

MediPIET Summary report of work activities

Denisa Duraku

Albania, Cohort4(2021)

Background

1. About MediPIET

The Mediterranean and Black Sea Programme for Intervention Epidemiology Training (MediPIET) aims to enhance health security in the Mediterranean and the Black Sea region by supporting capacity building for prevention and control of natural or man-made threats to health posed by communicable diseases. It is a competency-based in-service two-year fellowship during which selected fellows conduct projects and field investigations at a MediPIET training site in their home country and attend MediPIET modules.

Since mid-2021, MediPIET is implemented by ECDC as a part of the [EU Initiative on Health Security](https://www.ecdc.europa.eu/en/training-and-tools/training-programmes/fellowships/medi Piet). You can find more information on the programme at: <https://www.ecdc.europa.eu/en/training-and-tools/training-programmes/fellowships/medi Piet>.

2. Pre-fellowship short biography

Denisa Duraku is a public health specialist. Since May 2019, she has been employed as Head of the Department of Epidemiology and Environmental Health at the Local Public Health Directorate in Kukes, Albania.

Fellowship

In September 2021, Denisa started her MediPIET fellowship at the Epidemiology Department of the National Institute of Public Health of Albania in Tirana. This report summarises her work performed during the fellowship.

National supervisor: Adela Vasili

Scientific coordinator: Kostas Danis (2021-2022, and before graduation in 2026), Nana (2022-2024), Netta Beer (2024-2025), Amy Mikhail (2025-2026)

Fellowship projects

Surveillance

Setting up a new SARI surveillance system in Kukes, Albania

Background: Severe Acute Respiratory Infections (SARI) are a major cause of morbidity and mortality worldwide, yet hospital-based surveillance in Albania was limited. In October 2022, we launched a pilot SARI sentinel surveillance system at Kukes Regional Hospital to strengthen early detection and monitoring of respiratory infections.

Methods: We used the Albanian Institute of Public Health WHO guidance. Hospitalised patients were screened daily using the SARI case definition (hospitalisation due to acute respiratory illness with fever $\geq 38^{\circ}\text{C}$, cough or dyspnea and symptom onset ≤ 10 days). We collected demographic, clinical, and laboratory data reported into the national surveillance platform (SISI). Respiratory samples were tested for influenza and SARS-CoV-2 by RT-PCR or rapid diagnostics.

Results: From October 2022 to July 2023, 509 patients were tested, of whom 471 (92.9%) met the SARI case definition. Children aged 5–17 years were the most affected group. Influenza was the predominant pathogen, with clear seasonal peaks in early 2023 and 2025, while COVID-19 appeared sporadically with smaller waves. Surveillance covered 0.6% of the Kukes population.

Conclusions: The pilot suggested that hospital-based SARI sentinel surveillance was feasible in Albania, generating standardised data to inform vaccination planning and outbreak response. We recommend expansion to additional hospitals, reinforcement of laboratory capacity, and integration with vaccination strategies for national scale-up and sustainability.

Role and outputs: Denisa was the principal investigator. She wrote the protocol and the report and was responsible for the implementation of the SARI system in Kukes. She conducted all the staff training, managed all the process of sampling, she performed the data entry in SISI system and the data analysis and prepared all the reports.

Supervisor: Adela Vasili

Status: Completed

Outbreaks

An acute gastroenteritis outbreak in Kukes, Albania, 2022

Background: On 22 June 2022, 22 acute gastroenteritis cases were reported in Kukes, a municipality in northern Albania of 47,985 inhabitants. The Epidemiology and Environment Health teams in the Directorate of Public Health in Kukes investigated the outbreak to estimate its extent and identify the source of infection.

Methods: We defined as cases residents in Kukes municipality who developed diarrhea or vomiting since 22/06/2022. Fecal, anal swabs, and water specimens were also collected in different points in Kukes and tested in the Institute of Public Health (IPH). Results: The first cases were reported from the regional Hospital of Kukes; During June 22 – 6 July of 2022, overall, 961 suspected cases were identified; 49 % were males, mean age was 26 years ($\text{SD}=20.2$); 20% of cases were distributed in the city, in the village of Shtiqen and sporadic cases in all other villages of Kukes. Of cases, 94% developed vomiting (94%), diarrhea (72,1%) and fever (17%). We interviewed cases and family members of cases, using a structured questionnaire. We estimated risk ratios (RR) with 95% confidence intervals (95%CI). People going to crowded events such as concerts, parties ($\text{RR}=1.27$; 95% CI 1.14-1.40) were 30% more likely to become cases. Norovirus GII was detected in 8 of 14 tested feces.

Conclusions: Epidemiological and environmental investigations pointed towards attending common events, suggesting person-to-person transmission as the likely vehicle of the outbreak, although the effect was not strong. To prevent future outbreaks, we recommended that people respect the hygiene etiquette and stay at home when they develop mild gastrointestinal symptoms.

Role and outputs: Denisa was the principal investigator. She was involved in all the steps of the outbreak investigation. She wrote the protocol, developed the questionnaire, performed data entry and analysis, and wrote the final report.

Supervisor: Adela Vasili

Status: Completed

Research

Demographic and behavioural determinants of COVID-19 vaccine hesitancy and uptake in Kukes, 2022- 2023 years, Albania

Background: Despite the implementation of the COVID-19 vaccination campaign in Kukes, Albania, in early 2021, variation in vaccine acceptance persisted. We aimed to examine sociodemographic, belief-related, and social factors associated with initial COVID-19 vaccine hesitancy and subsequent vaccine uptake among adult outpatients in Kukes municipality.

Methods: In March 2023, we conducted a cross-sectional study among adult outpatients attending five primary healthcare centres in Kukes municipality. We collected data through face-to-face interviews using systematic sampling during outpatient visits. Participants self-reported their COVID-19 vaccination status and their attitudes towards COVID-19 vaccination. We performed multivariable logistic regression to identify factors associated with vaccine hesitancy among all respondents and with vaccination status among those classified as vaccine hesitant.

Results: Overall, 660 adults participated in the study; 81% had received at least one dose of a COVID-19 vaccine; 39% were classified as vaccine hesitant. Lower odds of vaccine hesitancy were observed among participants with children (aOR=0.26; 95%CI:0.10–0.69) and those who were retired (aOR:0.45; 95%CI:0.24–0.85). Vaccine hesitancy was associated with beliefs regarding vaccine effectiveness (aOR 0.04; 95% CI 0.02–0.10) and vaccine safety (aOR:2.56; 95%CI:1.46–4.64), and exposure to social media (aOR:2.72; 95%CI:1.41–5.29). Among vaccine hesitant participants, vaccination status was positively associated with the presence of a chronic disease (aOR:7.74; 95%CI:2.83–23.2), urban residence (aOR:5.39; 95%CI:1.71–19.0), and belief in vaccine safety (aOR:383; 95%CI:68.5–7,472). In contrast, participants reporting religious opposition to vaccination had substantially lower odds of having been vaccinated (aOR:0.02; 95%CI:0.00–0.16).

Conclusions: COVID-19 vaccine hesitancy and uptake in Kukes were associated with individual beliefs, selected sociodemographic characteristics, and social influences, highlighting the need for targeted interventions in those groups and the development of locally tailored communication and vaccination strategies to improve coverage.

Role and outputs: Denisa was the principal investigator. She wrote the project proposal, developed the data extraction form, analysed the research data, wrote a final report and submitted a manuscript to an international peer-reviewed journal.

Supervisor: Adela Vasili

Status: Completed

On 25 September 2023, Dr Milko Joksimović started his MediPIET fellowship at the Institute of Public Health of Montenegro, Podgorica, Montenegro. This report summarises the work performed during the fellowship.

National supervisor: Dr Aleksandar Obradović

Scientific coordinator: Katie Palmer.

Scientific communication

Conference presentations Denisa Duraku presented her research project at the MediPIET Side Event during ESCAIDE 2025 in Warsaw.

Publications and outputs

Denisa Duraku submitted a manuscript of her research project to a peer-reviewed journal. She also wrote three protocols and three reports.

Teaching activities

Training of public health staff on Viral Hemorrhagic Fever (VHF) surveillance with a focus on Crimean-Congo hemorrhagic fever

The training was held face-to-face in the meeting room of the Kukes Local Health Care Unit. Denisa first made presentations to provide a comprehensive overview of the topic, including the history and case definition of CCHF, information flow for all stakeholders and the reporting deadlines. Following the presentations, participants did practical exercises to enhance their knowledge and skills.

Other activities

- Engaged in COVID-19 surveillance and contact tracing activities, conducting field work across various outbreaks.
- Engaged in COVID-19 vaccination campaigns.
- Prepared the daily, weekly, monthly reports for COVID-19 activities (surveillance and vaccination).
- Participated in local and central-level meetings regarding the emergency and preparedness plan for communicable diseases.
- Replied to queries of individuals regarding immunisation, and collaborated with family doctors, paediatricians, and vaccination professionals.
- Engaged in communication, promotion and training health care staff for the adoption of HPV as a new vaccine in the Albanian national immunisation calendar.
- Participated and presented in the National Vaccination meeting.

MediPIET modules attended

- Inject day: Phylogeny, 20 October 2021, online.
- Inject days: Operational Research, 26–27 October 2021, online.
- Inject days: Data Collection, 10–11 November 2021, online.
- Outbreak investigation module, 6–10 December 2021, online.
- Multivariable Analysis module, 14–18 March 2021, online.
- Multivariable Analysis inject day, 30 March 2022, online.
- Project Review module I & Introductory Course –Part 2, 20–29 April 2022, Spetses, Greece, face-to-face.
- Project Review Module II, 29 August–2 September 2022, Lisbon, Portugal, face-to-face.
- Introductory Course–Part 1, 26 Sep–7 October 2022, Spetses, Greece, face to face
- Time Series Analysis module, 7–11 November 2022, Bilthoven (Utrecht), Netherlands, face-to-face.
- Chemical, Biological, Radiological and Nuclear Awareness and Mitigation (CBRN) Module, 13–17 February 2023, Petrovac, Montenegro, face-to-face.
- Vaccinology Inject day, March 29, 2023, online.
- One Health & Vector borne Diseases module, 2–4 and 15–17 May 2023, online.

Personal conclusions of the fellow

As I come to the end of this fellowship, I realize that the greatest lessons I have gained so far were beyond methods, data, and research design. MediPIET has taught me how to see the world not only through numbers but through the lives, stories, and vulnerabilities behind them. This fellowship gave me the opportunity to grow as a professional, but more importantly, as a person. I have learned that knowledge reaches its true purpose when it is shared with colleagues who will take it further, and with friends who walk alongside us in the journey.

I am grateful for the challenges that pushed me to expand my thinking, and for the support that reminded me I was never alone in this path. My hope is to continue contributing to public health with the same passion, while inspiring others as much as I have been inspired here.

This is not just the closing of a chapter, but the opening of many more rooted in science, strengthened by friendship, and guided by the belief that what we can truly make a difference.

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Nana Mebonia (my frontline coordinator during part of the second year of my fellowship)– I am deeply grateful to Nana for her constant encouragement, trust, and guidance throughout my fellowship. Her support during important stages of my projects gave me confidence and contributed greatly to my professional growth.

Netta Beer (my frontline coordinator after my maternity leave)– I would also like to sincerely thank Netta for her valuable scientific guidance and constructive feedback. Her insights and encouragement helped me overcome challenges, refine my work, and further develop my skills as a field epidemiologist.

Amy Mikhail (my frontline coordinator towards the end of my fellowship). My sincere thanks also go to Amy for her kindness, availability, and continuous support throughout the fellowship. Her help in coordinating the different stages of this journey, and especially her support during its final phase, has been greatly appreciated.

Adela Vasili (my supervisor), whose guidance and oversight provided me with structure and perspective throughout this fellowship, allowing me to grow both professionally and personally.

Dashurie Hasa (my director), for giving me the freedom and support to pursue my projects alongside my responsibilities in the 2022–2026. That trust allowed me to grow and make the most of this fellowship