

WORLD HEALTH ORGANIZATION – FINAL PROJECT REPORT

Project Title:

Antimicrobial Resistance and Healthcare-Associated Infection Prevention Project

Funding Source:

ASEF III Programme (Direct Financial Cooperation)

Implementing Institution:

Comenius University Bratislava – Faculty of Medicine
University Hospital Bratislava (LFUK / UNB)

WHO Technical Counterpart:

WHO Country Office, Slovakia

Implementation Period:

21 October 2025 – 31 December 2025 (Phase I)

Approved Budget:

EUR 45,405

1. Background

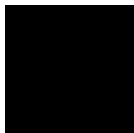
Antimicrobial resistance (AMR) and healthcare-associated infections (HAIs) represent a growing public health challenge across the WHO European Region. In Slovakia, increasing detection of multidrug-resistant organisms (MDROs), including carbapenem-resistant Enterobacterales (CRE), has highlighted the need to strengthen infection prevention and control (IPC) practices, standardize clinical procedures, and improve environmental hygiene in hospital settings.

University Hospital Bratislava, as a tertiary referral centre managing high-risk patient populations and complex clinical procedures, faces elevated risk of HAI transmission. Phase I of this project was therefore designed as a preparatory and capacity-building intervention under the ASEF III Programme, focusing on institutional readiness, workforce capacity, and pilot implementation of disinfection technologies, while establishing a foundation for expanded microbiological screening and surveillance activities planned for Phase II.

2. Objectives

The objectives of Phase I were to:

- Strengthen hospital preparedness for the prevention and control of AMR and HAIs.
- Develop, validate, and disseminate standardized standard operating procedures (SOPs) aligned with WHO IPC minimum requirements.



- Build healthcare worker capacity through targeted training on IPC and AMR prevention.
- Pilot innovative environmental and air-quality disinfection technologies.
- Establish operational readiness for microbiological screening, surveillance, and evaluation activities in Phase II.

All objectives were achieved within the approved timeframe and budget.

3. Project Activities

3.1 Development and Validation of SOPs

Five SOPs were developed, validated, and formally adopted for use in selected departments of University Hospital Bratislava. The SOPs addressed patient screening upon admission, healthcare worker screening based on epidemiological risk, environmental cleaning and surveillance cultures, air-quality improvement through aerosol disinfection, and safe use of germicidal lamps. The SOPs were disseminated to relevant departments and integrated into routine clinical workflows.

3.2 Training and Capacity Building

Two structured training workshops were delivered during Phase I, reaching more than 50 healthcare professionals, including clinicians, nurses, laboratory staff, and infection control personnel. Training focused on IPC principles, AMR prevention, implementation of SOPs, and safe operation of disinfection technologies. Attendance records and participant feedback confirmed increased knowledge and readiness to apply standardized IPC practices.

3.3 Pilot Implementation of Disinfection Technologies

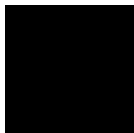
In accordance with the approved proposal, the following equipment was procured and made operational:

- Two mobile germicidal UV lamps (covered)
- Two mobile germicidal UV lamps (uncovered)
- One hydrogen-peroxide (H₂O₂) dry-mist disinfection unit (three operational components)
- One Previ-Color Gram automated slide stainer to identify bacteria on cultivation media

The equipment was installed and tested in selected hospital departments to support improved environmental hygiene and air-quality management.

4. Results and Outputs

During Phase I, all planned outputs were delivered within the approved timeframe and scope, resulting in measurable improvements in institutional preparedness for AMR and HAI prevention.



Five SOPs were developed, validated, and adopted, establishing a standardized framework for IPC practices aligned with WHO guidance. Two training workshops reached more than 50 healthcare professionals, strengthening workforce capacity for AMR and IPC implementation.

Disinfection technologies were successfully procured, installed, and piloted in selected departments, enhancing environmental hygiene and supporting safer conditions for patients and staff.

According to the **corrected and certified DFC FACE Form**, total eligible expenditures incurred during the implementation period **21 October–31 December 2025** amounted to **EUR 45,405**. The full amount was **incurred by the implementing partner, verified, and accepted by WHO**, with **no outstanding balance** remaining at the end of the reporting period. All expenditures were incurred in line with the approved budget and within the agreed implementation timeframe.

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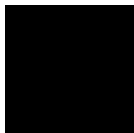
5. Outcomes

Phase I implementation resulted in measurable institutional and system-level outcomes.

At institutional level, standardized SOPs improved consistency and compliance with IPC practices across participating departments. Trained healthcare workers demonstrated increased knowledge and confidence in applying IPC standards and using newly introduced disinfection technologies.

At operational level, pilot deployment of UV germicidal lamps and H₂O₂ dry-mist disinfection equipment enhanced environmental hygiene and air-quality management. Although Phase I did not include formal measurement of HAI incidence, the strengthened infrastructure and trained workforce establish a robust baseline for outcome monitoring in Phase II.

At system level, the project ensured operational readiness for expanded microbiological screening and surveillance activities, enabling a seamless transition to Phase II implementation.



6. Challenges and Mitigation Measures

Potential challenges related to procurement timelines, staff availability, and the short implementation period were mitigated through early planning, flexible scheduling of training activities, and close coordination between project partners. No significant deviations from the approved scope, timeline, or budget occurred.

7. Sustainability and Follow-up

All SOPs, training materials, and disinfection technologies introduced during Phase I have been embedded into routine hospital operations. Trained staff will continue to apply and disseminate IPC practices, and procured equipment will remain in use beyond the project period.

Phase I outputs directly support Phase II activities, which will focus on microbiological screening, AMR surveillance, and evaluation of intervention effectiveness in line with WHO and ASEF III objectives.

8. Strategic Alignment

The project aligns with the WHO Global Action Plan on Antimicrobial Resistance (2015), the WHO Global Strategy on Infection Prevention and Control (2021–2030), the WHO/Europe Roadmap to Implement the Global Action Plan on AMR, and ASEF III strategic objectives on strengthening health-system resilience and preparedness.

9. Lessons Learned

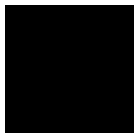
Early investment in SOP development and workforce training is critical for sustainable IPC improvements. Combining standardized procedures with practical training and pilot testing of technologies increases adoption and compliance. Strong institutional ownership and WHO technical oversight enable efficient implementation within short timeframes.

10. Conclusion

Phase I of the *Antimicrobial Resistance and Healthcare-Associated Infection Prevention Project* was implemented successfully and in full accordance with the approved project proposal, DFC justification memorandum, and signed funding agreement.

All planned activities were completed within the approved timeframe. Based on the **corrected and certified DFC FACE Form**, a total of **EUR 45,405** in eligible expenditures was incurred during Phase I. The full amount was **accepted by WHO**, with **no remaining balance**, confirming full and compliant execution of the approved Phase I budget.

The project delivered concrete outputs and strengthened institutional preparedness for AMR and HAI prevention at University Hospital Bratislava, providing a robust and evidence-based foundation for Phase II implementation.



Thank you once again for your support and trust in our endeavors. We are looking forward to our continued partnership and the further development of this program.

Warm regards,

Assoc. prof. Adriána Liptáková, MD, PhD, MPH, univ. prof.
Project Coordinator