TO: National Focal Points for Microbiology, Observer National Focal Points for Microbiology

CC: National Focal Points for Surveillance, Tuberculosis, AMR, HAIs, Training; Operational Contact Points for Bioinformatics, Operational Contact Points (Microbiology and Epidemiology) for Tuberculosis, Antimicrobial-resistant isolates (AMRISO), Diseases Caused by Antimicrobial-Resistant Microorganisms (AMR), Healthcare-Associated Infections: Clostridium difficile Infections (HAI-CDI), Healthcare-Associated Infections: All (HAI-GEN); Observer National Focal Points for AMR, Contact Points for Operations for EURGen-Net, ERLTB-Net members, ECDC National Correspondents, National Coordinators of ECDC Coordinating Competent Bodies

Subject: Nomination of participants for the ECDC training programme in genomic epidemiology and public health bioinformatics - "GenEpi-BioTrain", Pathogen wave 5 (TB) and 6 (AMR)

Dear Colleagues,

I am pleased to invite you to nominate candidates for the third year of the **training programme in genomic epidemiology and public health bioinformatics - "GenEpi-BioTrain".**
The trainings in 2025 will focus on two "pathogen waves": tuberculosis (TB) and antimicrobial-resistant pathogens (AMR; CCRE, MRSA, *C. difficile*). To some extent, wave 6 will be similar in content and format to wave 2. The decision to repeat this pathogen wave was triggered by the high number of requests we received from Member States. Each wave consists of several training blocks with different activities and durations (Annex 1).

The overall objectives of the programme are to support countries strengthen their capacity in genomic epidemiology and bioinformatics for public health, while promoting interdisciplinary collaboration between bioinformaticians, epidemiologists and microbiologists. This will facilitate the routine use of genomic data in surveillance, preparedness, and outbreak response. Additionally, the trainings aim to foster cross-border collaborations and improve data sharing between countries and with ECDC. For more details, please refer to the information letter sent to EU/EEA countries, Western Balkans and Türkiye on 20 September 2024 (Annex 2).

The training is designed for public health professionals with a background in computational biology and/or bioinformatics, as well as those without prior bioinformatics experience who are, or will be, involved in analysing, understanding and interpreting genomic data for public health surveillance (i.e. microbiologists, epidemiologists, professionals in public health response and surveillance).

I would like to invite you as **National Focal Point for Microbiology/Observer National Focal Points for Microbiology to nominate up to two participants per training block per pathogen wave** from your country who could benefit from this activity. Due to limited training spaces available, nominations will not guarantee selection and participation in the course.

Listed training candidates should complete their applications by filling out the **GenEpi-BioTrain nomination survey** by Friday 29 November 2024. You as **National Focal Points for Microbiology/Observer National Focal Points for Microbiology** are kindly asked to provide a brief paragraph explaining the reason for selecting each candidate. This paragraph needs to be included in the candidate application.

Of note: all costs for training, per diem, accommodation and travel arrangements will be covered and there will be no costs for training participants or countries.

Successful participants will be notified by email no later than 20 December 2024 and will receive an invitation to an information meeting scheduled for January 2024.
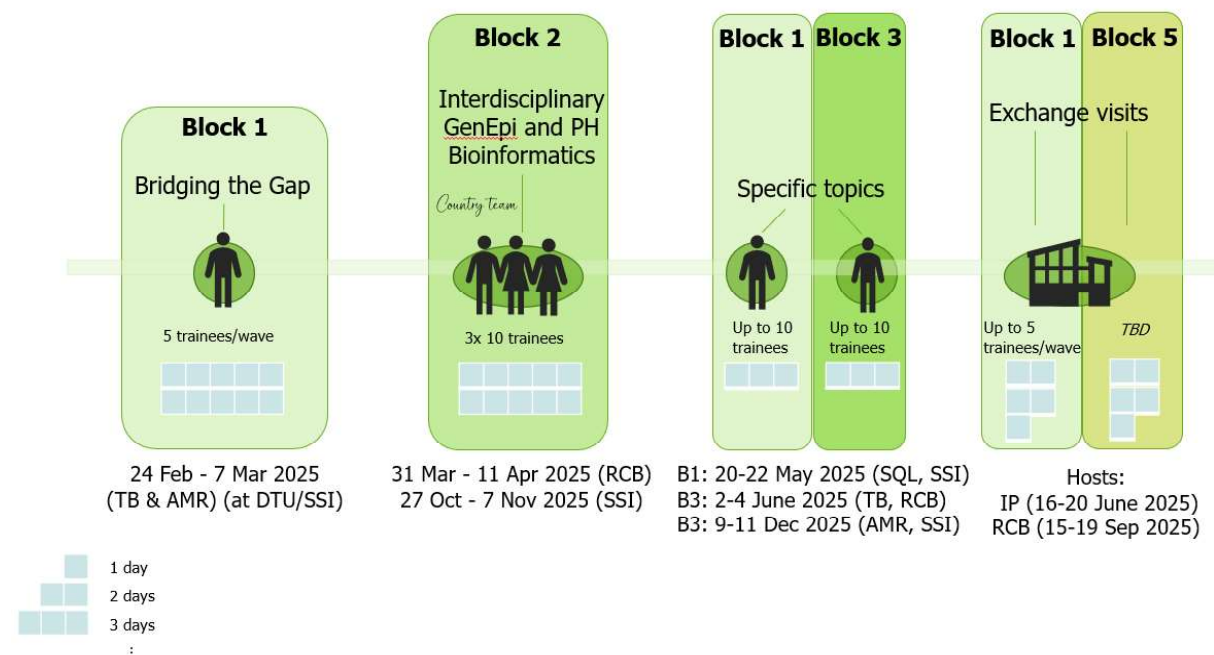
Yours sincerely,

21/10/2024

X Vicky Lefevre

Vicky Lefevre
Head of Unit Public Health Functions
Signed by: Vicky Lefevre

Annex 1: Overview of the training blocks per pathogen wave

	Block 1: • "Bridging the gaps" • Exchange visits • Specific topics	Block 2: • Interdisciplinary training ("Country teams")	Block 3: • Specific topics	Block 4: • Virtual training sessions	Block 5: • Exchange visits
Level:	BEGINNER LEVEL	BEGINNER/ ADVANCED LEVEL	BEGINNER/ ADVANCED LEVEL	BEGINNER/ ADVANCED LEVEL	BEGINNER/ ADVANCED LEVEL
Target group:	Bioinformaticians or "bioinformaticians-to-be"	Per country: 1 Bioinformatician 1 Microbiologist 1 Epidemiologist	Bioinformaticians, others (Microbiologists, epidemiologists,...)	Anyone who is interested	TBD
Further info:	Candidates should work/plan to work directly with public health sequencing-related activities	Bioinformaticians should have some experience; No bioinformatic experience needed for microbiologists or epidemiologists	Candidates should already have some experience in bioinformatics	These activities will be announced separately	These activities will be announced separately

Block 1

Bridging the Gap

5 trainees/wave

24 Feb - 7 Mar 2025
(TB & AMR) (at DTU/SSI)

Block 2

Interdisciplinary GenEpi and PH Bioinformatics

Country Team

3x 10 trainees

31 Mar - 11 Apr 2025 (RCB)
27 Oct - 7 Nov 2025 (SSI)

Block 1 **Block 3**

Specific topics

Up to 10 trainees / Up to 10 trainees

B1: 20-22 May 2025 (SQL, SSI)
B3: 2-4 June 2025 (TB, RCB)
B3: 9-11 Dec 2025 (AMR, SSI)

Block 1 **Block 5**

Exchange visits

Up to 5 trainees/wave / *TBD*

Hosts:
IP (16-20 June 2025)
RCB (15-19 Sep 2025)

1 day
2 days
3 days
⋮

Annex 2: Information letter ""Training programme in genomic epidemiology and public health bioinformatics, the GenEpi-BioTrain"

ECDC Training programme

Training programme in genomic epidemiology and public health bioinformatics – "GenEpi-BioTrain"

18 September 2024, Solna

Background:

ECDC and the European Commission have launched a number of activities to help strengthen EU/EEA Member States' capacity for WGS and the detection of SARS-CoV-2 variants, including a 83 Mio EUR national infrastructure programme. In addition, the new Regulation on serious cross-border threats to health and repealing Decision No 1082/2013/EU and ECDC's updated mandate (as of 23 November 2022) includes the collection of "molecular pathogen data, if required, for detecting or investigating serious cross-border threats to health".

Currently, ECDC is conducting a set of support activities including an ambitious **training programme in genomic epidemiology and public health bioinformatics** (~5.2 Mio EUR) and the disease-specific implementation of WGS into EU level surveillance and outbreak response.

The training programme in genomic epidemiology and public health bioinformatics, the "**GenEpi-BioTrain**", was initiated in January 2023 and will continue for four years.

We will host a meeting on <u>18 October 2024, 13:00-14:30 CEST</u>, with all relevant stakeholders to further outline training activities and provide more detailed information. A meeting invitation will be sent out soon.

Of note: there will be no costs for training participants or countries, all costs for training, per diem, accommodation and travel arrangements will be covered.

Contractors:

The contract project managers for the GenEpi-BioTrain are Rene Hendriksen, Technical University of Denmark, DTU (main) and Anders Rhod Larsen, Statens Serum Institut, SSI (deputy). The consortium includes DTU & SSI (DK), Institut Pasteur, IP (FR), Research Centre Borstel, RCB (DE), Finnish Institute for Health and Welfare, THL (FI) and Karolinska Institutet & University Hospital, KUH (SE).

Objectives and aims of the training:

The primary objectives of the training programme are to support countries strengthen their capacity in genomic epidemiology and bioinformatics for public health purposes, and to promote interdisciplinary collaboration among bioinformaticians, epidemiologists, and microbiologists at the national level. This will facilitate the routine use of genomic data for surveillance, preparedness, and outbreak response. Additionally, the activities aim to enhance data sharing and collaboration between public health institutions and the ECDC, as well as support network activities that foster cross-border cooperation.

Specific objectives are:

- To allow professionals **with** a background in computational biology and bioinformatics to:
  - enhance and extend their skills to strengthen their capacity in the field of public health bioinformatics.
  - better understand the needs and concepts of epidemiology and public health microbiology, with a focus on the inputs and outputs needed by their counterparts (i.e., microbiologists, epidemiologists, and professionals in public health surveillance and response) to take rapid and informed public health action.

- To allow professionals **without** a background in computational biology/bioinformatics to:
  - enhance and extend their understanding of the field of public health bioinformatics.
  - gain a better understanding of how bioinformatics and genomic epidemiology can be applied in a public health context with a special focus on how traditional and genomic data can be jointly analysed, interpreted and used for public health purposes.
  - become more familiar with the concepts, formats and conventions commonly used in microbial genomics, and get a better understanding of how the structure and format of the data can be used to streamline the data analysis process.
  - better understand the concepts behind and use of the most common bioinformatic tools and pipelines used for epidemiological analyses, including limitations and possible alternatives; and
  - gain a better overview of the basic principles, options for and best practices of data storage, management and sharing, with a specific focus on sequencing data and associated metadata.

Training activities in GenEpi-BioTrain, 2023 - 2026:
- Face-to-face workshops "Bridging the gaps in bioinformatics" (4 x 2 weeks; i.e. once per year)
  - Trainees might have no or limited background in computational biology/bioinformatics and may have limited knowledge of public health and proficiency in bioinformatics for public health
- Face-to-face workshops "Interdisciplinary genomic epidemiology and public health bioinformatics" (8 x 2 weeks; i.e. twice per year)
  - Each workshop may include up to ten "country teams" of <u>one bioinformatician, one microbiologist, and one epidemiologist</u> to promote the collaboration of inter-disciplinary teams within the public health sector
- Face-to-face training on specific topics in genomic epidemiology and/or public health bioinformatics (16 x 3 days; i.e. 3-4 times per year)
- Exchange visits for bioinformaticians from the public health sector in EU/EEA countries//Western Balkans/Türkiye to one of the consortium partners (40 x 1 week (10 x per year), 15 x 2 weeks (3-4 x per year), 5 x 3 weeks (1-2 x per year))

  - The trainee shall have clearly defined public health bioinformatics-related learning needs and goals that the exchange visit is expected to address
- Virtual information and training sessions (up to 40 x 1 day or 2 half-days; up to 10 times per year)

  - Specific topics in genomic epidemiology aimed at different proficiency levels

Structure of the training:

- The overall training activities will be over a period of four years
- **Per year, training activities will be dedicated to two pathogen groups ("pathogen waves"), around six months each**
- The planned pathogen waves are as follows:
  - Respiratory viruses (2023/1) and antimicrobial resistant pathogens (2023/2) *(already concluded)*
  - Food- and waterborne diseases (2024/1; Listeria, Salmonella, STEC) and vaccine-preventable diseases (2024/2; N. meningitidis, B. pertussis) *(ongoing)*
  - **Tuberculosis (2025/1) and antimicrobial resistant pathogens (2025/2).** To some extent, the pathogen wave 2025/2 will be similar in content and format to the pathogen wave 2023/2. The decision to repeat this pathogen wave was triggered by the high number of requests we received from Member States.
  - Depending on training needs and demands, other pathogen waves can be repeated on 2026/1 and 2026/2 and/or additional pathogen waves can be included (e.g. STIs)
- Face-to-face training activities are going to be at the training sites either in Denmark, Germany or France, depending on the pathogen wave
- Exchange visits for bioinformaticians can be in any of the five institutions/countries involved in the training (Denmark, Germany, France, Finland and Sweden)
- Several training activities (see above) are planned per pathogen wave, these activities <u>build on each other</u>
- Since activities build on each other, selected participants <u>will be trained for several weeks</u> per year, depending on availabilities

Training target groups:

- Professionals working in the public health sector as <u>bioinformaticians, or „bioinformaticians-to-be"</u> who are already analysing/will analyse genomic data for public health surveillance purposes. This group may come from diverse backgrounds and fields of study, including bioinformatics, biology, computer science, biochemistry, microbial genomics, metagenomics, algorithm development, microbiology, molecular genetics, biomedical sciences, forensic biology, comparative and molecular bioscience, epidemiology, etc; and
- Professionals working in the public health sector who <u>do not have a specific background in bioinformatics</u> but need to understand and interpret genomic data for surveillance (i.e. microbiologists, epidemiologists, professionals in public health response and surveillance).

Nomination process:

- The **National Focal Points for Microbiology/Observer National Focal Points for Microbiology** in coordination with National Focal Points/Observer of relevant disease groups are kindly invited to select nominees for the training activities described above.
  - For the face-to-face workshop "Interdisciplinary genomic epidemiology and public health bioinformatics", nominees should also be selected in coordination with the National Focal Points/Observer for Surveillance. Different persons can be selected for the role of bioinformatician in the country team, and for the other training activities.
- <u>For each pathogen wave,</u> ECDC will send out invitation letters to the National Focal Points/Observer specified above, and countries should nominate and rank up to two individuals per training
- For the "Interdisciplinary genomic epidemiology and public health bioinformatics" workshop, countries should nominate and rank up to two bioinformaticians, epidemiologists and microbiologists each <u>for each pathogen wave</u>
- When selecting nominees, the following should apply:
  - Nominees must currently be employed in the public health sector in one of the EU/EEA countries/Western Balkans/Türkiye, and their work should include tasks to actively apply skills acquired as part of the training.

- o Nominees should be selected to ensure the maximum impact of the training on the public health sector they serve, taking into consideration their projected period of implementation of skills at the institute, possibilities of potentially cascading training nationally and direct use of the acquired skills.
- o A link to a survey will be distributed to each country which should be filled out by the nominee (including a short version of the current CV and a short paragraph of their motivation)
- o The NFPs for Microbiology should write a letter with a short paragraph to justify why the nominee should be selected for training and how the host institute can benefit from it (the letter can be uploaded in the survey).

Selection process:

- For training activities of each pathogen wave, ECDC will send out invitations after the information meeting on Friday, 18 October 2024 to relevant stakeholders to select nominees. After that, nominees can submit their applications via a survey link until Friday, 29 November 2024
- ECDC will review the applications and select candidates based on professional background, maximum impact and course availability. Notification letters will be sent to successful candidates until 20 December 2024
- For the Interdisciplinary genomic epidemiology and public health bioinformatics workshop, ECDC will select one country team/country (=3 persons per country) per pathogen wave.

Of note: there will be no costs for training participants or countries, all costs for training, per diem, accommodation and travel arrangements will be covered.

Further details about the different training activities, and the nomination and selection process will be provided during the meeting on 18 October 2024, 13:00-14:30 CEST.

Best regards,

the ECDC Microbiology & GenEpi-BioTrain teams