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Introduction

- Antimicrobial resistance (AMR) remains a global concern
- 30HN study aims to target inappropriate antibiotic use in rural Vietnamese communities

Objective of Internship

I wanted to increase exposure to different practices in health care, connect with globally diverse health organizations, and broaden knowledge of ongoing clinical research.

Work Profile

- Captured photos at an AMR community stakeholder meeting in Nam Định province
- Attended AMS meetings with hospitals in the districts of Hải Hậu and Xuân Trường
- Documented details of drug photos collected from household survey
- Created an ongoing systematic review on AMR in the environment

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PubMed Search Strategy
((antibiotic resistance [MeSH Terms] OR antibiotic [All Fields] AND resistance [All Fields]) OR "antibiotic resistance" [All Fields]) OR (antimicrobial resistance [MeSH Terms] OR antimicrobial [All Fields] AND resistance [All Fields]) OR "antimicrobial resistance" [All Fields]) OR drug resistance AND (livestock OR water OR manure OR feces OR stool OR urine OR slurry OR excrement OR fertilizers OR runoff OR industrial OR pollution OR waste OR (waste water OR (waste AND water)) OR river OR ocean OR lake OR soil OR (soil pollutants OR (soil AND pollutants)) OR sewage OR biomass OR (agriculture OR agricultural)) AND (prevalence OR incidence OR morbidity OR odd ratio OR risk ratio OR confidence interval OR p-value OR rate) AND (sequencing OR whole genome sequencing OR PCR OR polymerase chain reaction OR metagenomics OR genotypic OR genomic OR genotype OR gene OR phylogenetics OR phylogeny) AND (location OR geography OR geographic location OR region OR area OR zone) AND (environment OR ecosystem)
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Reflection

30HN Study on Antibiotic Use

- Perspectives of different stakeholders need to be weighed holistically
- Careful framing of questions is crucial in interventions that involve surveys or participatory action
- Intervention success for AMS should not only be measured by repeated surveys, but also by improved capabilities for human resources

Systematic Review on Environmental AMR

- No previous study on environmental AMR on such large temporal and spatial scales
- Livestock farming commonly appears in article searches related to environmental AMR
- Rationale behind decisions need to be deliberate and documented



OUCRU and community partners in Nam Định province (top) engage in a workshop to discuss antibiotic use (bottom) in three different areas of the community.



OUCRU members visit the Hải Hậu General Hospital to discuss antimicrobial stewardship (AMS) interventions with hospital staff. From left to right: Khanh Nguyen Hong, Duy Vu Minh, Tu Nguyen Thi Cam, Dung Vu Tien Viet, Huong Vu Thi Lan, Isaac Yi, and Andrew Tran.

Looking Ahead

- Registration of systematic review protocol for assessing environmental AMR research
- Continued collaboration with OUCRU related to antibiotic use behaviors in the rural communities of Nam Định province

Questions

- How can 30HN be applied to other rural communities in Vietnam and in other countries?
- In a One Health approach, how can the systematic review be applied to AMR in animals or healthy humans?
- Is it possible to link these AMR estimates with climate data?

Conclusion

Effective strategies and interventions against the global challenge of antimicrobial resistance require community-level engagement, education, and research initiatives.

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