EURL-PH-AMR

EU Reference Laboratory for public health on Antimicrobial Resistance

101194806

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Deliverable name: Training plans: Technology transfer support activities (2025)

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Document overview

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Deliverable name	Training plans: Technology transfer support activities (Task 11)
Work package number / name	11 / Training
Task number / name	T11.2 / Conducting training, including tailored technology transfer for continued integration of WGS to national AMR surveillance and outbreak investigation (EURGen-Net) (Task 11)
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Reviewed and agreed by ECDC	27.03.2025 Anke Kohlenberg, Marius Linkevicius and Pete Kinross
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Dissemination level	Public
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Lead Beneficiary	SSI
Project website	-

Introduction

Whole genome sequencing (WGS) is the technology that currently offers the highest resolution for characterising carbapenem-resistant Enterobacterales (CRE), that are among the antimicrobial-resistant bacteria posing the highest threat to public health (WHO, 2024). Enhanced efforts, including the use of genomics to identify sources of CRE outbreaks and delineate transmission chains, are needed to control and reduce the harm related to the spread of CRE in the EU/EEA (ECDC, 2025). The use of genomics in CRE surveillance requires a multidisciplinary collaboration among bioinformaticians, epidemiologists and microbiologists.

To cater to these needs, the training activity that will be conducted in 2025 in the context of D11.2 is a face-to-face multidisciplinary training to advance participants' skills in analysis and visualisation of WGS and epidemiological data for CRE surveillance and outbreak investigation.

This training activity has been devised based on the experience from the training activities conducted within the EURGen-RefLabCap project, a four-year project funded by the European Health and Executive Agency (HaDEA) that ended in December 2024 (Service Contract 2019 74 01: 'Provision of EU networking and support for public health reference laboratory functions for antimicrobial resistance in priority healthcare-associated infections') and the GenEpi-BioTrain programme, a four-year project funded by the European Centre for Disease Prevention and Control (ECDC) that started in 2023 (Framework Contract No ECDC/2022/024: 'Genomic epidemiology and public health bioinformatics trainings in the EU/EEA, the Western Balkans and Turkey'). The experience in conducting the training activities in these projects and the feedback by the participants have been useful to continuously improve the design of training activities for participants with different level of expertise and learning styles. In particular, it is clear that participants from public health institutes prefer a 'learn-by-doing' approach based on data from real-life situations. Furthermore, it is important that the practical sessions include tasks with increasing level of difficulty, with basic tasks to be finalised by all participants and more advanced tasks to be finalised on a voluntary basis.

Outline

Aims

The overall aim of this training activity is to strengthen capacities for preparedness and response to health threat posed by AMR pathogens at public health laboratories.

Purpose

The purpose of this training activity is to expand knowledge and skills required for genomic surveillance of AMR pathogens.

Objectives

After attending this multidisciplinary training, participants will be able to:

i. Use open-source tools for integrated analysis and visualisation of WGS and epidemiological data
ii. Overcome professional language barriers preventing efficient collaboration between medical microbiologists, bioinformaticians and epidemiologists
iii. Describe how the interdisciplinary interpretation of microbiological and epidemiological data can inform public health surveillance

Scope and topics

The teaching team, that will be composed by a microbiologist, a bioinformatician and an epidemiologist, will engage with participants in a role-play activity.

Participants will work with a CRE dataset consisting of phenotypic, genomic and epidemiological data from a real-life national situation. They will need to identify possible outbreak(s) and propose options to control it/them.

Invitees

It is anticipated that a maximum of 16 participants will be selected among the members of EURGen-Net

eligible for the grant agreement 101194806 as representatives of countries that would benefit the most from multidisciplinary training for genomic-based public health surveillance. Selection of countries will be jointly agreed by the EURL-PH-AMR consortium and ECDC on the basis of a short application. The short application form, which will be sent out with the invitation, will allow applicants to state their motivation for attending the training and how they see this training benefiting them.

Organiser
Statens Serum Institut (SSI)

Date and duration
9 October 2025, 1 day.
This training activity is conducted immediately after the face-to-face network meeting to minimise travel time for the participants and expenses for the EURL-PH-AMR.

Steps in delivery

The training activity will include:

- Invitation
    - sent out via email to invitees, consortium partners and ECDC approximately six months before the event
- Detailed agenda
    - agreed among consortium partners and ECDC during Q2 2025
    - shared with invitees and published on the EURL-PH-AMR website approximately one month before the event
- Training material (presentations and practical exercises)
    - made available on the EURL-PH-AMR website after the event
- Feedback by the trainees
    - involving structured feedback to gather information relevant for planning and/or improving future multidisciplinary workshops
- Short report
    - including a summary of the workshop and suggestions by trainers and trainees to improve future workshops
    - shared with participants and ECDC