



Health Research Without Borders: Horizon Europe Partnering Event for
Ukraine, Baltics, Poland, Canada and United Kingdom

Real-Time Clinical Validation Hub: *in vitro* testing of novel antimicrobials against XDR pathogens

Igor Bodnya, Andriy Bondarenko
Kharkiv National Medical University - Academic Institution
Ukraine

Email: ip.bodnia@knmu.edu.ua | Tel: + 3806332840090
Email: av.bondarenko@knmu.edu.ua | Tel: +380505310684

Website: www.knmu.edu.ua



estDev
From the people of Estonia



Kharkiv: Real-Time Clinical Validation Hub



National Leadership:

Leading Ukrainian clinical center for real-time AMR (Antimicrobial Resistance) surveillance.

Validation Expertise:

Extensive, proven expertise in validating complex cultures under extreme operational conditions.

59.8%

National AMR Data Contribution in Sentinel Regions

5 Transit Hospitals

Direct integration across an active, high-volume frontline clinical network.

1,313 Isolates

Fully characterized MDRO isolates actively yielding real-time surveillance data.

The Wartime Clinical Bottleneck: The Nosocomial Shift

The Evacuation Crisis

Initial Admission (<48 hrs)

31.1%
MDRO Colonization



Transit (Treated through 2+ facilities)

59.9%
MDRO Colonization



Selective Pressure (The Catalyst)

Driven by intense, sustained exposure to Watch & Reserve antibiotics during prolonged patient transit and multi-facility evacuation.

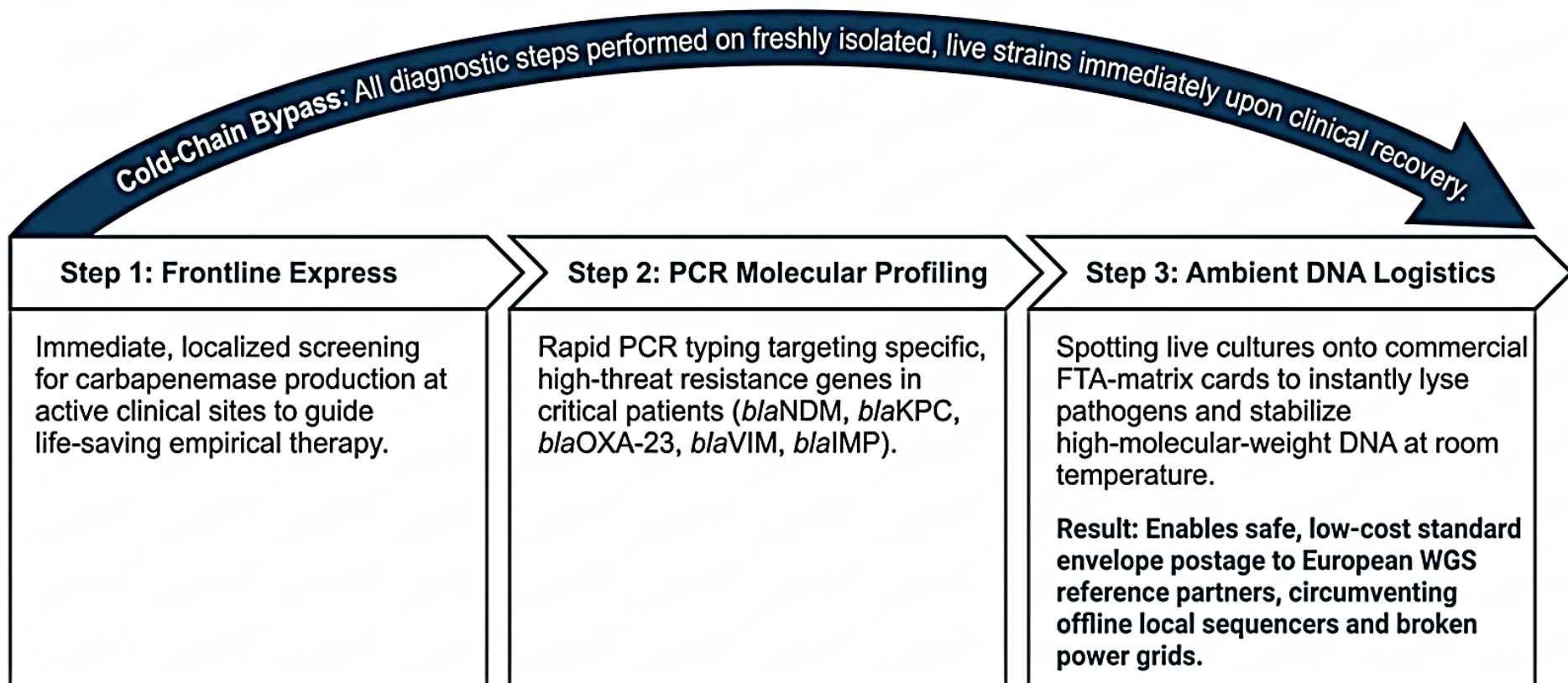


Infrastructure Challenge (The Biobank Vulnerability)

Severe regional power grid blackouts render standard long-term frozen biobanking (-20°C/-80°C) of pathogens critically vulnerable.

Our Real-Time Diagnostic Pipeline

Bypassing Cold-Chain Failures via Continuous Live-Strain Operation



Real-Time Clinical Validation Hub

Our Offer to Consortium Coordinators

Matchmaking Target: Horizon Europe Call: HORIZON-HLTH-2027-01-DISEASE-08
(Development of innovative antimicrobials against pathogens resistant to antimicrobials)

Matchmaking Matrix

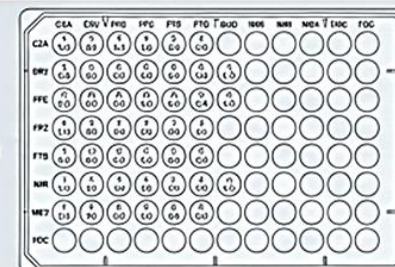
The European Developer Need

Testing novel investigational molecules against **highly evolved, authentic clinical pathogens without the artifacts** of long-term **freezing** or artificial laboratory passaging.

The Kharkiv Hub Solution

We offer a unique 'Real-Time Validation Hub' fully integrated with an active ICU network.

1. In Vitro Susceptibility Testing:
High-precision MIC determination (via custom plates) of investigational molecules.



2. Live Pathogen Access:
Conducted against freshly isolated, live Gram-negative ESKAPE pathogens immediately after clinical recovery.

3. Methodological Purity:
Bypasses the need for vulnerable, static long-term biobanking entirely.

Project Readiness & Implementation Timeline

Operational De-Risking Checklist



Ethical & Regulatory Compliance:

Complete bioethical approval from the KNMU Commission is officially in place.



Active Operations:

Continuous clinical sample collection from our frontline ICU network is fully functional.



Logistical Proof-of-Concept:

Ambient FTA-card transport methodology is legally and operationally validated for low-cost, room-temperature European shipping.

2026-2030 Execution Timeline

2026 | Integration

Consortium integration, pipeline setup, and integration of the Kharkiv biobank network into the Horizon Europe framework.

2029-2030 | Synthesis

Delivery of validated clinical protocols, prediction of 'nosocomial shift' patterns, and Pan-European data synthesis for future health security.

2027-2028 | Scaling

Mass ambient transport of inactivated FTA samples for Whole-Genome Sequencing (WGS) scaling via European reference labs.

Summary

Horizon Europe: HORIZON-HLTH-2027-01-DISEASE-08

(Development of innovative antimicrobials against pathogens resistant to antimicrobials)

Our Offer to European Consortium Coordinators:

The Kharkiv Real-Time Validation Hub: We offer European drug developers exclusive access to an integrated in vitro testing pipeline.

Value Exchange Equation

[INPUT 1: Your Novel Molecules]

(Investigational drugs from EU partners)

+

[INPUT 2: Our Freshly Isolated XDR Live Strains]

(Extreme-drug-resistant MBL-producing pathogens endemic in our active ICUs, evaluated immediately post-PCR)

=

[OUTPUT: Immediate In Vitro Efficacy Validation]

(Live-strain susceptibility testing bypassing long-term biobank storage, testing molecules at the peak of pathogen viability)