

Call: 9th Call – JPIAMR Joint Call on Diagnostics and Surveillance 2019

Title: Improving the TRicycle protocol: upscaling to national Monitoring, detection of CPE and WGS pipelines for One Health Surveillance

Acronym: TRIuMPH

Project composition

Type	Name	Institute	Country
Coordinator	Heike Schmitt	National Institute for Public Health and the Environment (RIVM)	The Netherlands
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Partner	Luc Samison	University of Antananarivo, Centre d'Infectiologie Charles Mérieux, Faculty of Medicine	Madagascar
Partner	Jaap Wagenaar	Utrecht University, Dept of infectious diseases and immunology	The Netherlands
Partner	Rohaidah Hashim	Institute for Medical Research, Infectious Disease Research Centre, MOH, Kuala Lumpur	Malaysia
Partner	Muhammad Salman	National Institute of Health, Public Health Laboratories Division, Islamabad	Pakistan

Abstract

Since 2015, under the auspices of WHO, a basic protocol for One Health Surveillance of AMR has been established. This “Tricycle” protocol integrates human, animal and environmental surveillance and focuses on a single indicator for AMR: ESBL-producing *E. coli*. To our knowledge, this is the first One Health AMR surveillance protocol that has consistently been piloted across six different countries across the world. The TRIuMPH project builds on the Tricycle project and on the JPI network “NETESE” by adding new research elements and protocols, thereby extending the application of the Tricycle surveillance. This will be achieved in a collaborative approach with current Tricycle and NETESE partners (PK, MY and MG) and partners that contributed to the Tricycle protocol development (UU, RIVM and INSERM). New One Health protocols will be developed and applied in a one year surveillance campaign for the detection of carbapenemase-producing Enterobacteriaceae (CPE, WP2), and for whole genome sequencing analysis of ESBL / CPE isolates (WP3). Within one single country, extension of surveillance to a broader scale is needed, as analyses are currently limited to single cities. This will be brought about by two activities: Inclusion of additional sites within participating countries through in-country training (WP4), and integration with existing monitoring campaigns, such as for water samples taken within the Polio Eradication campaign (WP5). These also offer the opportunity to validate the applicability of wastewater sampling as proxy of community prevalence of ESBL and CPE.