

# Diagnostics of Infectious Diseases in Poltava

University Medicine Essen  
Institute for Virology  
Institute of Medical Microbiology



funded since 4/2023



Poltava State Medical University  
KP Poltava Regional Clinical  
Infectious Diseases Hospital



## The problem

- Under the war situation: Infectious diseases are the second biggest health threat besides trauma
- Increase in tuberculosis, HBV, HCV, HIV and sexually transmitted diseases to be expected. Large numbers of undetected cases. Polyresistant MRSA threaten the health care system.
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## Objectives

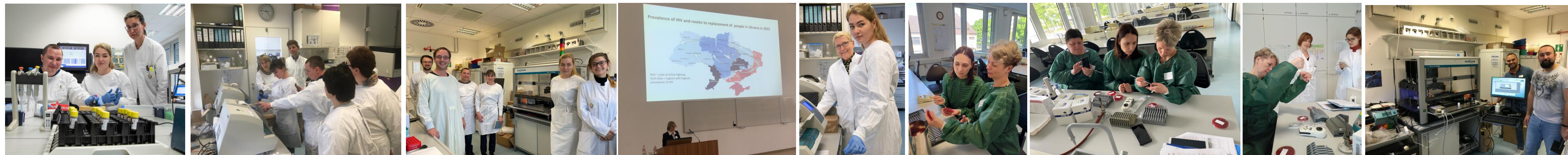
- Improving diagnostics of viral infections for optimised therapy and infection control
- Maintaining and improving the diagnostics of bacterial infections, supporting antibiotic therapies with drug-resistance testing
- In the war situation, during reconstruction and in the long term
- Preparing the Poltava labs for requirements and standards for EU accession

## Activities

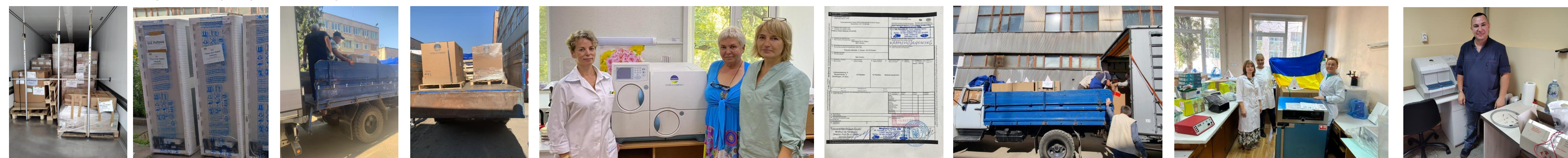
- Developing the diagnostic concept for virology and microbiology labs at PSMU and the Infectious Disease Hospital
- Training of physicians and laboratory staff from Poltava in Essen, Germany
- Providing urgently needed and adequate laboratory equipment and devices
- Providing laboratory consumables, test kits and pharmaceuticals
- Participation and guest talk of the Poltava project team at the HIV Symposium, Essen, April 2023

## Our achievements to date

- 10 people trained in Germany, three weeks each (April/May, November 2023)



- All major equipment procured and delivered to Poltava until December 2023



- First batch of test kits and consumables delivered to Poltava in January 2024



## Major challenges

- Suitable and **sustainable concept** had to be developed within very short time
- Very **short time** between project approval and first training measures in Essen (travel planning, allocation of training personnel in the labs, preparation of equipment and reagents)
- For male project staff from Poltava: **travel restrictions**. In January 2024: **conscription order** for trained engineer/key personnel
- Highly qualified laboratory personnel, but not necessarily fluent in **English** (interpreter with special knowledge and vocabulary!)
- Tight staff situation and **additional work load** for University Hospital procurement, financial, storage and transport departments. **No overheads** or incentives for the German partner.
- Potential **"dual-use"** issue for some parts of major equipment
- Finding/providing **after sales service** and maintenance in the Ukraine
- Required amount of test kits may **change according to actual needs**
- Deliveries of test kits and consumables with several batches. **Limited shelf life** of consumables and test kits needs sensible distribution over the year.
- For cooled/frozen goods: **temperature control** during transport and storage
- Coordinate and fine-tune **logistics**: suppliers – transport agents – coordination with other aid deliveries
- Secure comprehensive and clear **communication** channels between the project partners

## Contact

University Hospital Essen, Institute for Virology [www.uni-due.de/virologie](http://www.uni-due.de/virologie)  
Dr. Gennadiy Zelinsky [gennadiy.zelinsky@uk-essen.de](mailto:gennadiy.zelinsky@uk-essen.de)  
Ursula Schrammel [ursula.schrammel@uk-essen.de](mailto:ursula.schrammel@uk-essen.de)

## Next steps / timeline / prospects

In February: install and calibrate **PCR machines**, forward first batch of **frozen reagents** for PCR testing, start operating in March

In February: **start operating** equipment /tests for serology, microbiological identification tests and antibiotics resistance (with online support from Essen and from equipment suppliers)

**Delivery of reagents** and test kits, divided into several batches, sensibly distributed over the year

Constantly improve **workflow**, fine tune **diagnostic processes**. Develop clear handling **instructions** and **SOP** in line with EU regulations. Documentation of performed tests in 2024.

**Create awareness** for the urgency to diagnose and control infectious diseases in the Ukraine

Our concept may serve as a **model project** for other regions

State-of-the-art laboratories and an attractive working environment may help to **prevent brain drain** from Ukraine

**Reliable diagnostics** in Poltava are a basis for future Essen-Poltava **joint research** on infectious diseases