

# Development of screening instruments for early recognition of mental, behavioural and neurodevelopmental disorders in Latvian children and adolescents

## Recent advances

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# Neurodevelopmental, emotional and behavioural disorders in children

1 in 6 children suffers from some form of developmental disability

The prevalence of neurodevelopmental disorders (e.g. autism) is increasing worldwide

**Early intervention** is the most effective form of treatment (in many cases – potentially preventative)

**BUT**

Only in 20-30% of cases childhood developmental disorders are recognised in routine primary care practice before school age

**Universal screening** is the only known way to ensure timely recognition and early intervention (pre-diagnosis)

## **e-BAASIK**

Psychological assessment screening  
toolkit for recognition of children's  
early development risks

DRS

## **e-BAASIK is a comprehensive system of tools for early developmental screening**

- created in Latvia by a multidisciplinary team of scientists from the fields of medicine, clinical psychology and education
- collaboration between the University of Latvia, Riga Stradins University, Liepaja University and Children's Clinical University Hospital
- comprehensively covers all of the domains of child early development from infancy (1 y.o.) to late preschool age (6 y.o.)
- fully digitalised data collection, processing, maintenance and feedback
- created for use in the primary care setting for repetitive developmental monitoring
- validated and standardised in Latvian child population

## University of Latvia:

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## Riga Technical University Liepaja:

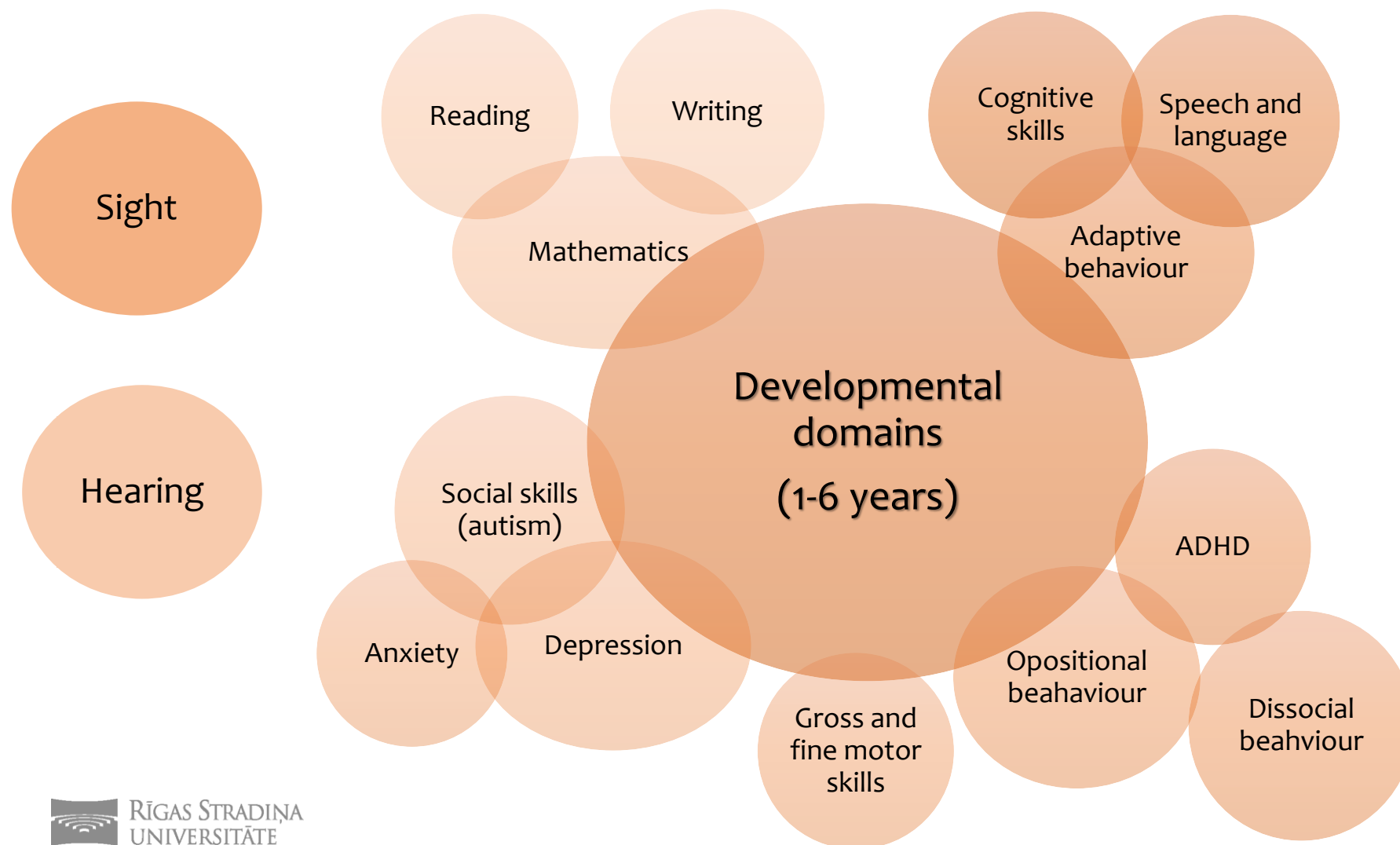
Dr. med. Baiba Trinīte,

PhD. Gundega Tomele

# e-BAASIK



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# e-BAASIK

- To be used in routine mandatory child visits
- Digital interface presents easy to interpret child development profiles
  - High risk (>95th %)
  - Moderate risk (80th to 95th %)
  - Low risk (<80th %)
- Data triangulation from
  - Physician questionnaire
  - Parent questionnaire
  - Preschool teacher questionnaire
  - Test of child's abilities



# e-BAASIK child developmental profiles



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|         | Vecums | PROC_V_MOT | PROC_V_KOG | PROC_V_ADAP | PROC_V_VALOD | PROC_V_LAS | PROC_V_RAK | PROC_V_MAT | PROC_V_KGSI | PROC_V_OUDU | PROC_V_UDHT | PROC_V_TRBA | PROC_V_NO | PROC_S_MOT | PROC_S_KOG | PROC_S_ADAP | PROC_S_VALOD | PROC_S_LAS | PROC_S_RAK | PROC_S_MAT | PROC_S_KGSI | PROC_S_OUDU | PROC_S_UDHT | PROC_S_TRBA | PROC_S_NO | PROC_B_KOG_IQ | PROC_B_VALOD | PROC_B_FON | PROC_B_LAS | PROC_B_RAK | PROC_B_MAT |
|---------|--------|------------|------------|-------------|--------------|------------|------------|------------|-------------|-------------|-------------|-------------|-----------|------------|------------|-------------|--------------|------------|------------|------------|-------------|-------------|-------------|-------------|-----------|---------------|--------------|------------|------------|------------|------------|
| zēns    | 6      | 1          | 1          | 1           | 1            | 1          | 1          | 1          | 3           | 2           | 3           | 3           | 2         | 2          | 1          | 1           | 1            | 1          | 1          | 1          | 1           | 2           | 2           | 1           | 1         | 1             | 1            | 1          | 1          | 1          | 1          |
| meitene | 6      | 2          | 2          | 1           | 2            | 1          | 1          | 1          | 1           | 1           | 2           | 1           | 2         | 2          | 2          | 2           | 3            | 1          | 1          | 2          | 2           | 2           | 1           | 2           | 3         | 2             | 2            | 1          | 1          | 2          | 2          |
| zēns    | 5      | 3          | 2          | 1           | 1            | 1          | 2          | 1          | 3           | 2           | 2           | 3           | 3         | 1          | 2          | 1           | 1            | 1          | 2          | 2          | 2           | 2           | 3           | 2           | 1         | 1             | 2            | 1          | 3          | 2          |            |
| zēns    | 5      | 2          | 2          | 1           | 1            | 1          | 1          | 1          | 2           | 3           | 3           | 1           | 1         | 3          | 2          | 2           | 1            | 1          | 1          | 1          | 3           | 3           | 3           | 3           | 3         | 2             | 2            | 2          | 1          | 1          | 2          |
| zēns    | 5      | 1          | 1          | 2           | 2            | 2          | 1          | 1          | 3           | 3           | 3           | 3           | 3         | 1          | 1          | 1           | 1            | 1          | 1          | 1          | 3           | 3           | 3           | 3           | 3         | 2             | 2            | 1          | 1          | 1          | 2          |
| zēns    | 6      | 3          | 3          | 3           | 1            | 1          | 1          | 2          | 3           | 3           | 3           | 3           | 3         | 1          | 1          | 1           | 1            | 1          | 1          | 1          | 3           | 3           | 3           | 3           | 2         | 3             | 2            | 1          | 1          | 1          | 1          |
| zēns    | 6      | 1          | 1          | 2           | 2            | 2          | 2          | 2          | 3           | 3           | 3           | 3           | 3         | 1          | 1          | 1           | 1            | 1          | 1          | 2          | 1           | 3           | 3           | 3           | 3         | 1             | 1            | 1          | 3          | 3          | 1          |
| meitene | 5      | 3          | 3          | 3           | 3            | 2          | 2          | 2          | 3           | 2           | 3           | 1           | 2         | 1          | 1          | 1           | 1            | 1          | 2          | 1          | 1           | 3           | 3           | 3           | 1         | 2             | 2            | 2          | 2          | 1          | 1          |
| zēns    | 5      | 1          | 1          | 1           | 2            | 2          | 2          | 3          | 3           | 3           | 3           | 1           | 1         | 1          | 2          | 2           | 3            | 2          | 1          | 3          | 3           | 3           | 3           | 1           | 2         | 1             | 1            | 1          | 3          | 1          | 3          |
| zēns    | 5      | 2          | 2          | 1           | 1            | 1          | 3          | 2          | 2           | 1           | 2           | 3           | 3         | 2          | 2          | 1           | 1            | 1          | 3          | 3          | 2           | 2           | 2           | 3           | 3         | 1             | 2            | 2          | 2          | 2          | 3          |
| zēns    | 5      | 3          | 2          | 2           | 3            | 1          | 3          | 2          | 3           | 1           | 1           | 3           | 3         | 2          | 1          | 1           | 2            | 2          | 2          | 2          | 3           | 1           | 1           | 3           | 3         | 1             | 1            | 1          | 3          | 3          | 1          |
| zēns    | 6      | 1          | 1          | 1           | 2            | 1          | 1          | 1          | 3           | 3           | 2           | 3           | 3         | 1          | 2          | 2           | 3            | 2          | 1          | 1          | 3           | 3           | 2           | 3           | 3         | 2             | 3            | 3          | 3          | 1          | 1          |
| meitene | 5      | 3          | 3          | 3           | 3            | 2          | 3          | 2          | 3           | 3           | 3           | 3           | 2         | 3          | 3          | 3           | 3            | 3          | 2          | 3          | 3           | 3           | 3           | 3           | 3         | 3             | 3            | 2          | 2          | 3          | 3          |
| zēns    | 6      | 3          | 3          | 2           | 2            | 3          | 3          | 3          | 3           | 3           | 2           | 2           | 3         | 3          | 3          | 3           | 3            | 3          | 3          | 3          | 2           | 3           | 3           | 3           | 3         | 3             | 3            | 3          | 3          | 3          | 3          |
| zēns    | 5      | 3          | 3          | 3           | 3            | 3          | 3          | 3          | 2           | 3           | 3           | 3           | 2         | 2          | 3          | 3           | 2            | 3          | 3          | 3          | 2           | 3           | 3           | 3           | 3         | 3             | 3            | 3          | 3          | 3          | 3          |
| meitene | 5      | 3          | 3          | 3           | 3            | 2          | 2          | 2          | 3           | 3           | 3           | 3           | 3         | 3          | 2          | 3           | 3            | 3          | 3          | 2          | 3           | 3           | 3           | 3           | 3         | 3             | 3            | 3          | 3          | 3          | 3          |
| meitene | 5      | 3          | 3          | 3           | 3            | 3          | 3          | 3          | 3           | 3           | 3           | 3           | 2         | 2          | 3          | 3           | 3            | 3          | 3          | 2          | 2           | 3           | 3           | 3           | 2         | 3             | 3            | 3          | 3          | 3          | 3          |
| meitene | 6      | 3          | 3          | 3           | 3            | 3          | 3          | 3          | 3           | 3           | 3           | 3           | 3         | 3          | 3          | 3           | 3            | 3          | 3          | 3          | 3           | 3           | 3           | 3           | 3         | 3             | 3            | 3          | 3          | 3          | 3          |
| meitene | 6      | 3          | 3          | 3           | 3            | 3          | 3          | 3          | 3           | 3           | 3           | 3           | 3         | 3          | 3          | 3           | 3            | 3          | 3          | 3          | 3           | 3           | 3           | 3           | 3         | 3             | 3            | 3          | 3          | 3          | 3          |
| meitene | 6      | 3          | 3          | 3           | 3            | 3          | 3          | 3          | 3           | 3           | 3           | 3           | 3         | 3          | 3          | 3           | 3            | 3          | 3          | 3          | 3           | 3           | 3           | 3           | 3         | 3             | 3            | 3          | 3          | 3          | 3          |
| zēns    | 6      | 3          | 3          | 3           | 3            | 3          | 3          | 3          | 3           | 3           | 3           | 3           | 3         | 3          | 3          | 3           | 3            | 3          | 3          | 3          | 3           | 3           | 3           | 3           | 3         | 3             | 3            | 3          | 3          | 3          | 3          |
| meitene | 6      | 3          | 3          | 3           | 3            | 3          | 3          | 3          | 3           | 3           | 3           | 3           | 3         | 3          | 3          | 3           | 3            | 3          | 3          | 3          | 3           | 3           | 3           | 3           | 3         | 3             | 3            | 3          | 3          | 3          | 3          |
| zēns    | 6      | 3          | 3          | 3           | 3            | 3          | 3          | 3          | 3           | 3           | 3           | 3           | 3         | 3          | 3          | 3           | 3            | 3          | 3          | 3          | 3           | 3           | 3           | 3           | 3         | 3             | 3            | 3          | 3          | 3          | 3          |
| zēns    | 6      | 3          | 3          | 3           | 3            | 3          | 3          | 3          | 3           | 3           | 3           | 3           | 3         | 3          | 3          | 3           | 3            | 3          | 3          | 3          | 3           | 3           | 3           | 3           | 3         | 3             | 3            | 3          | 3          | 3          | 3          |

**e-BAASIK system provides** comprehensive recommendations for the caregiver and preschool teacher and a clinical pathway for necessary in-depth investigations and evidence-based early interventions, depending on the severity of risk

# An example of child's e-BAASIK normative score profile



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|                                                  |                 |
|--------------------------------------------------|-----------------|
| Mērījums                                         | pirmais         |
| Bērna kods                                       | PZDZA390384     |
| Vecums gados un mēnešos<br>(pēc Vecāku aptaujas) | 6 gadi 5 mēneši |

|      |      |
|------|------|
| Gads | 2023 |
|------|------|

e-BAASIK can provide a very broad profile of child development indicators

This profile takes up 2 computer pages.

This profile takes up 2 computer pages.

|                                             |                         | Spēju un prasmju skalas                    |  |                                   |                    |                                        |                         |                            |                                        |                             |                               |                        |                   |              |                     |             |                                  |                                  |                                       |                                       |                         |                 |                                     |               |             |                |  |  |  |  |
|---------------------------------------------|-------------------------|--------------------------------------------|--|-----------------------------------|--------------------|----------------------------------------|-------------------------|----------------------------|----------------------------------------|-----------------------------|-------------------------------|------------------------|-------------------|--------------|---------------------|-------------|----------------------------------|----------------------------------|---------------------------------------|---------------------------------------|-------------------------|-----------------|-------------------------------------|---------------|-------------|----------------|--|--|--|--|
|                                             |                         | Motoriskās koordinācijas pilnā skala (MOT) |  | Kognitīvo spēju pilnā skala (KOG) |                    | Adaptīvās uzvedības pilnā skala (ADAP) |                         |                            | Valodas un runas pilnā skala (VAL & R) |                             |                               |                        |                   |              |                     |             |                                  |                                  |                                       |                                       |                         |                 |                                     |               |             |                |  |  |  |  |
| Bērna dzimšanas dati                        | Testēšanas beigu datums | BAASIK instrumenta veids                   |  | Lielā motorika (LM)               | Sīkā motorika (SM) | Vizuālā spriešana (VIZ)                | Verbālā izpratne (VERB) | Komunikācijas domēns (KOM) | Ikdienas dzīves prasmju domēns (IKDZP) | Sociālizācijas domēns (SOC) | Receptīva valoda (RV)         | Ekspresīva valoda (EV) | Skaņu izruna (SK) | Plūdums (PL) | Emocionālā elastība | Lasītprasme | Rakstīšanas sākuma prasmes (RAK) | Matemātikas sākuma prasmes (MAT) | Komunikācijas grūtības (autisms) (KG) | Opozicionāri izaicinošā uzvedība (OU) | Disociāla uzvedība (DU) | Neuzmanība (NU) | Hiperaktivitāte/ Impulsivitāte (HI) | Trauksme (TR) | Bailes (BA) | Nomāktība (NO) |  |  |  |  |
| Parent's Survey                             |                         |                                            |  | MOT<br>LM    SM                   |                    | KOG<br>VUS    VI                       |                         | ADAP<br>KOM    IDZP    SOC |                                        |                             | VALOD<br>RV    EV    SK    PL |                        |                   | EE           | LP                  | RP          | MA                               | KGSI                             | OU    DU                              |                                       | UDHT                    |                 | TRBANO<br>TRBA    NO                |               |             |                |  |  |  |  |
| Teacher's Survey                            |                         |                                            |  | MOT<br>LM    SM                   |                    | KOG<br>VUS    VI                       |                         | ADAP<br>KOM    IDZP    SOC |                                        |                             | VALOD<br>RV    EV    SK    PL |                        |                   | EE           | LP                  | RP          | MA                               | KGSI                             | OU    DU                              |                                       | UDHT                    |                 | TRBANO<br>TRBA    NO                |               |             |                |  |  |  |  |
| Child's abilities and skills test<br>(BSPT) |                         |                                            |  |                                   |                    | KOG<br>VIZ    VERB                     |                         |                            |                                        |                             | VALOD<br>RV    EV    SK       |                        |                   |              | LAS                 | RAK         | MAT                              |                                  |                                       |                                       |                         |                 |                                     |               |             |                |  |  |  |  |

 below 5th percentile (high risk)

 between 5th and 16th percentile (medium risk)

 above 16th percentile (low risk, normal)

# Publication



Raščevska, M. (Ed.). (2024). *Development of psychological assessment screening toolkit for recognition of children's early development risks. Theoretical basis of screening constructs and availability of development promotion interventions*. Set of scientific articles. LU Akadēmiskais apgāds. <https://doi.org/10.22364/psnsk.1.24>

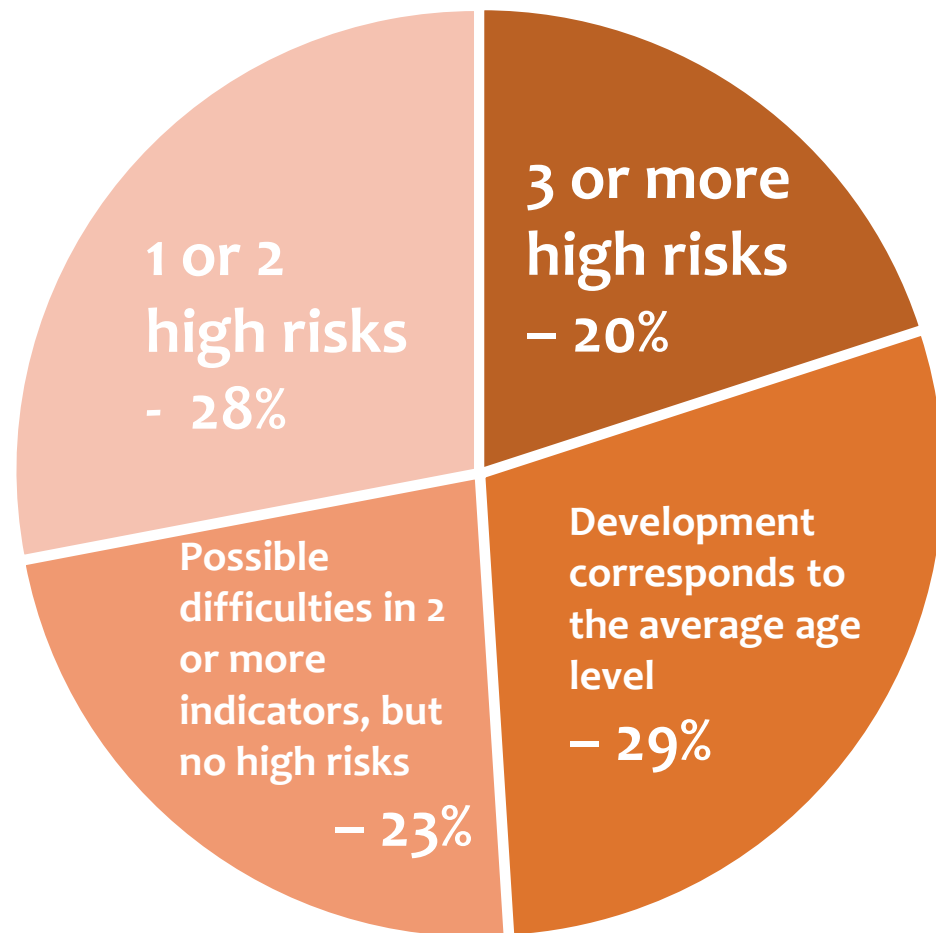
Some theoretical findings need to be highlighted in the context of this study:

- The first, for younger preschool children various measures of the cognitive domain are still insufficiently differentiated and show closer correlations than in older age stages (e.g. Tideman & Gustafsson, 2004)
- measures of behavioral problems and emotional problems are usually either much weaker correlated with different cognition domains or even uncorrelated in preschooler (e.g. , Heller et al, 1996; Papachristou & Flouri, 2020).

# e-BAASIK standartisation results



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Agrīnā preventīvā  
atbalsta sistēma  
bērniem

# Future activities

## **EARLY CHILDHOOD DEVELOPMENT SCREENING**

- Digitalization of e-BAASIK and development of a Unified Risk Analysis and Management Information System to support children's developmental needs
- Refinement of the e-BAASIK implementation algorithm
- Amendments to regulatory acts for e-BAASIK implementation
- Additional state budget funding for e-BAASIK implementation
- Training for professionals and awareness-raising activities for parents

## **DEVELOPMENT OF SCREENING FOR CHILDREN AGED 7–10**

## **ADAPTATION, STANDARDIZATION AND VALIDATION OF IN-DEPTH ASSESSMENT TOOLS FOR CHILDREN with identified developmental risks**

## **STRUCTURAL REFORMS for the implementation of an ORGANIZATIONAL MODEL for conducting in-depth assessments and planning support measures**

# Adaptation and standardisation of psychometric assessment and diagnostic instruments



- **Bayley-4** (Bayley Scales of Infant and Toddler Development – 4th edition)
- **Vineland-3** (Vineland Adaptive Behavior Scales, Third Edition)
- **PLS-5** (The Preschool Language Scale–Fifth Edition)
- **IDS-2** (Intelligence and Development Scales – 2<sup>nd</sup> edition)

| Apkopojums par testu: kuras jomas un kuras vecumposmus tie nosedz                                     |                                   |                                   |                                   |                                   |                                   | Pirmsskola                        |                                   | Skolas vecums                     |                                   |                                   |                                   |                                   |                                   |                                   |
|-------------------------------------------------------------------------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Funkcionēšanas joma                                                                                   | 0-1 gadi                          | 1:0-1:11                          | 2:0-2:11                          | 3:0-3:11                          | 4:0-4:11                          | 5:00 – 5:11                       | 6:0 – 6:11                        | 7:0 – 7:11                        | 8:0-9:11                          | 10:0-11:11                        | 12:0-13:11                        | 14:0-15:11                        | 16:0-17:11                        | 18+ gadi                          |
| Intelektuālā attīstība / Kognitīvās spējas                                                            |                                   |                                   |                                   |                                   |                                   | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2 (līdz vec. 20:11 )          |
|                                                                                                       | Bayley-4                          | Bayley-4                          | Bayley-4                          | Bayley-4 (līdz 3:6)               |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Adaptīva uzvedība                                                                                     | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        |
|                                                                                                       | Bayley-4                          | Bayley-4                          | Bayley-4                          | Bayley-4 (līdz 3:6)               |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Valoda un komunikāc. (fonoloģija, ekspr., receptīvā u.c.) / daļa no lielās testa kopas                |                                   |                                   |                                   |                                   |                                   | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2                             |                                   |                                   |                                   |                                   |
|                                                                                                       | Bayley-4                          | Bayley-4                          | Bayley-4                          | Bayley-4 (līdz 3:6)               |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
|                                                                                                       | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        |
| Valoda un komunikāc., runa *Tests atsevišķi lietošanai logopēdiem u.c. spec. (ārpus IQ / lielā testa) | PLS-5                             | PLS-5                             | PLS-5                             | PLS-5                             | PLS-5                             | PLS-5                             | PLS-5                             | PLS-5                             |                                   |                                   |                                   |                                   |                                   |                                   |
| Mācīšanās iemaņas 1 (lasīšana, rakstīšana)                                                            |                                   |                                   |                                   |                                   |                                   |                                   |                                   | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2 līdz 20:11                  |
| Mācīšanās iemaņas 2 (matemāt. prasmes)                                                                |                                   |                                   |                                   |                                   |                                   | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2 līdz 20:11                  |
| Vadības funkcijas                                                                                     |                                   |                                   |                                   |                                   |                                   | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2 līdz 20:11                  |
| Kustību koordinācija / motorika                                                                       |                                   |                                   |                                   |                                   |                                   | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2 līdz 20:11                  |
|                                                                                                       | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        |                                   |                                   |                                   |                                   |                                   |
|                                                                                                       | Bayley-4                          | Bayley-4                          | Bayley-4                          | Bayley-4 (līdz 3:6)               |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Sociālā un emocionālā attīstība (emoc. atpaz., regul. u.c.)                                           |                                   |                                   |                                   |                                   |                                   | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2                             | IDS-2 līdz 20:11                  |
|                                                                                                       | Bayley-4                          | Bayley-4                          | Bayley-4                          | Bayley-4 (līdz 3:6)               |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
|                                                                                                       | PLS-5                             | PLS-5                             | PLS-5                             | PLS-5                             | PLS-5                             | PLS-5                             | PLS-5                             | PLS-5                             |                                   |                                   |                                   |                                   |                                   |                                   |
|                                                                                                       | Vineland-3 (socializēš. uzvedība) | Vineland-3 (socializēš. uzvedība) | Vineland-3 (socializēš. uzvedība) | Vineland-3 (socializēš. uzvedība) | Vineland-3 (socializēš. uzvedība) | Vineland-3 (socializēš. uzvedība) | Vineland-3 (socializēš. uzvedība) | Vineland-3 (socializēš. uzvedība) | Vineland-3 (socializēš. uzvedība) | Vineland-3 (socializēš. uzvedība) | Vineland-3 (socializēš. uzvedība) | Vineland-3 (socializēš. uzvedība) | Vineland-3 (socializēš. uzvedība) | Vineland-3 (socializēš. uzvedība) |
| Sociālā un emocionālā attīstība (autismam)                                                            | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        |
| Uzvedība                                                                                              | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        | Vineland-3                        |

Atšifrējumi testu nosaukumiem:

IDS-2: Intelektuālā un attīstības skalas, 2.izdevums (Intelligence and Development Scales - 2nd Edition) <https://www.ids-2.com/framework/>

Bayley-4: Beilija zīdaiņu un mazbērnu attīstības skalas, 4. izdevums (Bayley Scales of Infant and Toddler Development – 4th edition)

<https://www.pearsonassessments.com/store/usassessments/en/Store/Professional-Assessments/Cognition-%26-Neuro/Bayley-Scales-of-Infant-and-Toddler-Development-%7C-Fourth-Edition/p/100001996.html#>

Vineland-3: Vainlenda adaptīvās uzvedības skalas, 3. izdevums (Vineland Adaptive Behavior Scales, Third Edition) <https://www.pearsonassessments.com/store/usassessments/en/Store/Professional-Assessments/Behavior/Adaptive/Vineland-Adaptive-Behavior-Scales-%7C-Third-Edition/p/100001622.html?tab=product-details>

PLS-5: Pirmsskolas valodas skalas, 5.izdevums (The Preschool Language Scale–Fifth Edition) <https://www.pearsonassessments.com/content/dam/school/global/clinical/us/assets/pls5/pls-5-brochure.pdf>



# Computer-assisted assessment tool for measuring and monitoring mental health outcomes of adolescents in the context of the post-COVID pandemic

# CAAT project

## Aim:

To create a computer-assisted tool for assessing and monitoring mental health in adolescents (ages 13–19), focusing on suicide risk in the post-COVID context.

## Key Features:

- Based on prior computerized personality assessment research
- Adapts methods for adolescents
- Includes psychophysiological data (e.g., response time, decision pressure)
- Digital, user-friendly format for clinical use

Jaunas datorizētas novērtēšanas metodes izstrāde  
pusaudžu psihiskās veselības iznākumu mērīšanai  
un monitorēšanai post-COVID pandēmijas apstākļos

# Team

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# Conceptual framework

## ICD-11 for Mortality and Morbidity Statistics (2018)

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▼ ICD-11 - Mortality and Morbidity Statistics

▶ 01 Certain infectious or parasitic diseases

▶ 02 Neoplasms

▶ 03 Diseases of the blood or blood-forming organs

▶ 04 Diseases of the immune system

▶ 05 Endocrine, nutritional or metabolic diseases

▶ 06 Mental, behavioural or neurodevelopmental disorders

▶ 07 Sleep-wake disorders

▶ 08 Diseases of the nervous system

▶ 09 Diseases of the visual system

▶ 10 Diseases of the ear or mastoid process

▶ 11 Diseases of the circulatory system

▶ 12 Diseases of the respiratory system

▶ 13 Diseases of the digestive system

▶ 14 Diseases of the skin

▶ 15 Diseases of the musculoskeletal system or connective tissue

▶ 16 Diseases of the genitourinary system

▶ 17 Conditions related to sexual health

▶ 18 Pregnancy, childbirth or the puerperium

▶ 19 Certain conditions originating in the perinatal period

▶ 20 Developmental anomalies

▶ 21 Symptoms, signs or clinical findings, not elsewhere classified



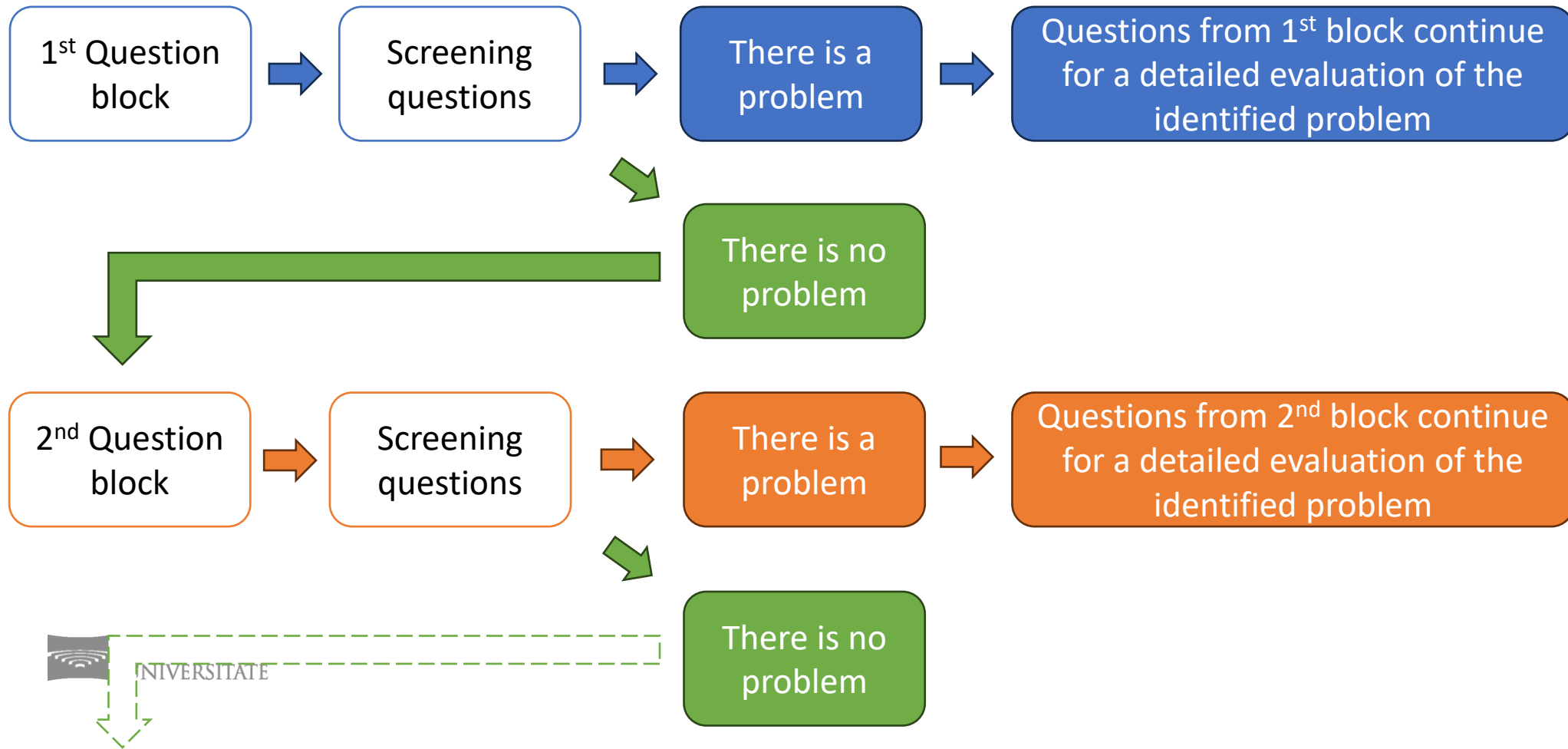
### ICD-11 for Mortality and Morbidity Statistics (ICD-11 MMS) 2018 version

Version for preparing implementation

### Release Notes

- The code structure for the ICD-11 MMS is stable.
- Updating mechanism is in place, based on the proposals submitted on the [maintenance platform](#)

# Screening algorithm



# Screening instrument structure



Mood disorders

Anxiety and fear-related disorders

Depression

Mania and  
hypomania

Panic disorder

Agoraphobia

Social anxiety

Specific phobias

Generalized anxiety

# Screening instrument structure



Somatic  
symptoms

Obsessive-  
compulsive  
disorder

Stress related  
disorders

Dissociative  
disprders

Obsessions

Compulsions

PTSD

Complex PTSD

Dissociative  
identity disorder

Derealisation-  
depersonalisation

# Screening instrument structure



## Eating disorders

Anorexia Nervosa, Bulimia Nervosa, Binge eating disorder,  
Avoidant-restrictive food intake disorder

## Disorders due to substance use

Disorders due to  
use of alcohol

Disorders due to  
use of narcotics

Smoking

# Screening instrument structure



## Disruptive behaviours

Oppositional defiant disorder

Conduct-dissocial disorder

## Disorders due to addictive behaviours

Gambling  
disorder

Gaming  
disorder

Problematic  
social media  
use

Problematic  
gadget use



# Screening instrument structure



## Personality related traits and symptoms

Attention-seeking  
behaviour

Impulsivity

Irresponsibility

Indecisiveness

Low self-esteem

Eccentricity

peculiar or  
strange  
appearance

peculiar or  
strange  
behaviour

Perfectionism

Pessimism

Recklessness

Sensation seeking

Stubbornness

Submissiveness

*# scales are included in the Conduct-dissocial  
scale block*

Entitlement

Callousness/unemo-  
tionality #

Hostility #

Negativism #

Low frustration  
tolerance#

Negative affectivity

Depressivity

Anxiousness

Emotionality

Emotional lability

Irritability & anger #

# Screening instrument structure



Symptoms or signs  
related to appearance  
or behaviour

Symptoms or signs  
related to thought  
contents

Suicidal behaviour

Symptoms or signs  
related to cognition

Social withdrawal

Suspiciousness

Self-harm

Absent-mindedness

Increased sociability

Grandiosity

Suicidal thought

Difficulty  
concentrating

Suicide attempts

# Stages of screening instrument development



Defining measurable constructs

Creating the initial item pool

Assessing the validity of item content by independent experts; piloting in target population-> revision of item pool

Empirical approbation of successful items in clinical and non-clinical groups -> Development of the first version of test scales

Development of the final version, its validation and standardization

CAAT device



# Interventions

|                                                   |                                                                             | 0-1 g.v.                                            | 1 g.v.                             | 2 g.v.                                                                              | 3 g.v.                                   | 4-6 g.v. | 7-10 g.v.                                                 | 10-14 g.v.                                                    | 14+ g.v. |
|---------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------|------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------|----------|-----------------------------------------------------------|---------------------------------------------------------------|----------|
| Skrīnings                                         |                                                                             | Risku skrīnings prenatālam un neonatālam periodam   |                                    | Agrīnās attīstības skrīnings                                                        |                                          |          |                                                           |                                                               |          |
| Uzvedības un emociju joma                         | Komunikācija/autisms                                                        |                                                     | Denveras modelis<br>EarlyBird (<5) |                                                                                     | ABA terapija<br>Autism Education Trust   |          |                                                           |                                                               |          |
|                                                   | Uzvedība                                                                    |                                                     |                                    |                                                                                     | STOP 4-7 (4-6)                           |          | Incredible Years (4-8)                                    | Problem Solving Skills Training (7-14)                        |          |
|                                                   | Uzmanības noturība un hiperaktivitāte                                       |                                                     |                                    |                                                                                     | Parent - Child Interaction Therapy (2-7) |          |                                                           | Agression Replacement Training<br>Coping Power Program (8-14) |          |
|                                                   | Emocionālā līdzsvarotība, trauksme, nomāktība                               |                                                     |                                    |                                                                                     | Child-Parent Relationship Therapy (3-8)  |          | Cool kids (7-17)                                          |                                                               |          |
|                                                   | Depresija                                                                   |                                                     |                                    |                                                                                     |                                          |          | Primary and Secondary Control Enhancement Training (8-15) |                                                               |          |
| Mācīšanās iemaņas                                 | Rakstīšana                                                                  |                                                     |                                    |                                                                                     |                                          |          |                                                           |                                                               |          |
|                                                   | Lasīšana                                                                    |                                                     |                                    |                                                                                     |                                          |          |                                                           |                                                               |          |
|                                                   | Matemātika                                                                  |                                                     |                                    |                                                                                     |                                          |          | Diskalkulijas terapija                                    |                                                               |          |
| Kognitīvā joma                                    | Kognitīvās spējas/ intelekts                                                |                                                     |                                    |                                                                                     |                                          |          |                                                           |                                                               |          |
|                                                   | Valoda, runa                                                                |                                                     |                                    |                                                                                     |                                          |          |                                                           |                                                               |          |
| Fiziskās attīstības joma                          | Motorika, kustību koordinācija                                              |                                                     |                                    |                                                                                     |                                          |          |                                                           |                                                               |          |
|                                                   | Redze                                                                       |                                                     |                                    |                                                                                     | Asistīvo tehnoloģiju apmaiņas fonds      |          |                                                           |                                                               |          |
|                                                   | Dzirde                                                                      |                                                     |                                    |                                                                                     |                                          |          |                                                           |                                                               |          |
| Bērnu mentālo veselību ietekmējošie vides faktori | Bērnu-vecāku mijiedarbība, attiecības (Bērnu mentālās veselības profilakse) | Attachment and Biobehavioral Catch-up (0-2)         |                                    | Parent - Child Interaction Therapy (2-7)<br>Child-Parent Relationship Therapy (3-8) |                                          |          |                                                           |                                                               |          |
|                                                   | Vecāku prasmes                                                              | Nurse-Family partnership (0-2)<br>Child First (0-5) |                                    |                                                                                     | Incredible years (4-8)                   |          |                                                           |                                                               |          |
|                                                   | Vardarbība mājas vidē                                                       |                                                     |                                    |                                                                                     |                                          |          |                                                           |                                                               |          |
|                                                   | Skolotāju - skolēnu - vecāku attiecības                                     |                                                     |                                    |                                                                                     | Autism Education Trust                   |          |                                                           |                                                               |          |
|                                                   | Vardarbība skolas vidē                                                      |                                                     |                                    |                                                                                     |                                          |          | KīVa pāridarījumu izplatības mazināšanai (7-15)           |                                                               |          |

**Thank you for your attention!**

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