Title: 5: Pipe Dreams: Analytical Methods, Bioinformatics Tools, and Pipelines

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Abstract

ORION - One health surRveillance Initiative on harmOnization of Data Collection and interpretation

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We would like to present the ORION “One Health EJP” EU project, which aims at establishing and strengthening inter-institutional collaboration and transdisciplinary knowledge transfer within surveillance data integration and interpretation, along the One Health (OH) objective of improving health and well-being. This will be achieved through an interdisciplinary collaboration of 12 veterinary, food and/or public health institutes from 6 European countries. These agencies are committed to adopting best practice OH surveillance solutions (guidelines, methods, tools and knowledge). Specifically this project will create an “OH Surveillance Codex”, a high level framework for harmonized, cross-sectional description and categorization of surveillance data covering all surveillance phases and all knowledge types; an “OH Knowledge Base” a cross-domain inventory of currently available data sources, methods, algorithms and tools that support OH surveillance data generation, data analysis, modelling and decision support; and a set of “OH Surveillance Infrastructural Resources”, practical, low-level resources which can form the basis for successful harmonization and integration of surveillance data and methods.

One of the work packages within this project has as its focus how new technologies, amongst them sequencing and bioinformatics, can be used for surveillance. These methods are challenging for many public, food and veterinary institutions to implement. This work package aims to create an overview of what infrastructure is needed, as well as which methods and tools are in current use. Another aim is to examine how sequencing based results may be used in epidemiological surveillance models. The ultimate goal for this part of the project is to create a handbook which can help institutions use such methods in a way that enables them to get the results they need, while also producing results that can be integrated with those from other institutions.