

Investigations of the interactions of zoonotic pathogens in humans and animals SHIP-NEXT Module One Health

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Introduction

As part of the population-based project Study of Health in Pomerania (SHIP) a third cohort (NEXT) is established in 2021. Within the NEXT module "One Health", animal contacts (dog (D), cat (C), poultry/pigeons (P)) of the 4000 randomly selected participants (20-79 years) will be investigated and risk factors for zoonotic transmission as well as husbandry and environmental conditions examined.

The aim is to gain a better understanding of the complex interactions between humans-pets-livestock-environment as well as risk factors for the zoonotic transmission in the private household in order to generate a stronger awareness for the private interaction with pets and livestock.

Methods



Based on existing data, 38% of the sample are expected to keep at least one of the targeted species

Data collection includes:

- Questionnaires
- Interviews
- Inspection of outdoor areas
- Veterinary examinations

Veterinary examinations:

- Check up
- Faecal samples (D, C)
- Blood and swab samples (nasal: D, C; rectal/cloacal and oropharyngeal: all)
- Pathogen testing: among others *Echinococcus spp.* and *cestodes*: D, C; *Toxoplasma gondii*: C, *Campylobacter spp.*: D, C, P; *Hepatitis E virus*: D, C; *Tick-borne encephalitis virus*: D, C, P

- Awareness, information needs, human behaviour and influencing factors are also investigated via participatory approaches
- Risks for household members (young, old, pregnant, immune suppressed) will be assessed and recommendations for human-animal interactions in the private household derived
- For further investigations all biomaterial are stored in a biobank

Discussion

The examinations and sample collections in humans and their animal contacts will contribute to a better understanding of the complex interactions between humans pets livestock environment. Furthermore, participants from households with and without animal contacts can be compared.

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