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Strengthening monitoring systems for AMU and AMR in cattle production systems in South Kivu, D.R. Congo

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Abstract

With the growing number of livestock, antimicrobial resistance (AMR) is an increasingly difficult issue, harming animals and humans. Therefore, monitoring antimicrobial use (AMU) is becoming a necessity to combat this worrying trend as the current knowledge about it is still lacking in many parts of the world. As part of a larger initiative, the AMRAfrika project strives to gather data from livestock farms, to assess the current situation of AMU and AMR in South Kivu in the Democratic Republic of Congo. The main aim of the project is to develop an AMU and AMR assessment model in livestock production systems combining upstream participatory approaches in data gathering with current digital data management systems, online analysis and modelling techniques to support decision-making. Furthermore, the model has to serve as a helpful tool for farmers, providing them with easy data management solutions, AMR risk prediction for their animals, valuable health information, contact to researchers and veterinarians, and decision support for the treatment of diseased animals, thereby being a net-positive for farmers and stakeholders alike. Additionally, the system can be utilised to educate farmers about responsible use of antibiotics, create predictions about possible AMR patterns and warn about new dangerous strains, as well as other diseases. Involving the farmer in the testing phase and providing a useful application will be important to ensure user acceptance. The goal is to keep the system open-source, flexible, and expandable. Importantly, the AMU and AMR assessment system will build upon the collected data from surveys and samples taken at the selected farms, allowing to spot possible challenges early on, e.g. lacking internet access and missing hardware. Preliminary results from the laboratory analyses show that the disease environment in South Kivu is already high and antibiotics are frequently used for prophylaxis, showing the importance of projects like AMRAfrika.

Keywords: AMR, Congo, livestock, South Kivu

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