogenes* – significance in the context of primary production of food of plant origin
- Next generation sequencing as a method for nuclear genome typing of food pathogenic bacteria in combination with the creation of a typing database for human, veterinary and food isolates
- Per- and polyfluorinated alkyl substances
- Monitoring of chronic diseases, such as cancer, to improve prevention and integrated care
- Future strategy for veterinary care of livestock – Measures to address the shortage of livestock veterinarians

Think globally, act locally

The LGL supports municipalities and advises the Bavarian State Government on a scientific basis in the following areas:

- Public health service, infection control, vaccinations,
- Prevention and health promotion, health care, planning and control,
- Food monitoring and safety,
- Veterinary medicine,
- Environmental health protection and climate change-associated health,
- Occupational medicine and product safety,
- Monitoring of residues and contaminants, and
- Cosmetic products and consumer goods.



“The One Health approach stands for a holistic, interdisciplinary approach based on the fundamental assumption that human, animal, plant and environmental health are closely interlinked.”

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