



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

NeuroInfant: AI-driven system for the early diagnosis of neurodevelopmental disorders in infants

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Ukraine: Widening country.

HORIZON-HLTH-2027-02-TOOL-01-two-stage: Development of predictive biomarkers of disease progression and treatment response by using AI methodologies for chronic non-communicable diseases (RIA, Grant Budget-Based, 6 projects * 6-8.000.000 EUR, 13th Apr/22 Sept 2027)
Coordinator or partner (lead of the WP)

HORIZON-HLTH-2027-03-TOOL-04: Virtual Human Twins for clinical decision support in prevention and diagnosis (RIA, Grant Budget-Based, 4 projects * 10-12.000.000 EUR, 22 Sept 2027).
Partner (lead of the WP)



Topics of interest: AI-based multimodal predictive biomarkers for early detection and progression monitoring of neurodevelopmental impairment, a chronic non-communicable neurological condition of perinatal origin.

Problem: Neurodevelopmental disorders (e.g. cerebral palsy) are chronic non-communicable conditions with lifelong burden, yet they are detected too late, after the neonatal window for HIE and impaired brain maturation has closed.

No validated AI biomarkers integrate multimodal data (aEEG, HRV, General Movements, HINE, clinical) in real time to predict disease progression and response to early intervention.



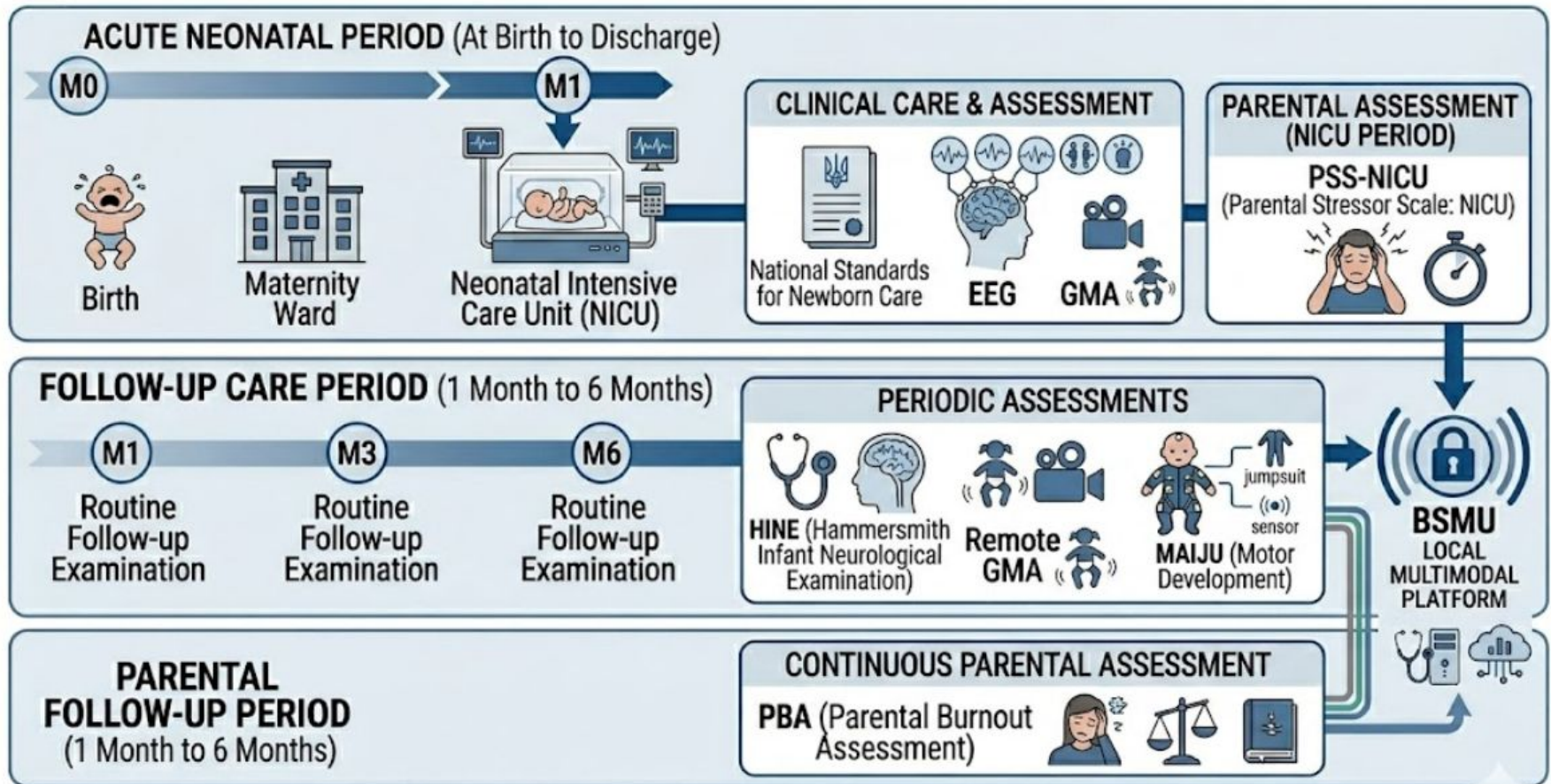
Objective:

To develop and clinically validate an AI-based multimodal system that generates predictive biomarkers of neurodevelopmental disease progression and treatment response, enabling early detection and risk stratification of HIE, abnormal brain maturation and early neurodevelopmental impairment.

The system integrates:

- clinical data
- instrumental data (aEEG/EEG, HRV, GM, HINE, MAIJU)
- laboratory data (NfL, GFAP, UCH-L1)
- parental assessment (PSS-NICU, PBA)

Target group: Infants aged 0–12 months and their parents.



Multimodal Child Examination Protocol



Current progress:

- 680 aEEG/EEG recordings, 450 clinical cases, 210 videos for GMA.
- Ongoing collection of clinical cases and signals
- Centralized multimodal database in development
- 1 article (Frontiers in Network Physiology, Q2), 3 international abstracts (USA, Italy, Romania), 6 national abstracts, 1 informational letter (Ukraine)

Partners: 2 national clinical sites, National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, V.M. Glushkov Institute of Cybernetics of the NAS, University of Pisa, University of Helsinki, University of Heidelberg, Technical University of Dresden (invited)



Partner needs:

AI/ML partners to apply established AI methodologies for generating novel multimodal predictive biomarkers

European clinical partners (neonatal and paediatric centres)

Biomarker and omics laboratories (proteomic, miRNA, blood-based markers) to complement signal-based data.

Regulatory-science and exploitation partner (MDR/IVDR strategy, HTA, path to clinical implementation and personalised medicine).

SME/industry partner to strengthen innovation uptake

An experienced Horizon Europe coordinator



Thank you!

