

Diagnostics of Infectious Diseases in Poltava

University Medicine Essen
Institute for Virology
Institute of Medical Microbiology
Universitätsmedizin Essen
Universitätsklinikum

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.
- 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.

Objectives

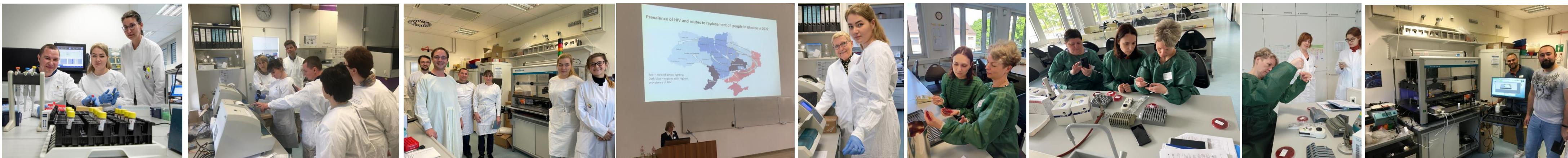
- Improving diagnostics of viral infections for optimised therapy and infection control
- Maintaining and improving the diagnostics of bacterial infections, supporting antibiotic therapies with drug-resistance testing
- In the war situation, during reconstruction and in the long term
- Preparing the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

Activities

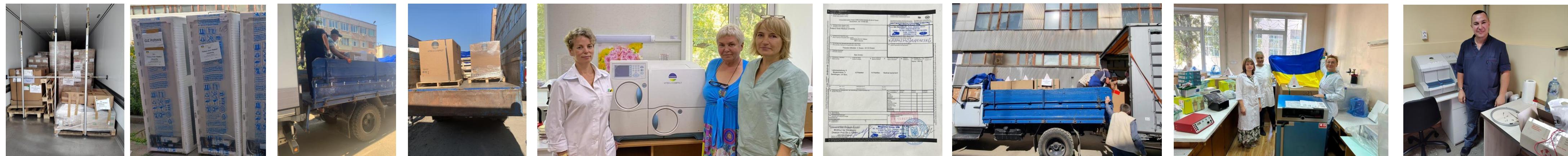
- Developing the diagnostic concept for virology and microbiology labs at PSMU and the Infectious Disease Hospital
- Training of physicians and laboratory staff from Poltava in Essen, Germany
- Providing urgently needed and adequate laboratory equipment and devices
- Providing laboratory consumables, 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



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, devided 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

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
Dr. Gennadiy Zelinsky gennadiy.zelinsky@uk-essen.de
Ursula Schrammel ursula.schrammel@uk-essen.de