



**Health Promotion & Disease
Prevention Directorate**

Infectious Disease prevention & Control Unit (IDCU)

ECDC Fellowship Programme (EPIET/EUPHEM)

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Overview

- ▶ The ECDC Fellowship Programme is a two-year training program consisting of two distinct pathways: **field epidemiology (EPIET)** and **public health microbiology (EUPHEM)**
- ▶ **1995:** European Programme for Intervention Epidemiology Training (EPIET) was created
- ▶ Aim: Create a network of highly trained field epidemiologists in the EU, thereby strengthening the public health epidemiology workforce in EU/EEA
- ▶ **2006:** EPIET was integrated with European Centre for Disease Prevention and Control (ECDC)
- ▶ **2008:** European Public Health Microbiology Training Programme (EUPHEM) was created by ECDC
- ▶ **2016:** EPIET and EUPHEM merged to become the ECDC Fellowship Program, consolidating alignment of administrative processes and core curricular aspects



Objectives

- To strengthen the surveillance and control of infectious diseases and other cross-border health threats or issues of public health concern in the EU/EEA member states;
- To enhance response capacities for effective field investigation and communicable disease control at national and community level to meet public health threats;
- To strengthen the European network of public health professionals through use of shared standards and methods, good practices, and common public health objectives;
- To support the cascading of training and capacity-building within the member states;
- To facilitate multi-disciplinary cooperation in the above fields To reduce disparity across Europe in the prevention, preparedness, surveillance and control of communicable diseases

Overall, ensuring expertise in response activities and strengthening capacity for communicable disease surveillance and control inside and beyond the EU.



ECDC Fellowship programme

- ▶ Available to nationals of EU/EEA MS
- ▶ Provides state of the art training and practical experience for participants and takes place at recognised training sites across the EU/EEA (Epi departments or labs with a public health function)
- ▶ Training sites: 32 (EPIET); 21 (EUPHEM)
- ▶ EU-Track vs MS-Track
- ▶ Graduated fellows are considered experts in applying epidemiological or microbiological methods to guide public health interventions for communicable disease prevention and control
- ▶ Supervision provided by training site supervisors as well as scientific coordinators of the programme
- ▶ Funded by ECDC and the participating training sites
 - ▶ EU-track: employed by training sites; ECDC funds their salaries
 - ▶ MS-track: fellows receive salary from their training site
 - ▶ Training site fund the salaries of supervisors and facilitators, as well as the costs for office space
 - ▶ ECDC funds travel costs to modules, salaries of scientific coordinators and training opportunities for supervisors.
 - ▶ Costs related to international missions are the responsibility of the requesting body (MSF, GOARN)



Core competencies

- ▶ **Surveillance:** Design, implement, and evaluate surveillance systems
- ▶ **Outbreak investigation:** investigate and manage an outbreak and propose PH recommendations
- ▶ **Research project:** Design, prepare and conduct applied research
- ▶ **Statistical analysis:** analytical epidemiology to identify risk exposures; modelling
- ▶ **Communication:** Communicate results of field investigations to various stakeholders (e.g., scientists, press, public, decision makers)
- ▶ **Teaching:** Engagement in teaching and training activities
- ▶ **Leadership and management**
- ▶ PH microbiology, laboratory investigations and Bio-risk management
- ▶ Submission of a written manuscript in English as first or last author in a peer-reviewed journal
- ▶ Scientific presentation of the results of one of the above field assignments at a scientific conference (oral or poster)

Modules

- Introductory module (3 weeks): basic knowledge of intervention epidemiology and public health microbiology
 - Outbreak investigation methods
 - Multivariable analysis
 - Rapid assessment and survey methods
 - Vaccinology
 - Time series analysis
 - Project review
 - Bio-risk and quality management
- ▶ Field assignments and International Missions



IDCU

- ▶ The Infectious Disease Prevention and Control Unit (IDCU) within the Directorate for Health Promotion and Disease Prevention was assessed and approved as an EPIET training site in 2015
- ▶ 2016: First EPIET fellow assigned to IDCU
- ▶ To date:
 - ▶ 3 graduated EPIET fellows; 1 currently in training in IDCU
 - ▶ 2 Maltese nationals are EPIET alumni
- ▶ Success story: Exceptional benefit for both training site and fellow

Fellow outputs

- ▶ The roll-out and implementation of the WHO tool Go.Data for the COVID-19 outbreak response in Malta
- ▶ Enhanced surveillance of mosquitoes and vector-borne diseases in Malta: Molecular species identification, monitoring insecticide resistance and risk assessment for vectorborne disease emergence.
- ▶ Trends of pulmonary and extrapulmonary tuberculosis in Malta over 29 years (1990-2018) and the impact of screening newly arrived asylum seekers.
- ▶ Investigation of a recurring Norovirus outbreak on a cruise ship, Malta, August-September 2018
- ▶ Sexually transmitted infections testing, risk and needs of men who have sex with men (MSM) in Malta: results from the 2017 European MSM Internet Survey (EMIS)
- ▶ Setting up a Severe Acute Respiratory Surveillance system during the COVID-19 pandemic in Malta: a framework for early disease detection
- ▶ National long-COVID impact and risk factors
- ▶ COVID-19 vaccine effectiveness in Malta in SARI hospitalised patients



FELLOWSHIP REPORT



Summary of work activities Raquel Medialdea-Carrera Intervention Epidemiology path (EPIET) Cohort 2018

Background

The ECDC Fellowship Training Programme includes two distinct curricular pathways: Intervention Epidemiology Training (EPIET) and Public Health Microbiology Training (EUPHEM). After the two-year training EPIET and EUPHEM



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Thank you

Any questions?



Surveillance within EU funding programmes

EU4Health (SANTE B.2/ECDC)

JA United4Surveillance
7.0M EUR

Direct Grants surveillance
97.3M EUR

JA AMR
50.0M EUR

PostCOVID Surveillance

EU4Health (Other DGs/SANTE Units)

JA wastewater surveillance

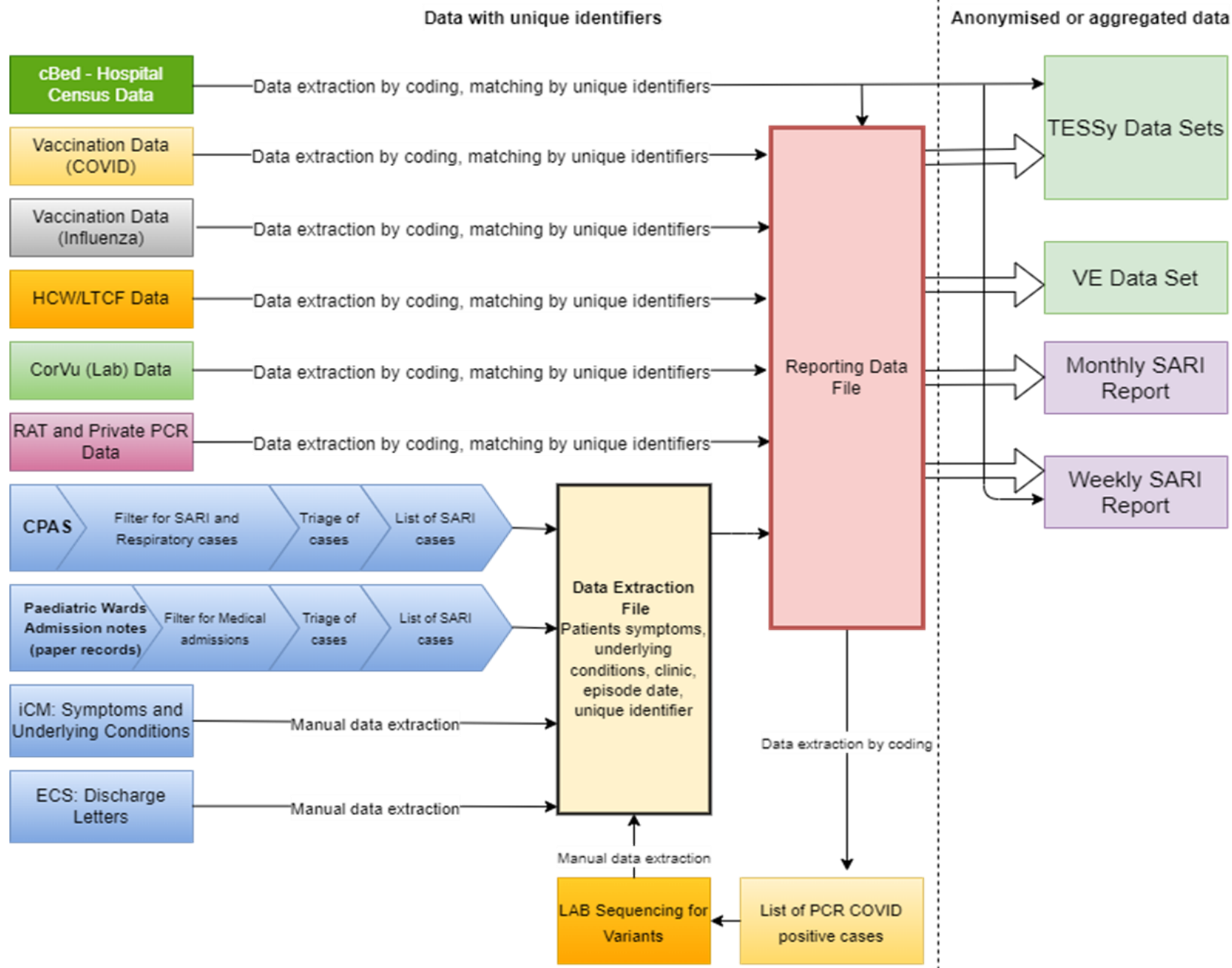
Other examples

CBRN
Terror

ECDC SARI Network

European Vaccine Effectiveness, Burden and Impact Studies (VEBIS): CVE, IVE, SARI-EHR, ESURE.

SARI: The Start of Automated, Integrated Surveillance in Malta



Joint Action



UNITED4Surveillance is an EU4Health Joint Action with over 40 partners from all across Europe. The Joint Action started in January 2023 and will run until 31 December 2025. The goal of this Joint Action is to assist member states and the EU in the deployment of digitalized and integrated surveillance systems, operating both at national and European level. With the aim to ensure better detection of early warning signs and more accurate risk assessment and coordinated response among the member states to any future cross-border health threats.

WP2 Outbreak Detection

focuses on improving algorithms for outbreak detection based on routine surveillance data for infectious diseases. Automated signal detection tools can thereby help to identify specific events of concern and foster automated data analysis.

WP3 Hospital Surveillance

aims to build a foundation for timely, comparable, and representative surveillance of severe infections leading to hospitalization in each member state.

WP4 One Health

aims to support JA partners in developing One Health surveillance structures with integration of data/signals from the human, animal, and environmental domains. With the aim to enhance the capability of detecting (re)emerging pathogens with zoonotic potential and performing public health risk assessments, source identification of outbreaks, research into targeting interventions.

Malta's role in JA U4S



Malta is active participant in WP2 *Outbreak Detection* subtask 2.2 *Outbreak & Signal Detection* and started piloting Signal Detection Tool.



Malta is an active participant in WP3 *Hospital Surveillance* subtask 2, our pilot is to set up surveillance protocols to run surveillance on different syndromes and lab confirmed cases. Protocols would include information on case-definition, data sourcing and integration algorithms, automated processing algorithms. As a deliverable Malta will present automated integrated surveillance reports based on EHR.



In other Work Packages Malta is participating as a listener

JA U4S WP2 ST2.2: Signal Detection Tool

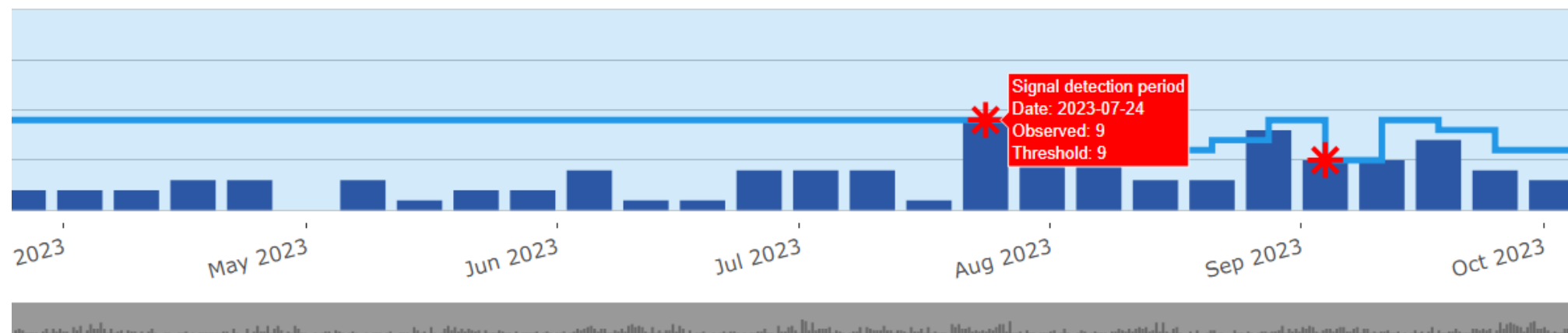


Data Input parameters **Signals** Report

Outbreak detection algorithm CUSUM	Number of weeks 52	Number of alarms 2
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ies of weekly cases with signal detection applied to the last 52 weeks.

Signal detection period 1 month 6 months 1 year All time points





EU-Wastewater Integrated Surveillance for Public Health

<https://www.eu-wish.eu/>

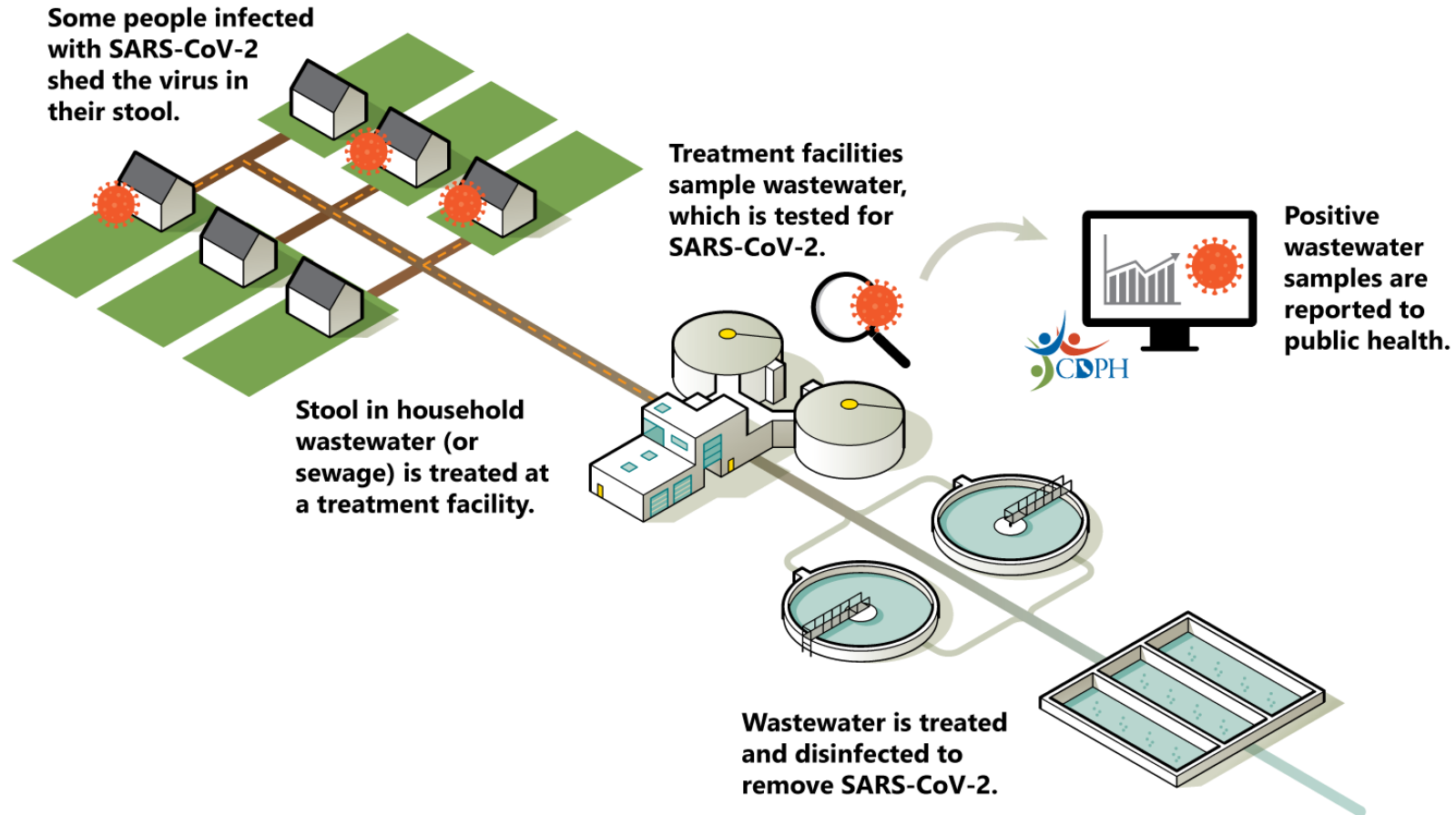
EU-WISH (EU-Wastewater Integrated Surveillance for Public Health) is a Joint Action under the EU4Health programme, which supports the policy priority of strengthening the European Union's capacity to prevent, prepare for and respond rapidly to serious cross-border health threats.

- ▶ The focus of EU-WISH is to support activities to strengthen and improve national capacities for **wastewater public health surveillance** by enhancing knowledge exchange and sharing best practices based on scientific evidence.
- ▶ This project will last 36 months.

Work Packages

- ▶ WP1: Project management and coordination
- ▶ WP2: Communication, dissemination and exploitation
- ▶ WP3: Evaluation and preparedness
- ▶ WP4: Sustainability and capacity building
- ▶ **WP5: Mapping current actions and future priority targets of wastewater surveillance**
- ▶ WP6: Usage of wastewater surveillance data for public health
- ▶ **WP7: Wastewater surveillance technical procedures, sampling schemes and analysis methods for priority targets**
- ▶ → Malta participating in WPs 1-4, 5 & 7

Wastewater Surveillance



2024 Preparation
2025 -->2029 Official project

MIDISS

Direct grants to Member States: **improving and strengthening national surveillance systems** (*Regulation of the European Parliament and of the Council on serious cross-border threats to health*)

WP 1: Project Management & Coordination

WP 2: Dissemination, Training & Support

WP 3: Project Monitoring & Evaluation

WP 4: Sustainability & Business Continuity

WP 5:
Public Health
Surveillance
IT
Infrastructure

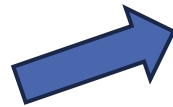
WP 6:
Establishment
of Vector-
Borne
Surveillance

WP 7:
Mitigating
Language
Barriers for
Better
Surveillance

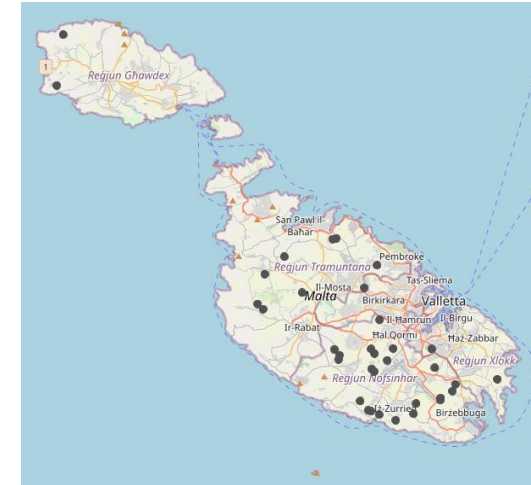
MIDISS: Vector-borne surveillance



Mosquitos in Malta



Place oviposition & BG mosquito traps

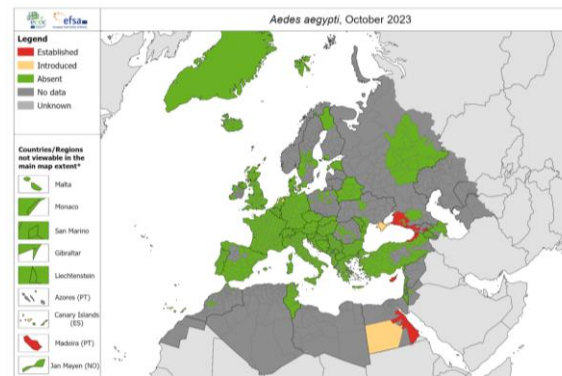


Collect samples from traps across Malta



Send samples to Lab for identification/testing

Targeted preparedness & control measures



Knowledge on mosquito presence

