



AT THE FOREFRONT
UChicago
Medicine

BRIDGE-UKR: Lessons Learned from a Penetrating Brain Injury and Biomarker Analysis Collaboration Across Cultures and Contexts

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Disclaimer

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Non-Disclosure

- No conflicts to report

Scientific Overview

- Despite the increasing burden of firearm-related penetrating brain injury (PBI) in civilian trauma centers and operational relevance in military settings, there remains a significant lack of structured data, standardized terminology, and biological understanding.
- This knowledge gap has fostered therapeutic nihilism, resulting in high rates of early withdrawal of life-sustaining therapies and a lack of targeted clinical pathways for these patients.

This absence of data and research leads to a lack of neurotrauma management readiness.

Scientific Overview

Aiming to improve warfighter readiness to manage neurotrauma through:

PART 1:

Neurotrauma Training Program for Non-Neurosurgeons

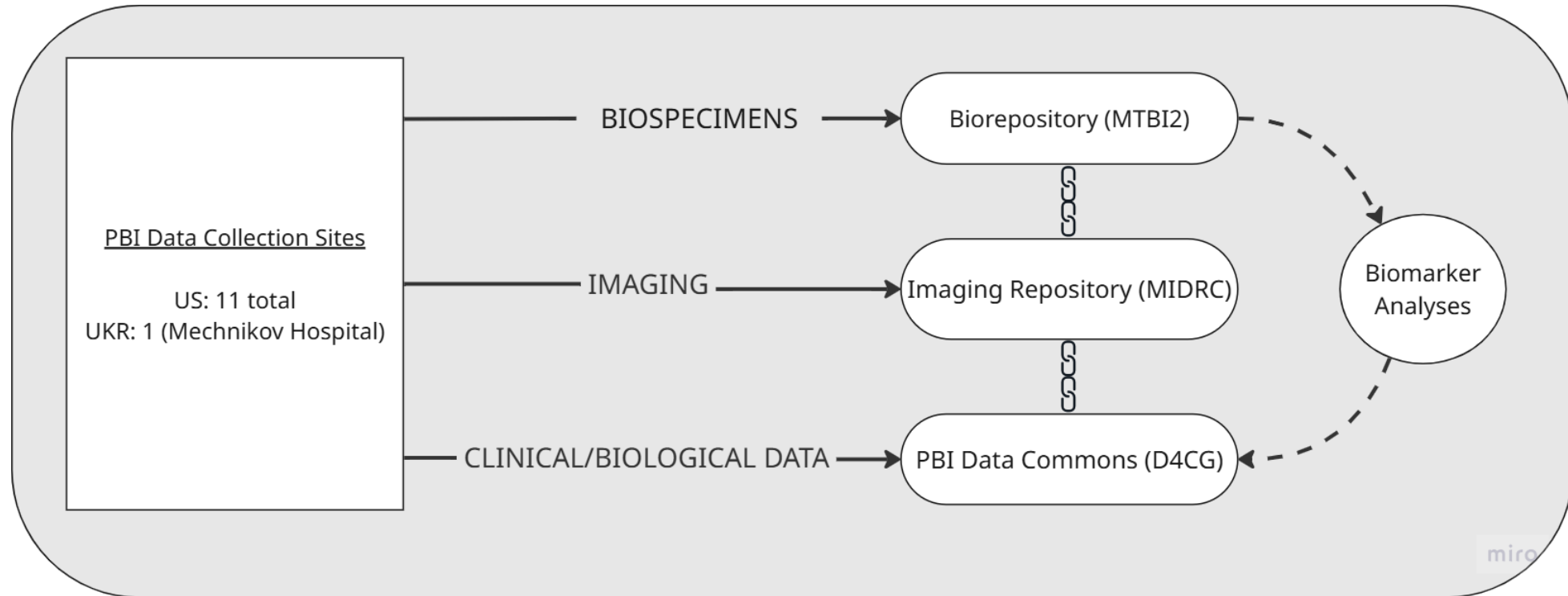
- Increase forward deployed medical and surgical capability through novel training programs
- Expanded ASSET+
- Neurosurgical Training
- Neurocritical Care Training

PART 2:



BRIDGE

OBJECTIVE: Build a comprehensive PBI Data Commons, biorepository, and imaging repository, aiming to provide a basis for future neurotrauma studies that improve rapid detection, diagnosis, prognostication, and outcome for casualties with PBI.



BRIDGE-UKR

Target Enrollment: 300 patients (2 year enrollment period)

Blood Draws:

1. As soon as possible after arrival at Mechnikov (within 4hrs post-injury preferred, no later than 24hrs post-injury)
2. 72hrs (+/-6hrs) post-injury
3. 120hrs (+/- 6hrs) post-injury or day of discharge if prior to 5 days

Imaging: All standard of care head imaging (minimum initial CT)

Clinical Data: Spanning entire hospital stay and a 3 month follow up Glasgow Outcome Scale-Extended (GOSE) and Disability Rating Scale (DRS)

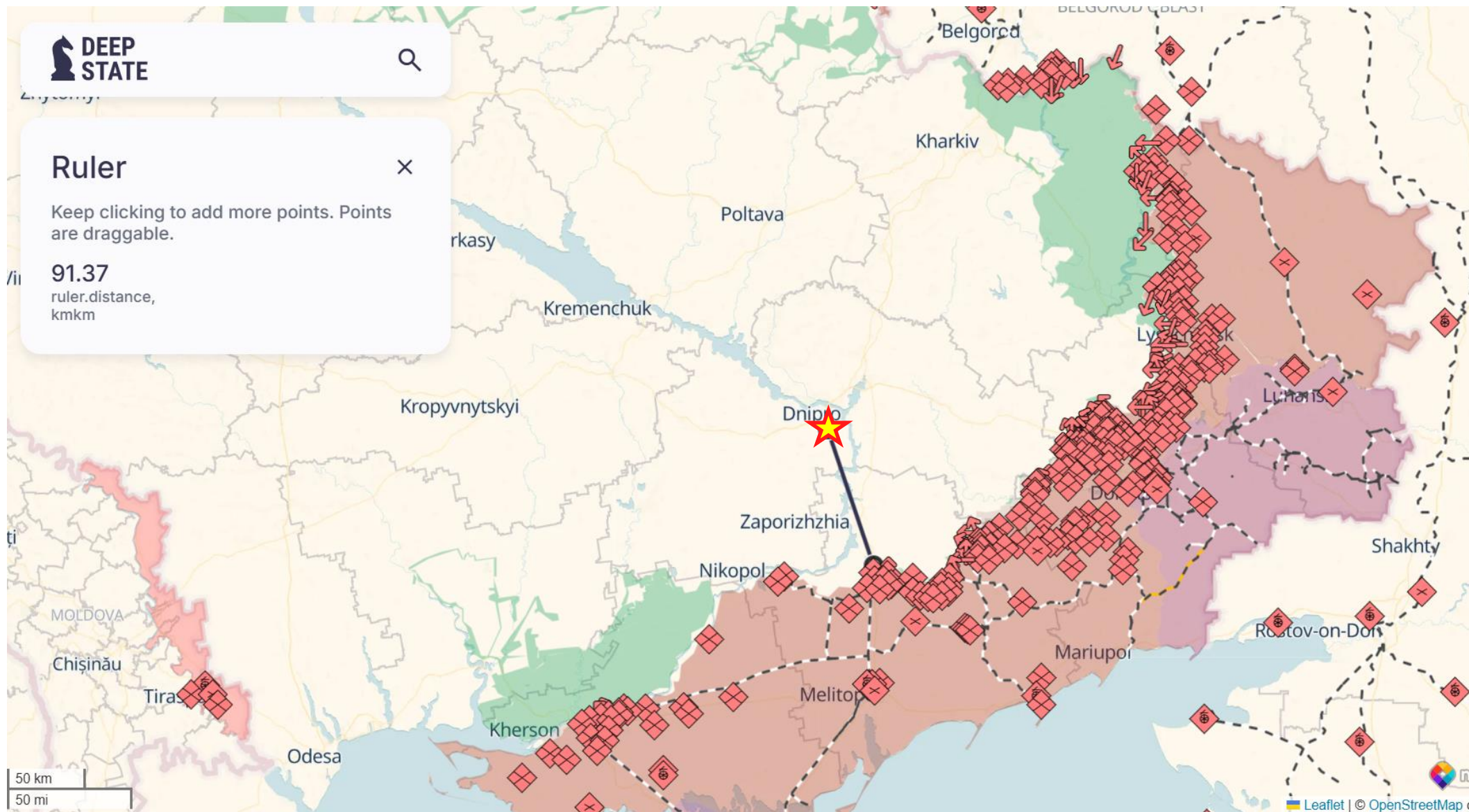
Biomarkers: Brain Injury, Blood/Brain Barrier, Inflammatory, Vascular/Endothelial, Endocrine

BRIDGE-UKR

**Create a PBI Biorepository,
Imaging Repository, and Data
Commons**

**Examine circulating and
imaging biomarkers of PBI as
potential tools to improve
rapid detection, diagnosis,
prognostication and outcomes
for PBI**

**Determine the feasibility of
prospective PBI research in a
wartime setting**



CHALLENGES

REGULATORY

- Delayed Consent
- Learning and adapting to the Ukrainian regulatory system
- Adjusting timelines to account for study document translations, local policies, etc.

CONTRACTING & LEGAL

- Institutional requirements regarding international partners
- Expanded legal review and translation

OPERATIONS

- Identifying viable partners and vendors
- Cold chain shipping and storage to/from a warzone
- Price fluctuation

LESSONS LEARNED

1. Active and ongoing involvement of UKR partners



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LESSONS LEARNED

1. Active and ongoing involvement of UKR partners

Regulatory

- UKR Ministry of Health waiver
- Adjusting protocol for what is and is not possible under a delayed consent in UKR (PaxGene, data sharing, subject age restrictions, etc.)

Operations

- Relying on past experience for study procedures and vendor identification

LESSONS LEARNED

2. Providing context (and ample time) to institutional teams on why this project is unique

Regulatory

- Leading with BRIDGE-US
- OHRO Pre-Review

Contracting & Legal

- Emphasizing that this is an active warzone – some exceptions must be made

LESSONS LEARNED

3. Adaptability (this is a feasibility study)

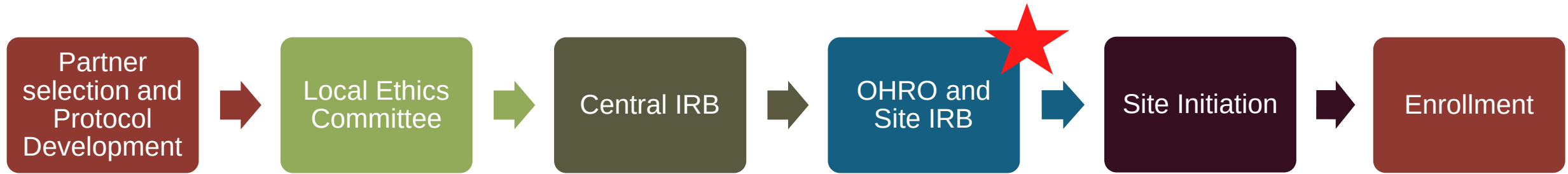
Operations

- Flexibility in budget for changing shipping costs
- Across all areas of the study, what works today may change tomorrow

LESSONS LEARNED

1. Active and ongoing involvement of UKR partners
2. Providing context (and ample time) to institutional teams on why this project is unique
3. Adaptability (this is a feasibility study)

NEXT STEPS



BRIDGE-UKR Team

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Thank you to our Ukrainian team for your help and support



Mechnikov Hospital