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Towards assessing the role of surface waters in the environmental dissemination of *Campylobacter* spp.

Inhalt

Campylobacter spp. are the leading bacterial cause of gastroenteritis worldwide. While foodborne transmission pathways are well established, surface waters may act as an environmental source and potential reservoir. Although recent studies link heavy rainfall events to sporadic campylobacteriosis outbreaks, the specific role of surface waters in the environmental dissemination of *Campylobacter* spp. remains poorly understood and is, thus, focus of the One Health consortium NICE.

As part of this study, seven sampling sites were selected in the regions of Berlin-Brandenburg and Saxony, Germany for a two-year monitoring. The selected surface water bodies include locations both impacted and not impacted by wastewater discharges and rainfall-driven runoff. Membrane filtration followed by culture- and molecular techniques such as viable quantitative and species-specific PCR approaches are used to detect and characterize *Campylobacter* spp.. Isolates will be subjected to further characterization and comparative downstream analyses using genomics.

Preliminary monitoring results indicate the presence of *Campylobacter* spp. in several sampled water bodies including *Campylobacter jejuni* and *Campylobacter coli*. Throughout the remainder of the two-year monitoring period, seasonal trends and the influence of heavy rainfall events on *Campylobacter* occurrence and abundance will be investigated.

Keywords

Campylobacter, environmental, surface water, heavy rainfall

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Professional Status of the Speaker

PhD Student

Junior Scientist Status

Yes, I am a Junior Scientist.

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