Healthy and Ready to Learn
Title V Partnership Meeting

November 7, 2023

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AGENDA

Overview of the NSCH

Approach to HRTL

Data Snapshot

Strengths and Limitations

Learn more at https://mchb.hrsa.gov
National Survey of Children’s Health: OVERVIEW
National Survey of Children’s Health

OVERVIEW

• Sponsored by the Health Resources and Services Administration’s Maternal and Child Health Bureau; conducted by the U.S. Census Bureau. Co-sponsorship by CDC and USDA.

• **Annual**, cross-sectional, address-based survey that collects information via the web and paper/pencil questionnaires.

• Designed to collect information on the health and well-being of children ages 0-17, and related health care, family, and community-level factors that can influence health.

• Provides both **national** and **state-level** estimates for all non-institutionalized children ages 0-17 years in the U.S.

• Data are released annually on **Child Health Day** for the previous year.

Learn more at [https://mchb.hrsa.gov](https://mchb.hrsa.gov)
National Survey of Children's Health
SAMPLE SIZE AND RESPONSE RATES: 2016-2022

Completed Interviews Per Year
- 2016 = 50,212
  - 638+ per State & DC
- 2017 = 21,599
  - 343+ per State & DC
- 2018 = 30,530
  - 520+ per State & DC
- 2019 = 29,433
  - 482+ per State & DC
- 2020 = 42,777
  - 644+ per State & DC
- 2021 = 50,892
  - 790+ per State & DC
- 2022 = 54,103
  - 688+ per State & DC

Annual Response and Completion Rates

Response Rate

Interview Completion Rate
# PERFORMANCE MEASUREMENT, POLICIES, AND PROGRAMS

## Current Title V MCH Services Block Grant National Performance and Outcome Measures

<table>
<thead>
<tr>
<th>Number</th>
<th>Measure Description</th>
<th>Measure Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Developmental Screening</td>
<td>NPM 6:</td>
</tr>
<tr>
<td>2.</td>
<td>Physical Activity (6-11 years)</td>
<td>NPM 8.1:</td>
</tr>
<tr>
<td>3.</td>
<td>Physical Activity (12-17 years)</td>
<td>NPM 8.2:</td>
</tr>
<tr>
<td>4.</td>
<td>Bullying</td>
<td>NPM 9:</td>
</tr>
<tr>
<td>5.</td>
<td>Adolescent Well-Visit</td>
<td>NPM 10:</td>
</tr>
<tr>
<td>6.</td>
<td>Medical Home</td>
<td>NPM 11:</td>
</tr>
<tr>
<td>7.</td>
<td>Transition</td>
<td>NPM 12:</td>
</tr>
<tr>
<td>8.</td>
<td>Preventive Dental Visit</td>
<td>NPM 13.2:</td>
</tr>
<tr>
<td>9.</td>
<td>Smoking (household)</td>
<td>NPM 14.2:</td>
</tr>
<tr>
<td>10.</td>
<td>Adequate Insurance</td>
<td>NPM 15:</td>
</tr>
<tr>
<td>11.</td>
<td>School Readiness</td>
<td>NOM 13:</td>
</tr>
<tr>
<td>12.</td>
<td>Tooth Decay/Cavities</td>
<td>NOM 14:</td>
</tr>
<tr>
<td>13.</td>
<td>CSHCN</td>
<td>NOM 17.1:</td>
</tr>
<tr>
<td>14.</td>
<td>CSHCN Systems of Care</td>
<td>NOM 17.2:</td>
</tr>
<tr>
<td>15.</td>
<td>Autism</td>
<td>NOM 17.3:</td>
</tr>
<tr>
<td>16.</td>
<td>ADD/ADHD</td>
<td>NOM 17.4:</td>
</tr>
<tr>
<td>17.</td>
<td>Mental Health Trt.</td>
<td>NOM 18:</td>
</tr>
<tr>
<td>18.</td>
<td>Health Status</td>
<td>NOM 19:</td>
</tr>
<tr>
<td>19.</td>
<td>Obesity</td>
<td>NOM 20:</td>
</tr>
<tr>
<td>20.</td>
<td>Forgone Health Care</td>
<td>NOM 25:</td>
</tr>
</tbody>
</table>

## Federal policy and program development:

- 15 Healthy People 2010/2020/2030 Objectives;
- CDC investments in ADHD, ASD, and Developmental Conditions;
- MCHB investments in early childhood (Home Visiting and Healthy Start);
  - Developmental Screening
  - Literacy Promotion
- Children with Special Health Care Needs.
  - Prevalence
  - Impacts
  - Experiences
  - Core Outcomes & System of Care

Learn more at [https://mchb.hrsa.gov](https://mchb.hrsa.gov)
National Survey of Children’s Health

CORE CONTENT

8 CORE CONTENT AREAS

- General
- Health Insurance
- Providing for Child’s Health
- Family and Household
- Neighborhood & Community
- Infant Health
- Experience with Health Care Providers
- Health Care Services

Screener

0-5 Years
Health and Ready to Learn

- Physical & oral health status
- Special Health Care Needs
- Flourishing
- Disability & functional limitations
- Activity limitations
- Conditions
- Height & Weight

6-11 Years

- Preventive care
- Usual place for care
- Receipt of specialist care
- Unmet needs
- Developmental screening

12-17 Years
Healthcare Transition Planning

- PTB
- LBW
- Medical home
- Shared decision-making

Status
Type
Adequacy

Expenses & problems paying
Employment & caregiving burden

Screen time, physical activity, & sleep
Extracurricular & family activities
Childcare
Parenting stress
Family resilience
ACEs

Amenities
Social support

Learn more at https://mchb.hrsa.gov
Healthy and Ready to Learn

Approach
Healthy and Ready to Learn (HRTL)

GOAL AND TIMELINE

Goal: To develop a standardized, multidimensional, population-level measure of children’s learning and development across ages 3-5 years of age.

<table>
<thead>
<tr>
<th>Year</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012-2013</td>
<td>Title V Block Grant performance measures and NSCH redesigned</td>
</tr>
<tr>
<td>2013-2014</td>
<td>Candidate items identified along the 5 NSRII Domains of School Readiness</td>
</tr>
<tr>
<td>2015-2016</td>
<td>Items vetted and tested (2015) and fielded in 2016 National Survey of Child Health</td>
</tr>
<tr>
<td>2017-2021</td>
<td>Items reevaluated, summary and domain measures re-estimated, and additional cognitive testing completed in partnership with Child Trends</td>
</tr>
<tr>
<td>2022</td>
<td>Final revised items selected and fielded in 2022 NSCH</td>
</tr>
<tr>
<td>2023</td>
<td>State and National Estimates available (Fall)</td>
</tr>
</tbody>
</table>
DEVELOPMENT OF THE PROPOSED MEASURE

Survey Item Development
- Identification
- Specification
- Testing
- Refinement

Domain Development
- Number of domains
- Item alignment within/between domains
- Ages-specific scoring decisions

Summary Measure Development
- Calculation of the Title V National Outcome Measure (NOM)

Developmental expectations & Theoretical Understanding

Cognitive interviews and community partnerships

Descriptive analyses & CFA

Survey Items & Domain and Summary Measures

Learn more at https://mchb.hrsa.gov
Healthy and Ready to Learn (HRTL)

FINAL CONTENT

28 questions in 5 domains
• Early Learning Skills
• Social Emotional Development
• Self-Regulation
• Motor Development
• Health

Learn more at https://mchb.hrsa.gov
Healthy and Ready to Learn (HRTL)

DEVELOPMENT OF DOMAINS

Decision Examples:
- Correlations were poor between health and motor development items (<0.2) and factor analysis yielded two distinct factors ➔ 5 domains
- CFA showed that “writing name” was less associated with motor development than early learning skills ➔ moved domains
- “Bouncing back” was not sufficiently correlated with other SE items ➔ dropped (maintains independence of flourishing measure)
ITEM LEVEL: Parent/caregiver responses were coded on a three-point scale:
1 = Needs Support, 2 = Emerging, and 3 = On Track, based on age-appropriate developmental expectations and an assessment of the overall distribution of responses across domain items and ages.

DOMAIN LEVEL: Points achieved within each domain were summed and cut-points established for the overall average item-level score:
On Track (average score ≥ 2.5; most items received a score of 3 or ‘On Track’), Emerging (average score 2.0-2.49; most items received a score of 2 or ‘Emerging’) and Needs Support (average score < 2.0; indicating at least one and usually multiple items received a score of 1 or ‘Needs Support’).

HRTL: The overall measure was calculated by summing the number of domains in which a child was ‘On Track’, ‘Emerging’, and ‘Needs Support’.

NOM-13: Children ‘On Track’ in 4-5 domains with no domain that ‘Needs Support’ were considered ‘On Track’ overall, forming the definition for the Title V National Outcome Measure for School Readiness.
- Children with less than 4 ‘On Track’ domains and no more than 1 ‘Needs Support’ domain were considered ‘Emerging’ overall.
- Children who ‘Needs Support’ in ≥2 domains were considered ‘Needs Support’ overall.
**DEVELOPMENT OF SCORING APPROACH – ITEM DETAIL**

### HEALTH: In general, how would you describe this child's health?

<table>
<thead>
<tr>
<th>AGE (Years)</th>
<th>Poor</th>
<th>Fair</th>
<th>Good</th>
<th>Very Good</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>0.1</td>
<td>0.9</td>
<td>4.0</td>
<td>25.3</td>
<td>69.7</td>
</tr>
<tr>
<td>4</td>
<td>0.1</td>
<td>0.7</td>
<td>7.2</td>
<td>25.4</td>
<td>66.7</td>
</tr>
<tr>
<td>5</td>
<td>0.1</td>
<td>1.1</td>
<td>7.4</td>
<td>23.9</td>
<td>67.5</td>
</tr>
</tbody>
</table>

### EARLY LEARNING SKILLS: About how many letters of the alphabet can this child recognize?

<table>
<thead>
<tr>
<th>AGE (Years)</th>
<th>None of Them</th>
<th>Some of Them</th>
<th>About Half of Them</th>
<th>Most of Them</th>
<th>All of Them</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>15.9</td>
<td>30.4</td>
<td>10.6</td>
<td>18.2</td>
<td>24.9</td>
</tr>
<tr>
<td>4</td>
<td>4.7</td>
<td>18.5</td>
<td>11.9</td>
<td>23.4</td>
<td>41.5</td>
</tr>
<tr>
<td>5</td>
<td>2.6</td>
<td>7.3</td>
<td>6.7</td>
<td>22.2</td>
<td>61.1</td>
</tr>
</tbody>
</table>
### Social Emotional Development

<table>
<thead>
<tr>
<th>AGE (Years)</th>
<th>Sum of points</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>7</td>
<td>1.2</td>
</tr>
<tr>
<td>5</td>
<td>8</td>
<td>1.3</td>
</tr>
<tr>
<td>9</td>
<td>6.0</td>
<td>1.5</td>
</tr>
<tr>
<td>10</td>
<td>0.9</td>
<td>1.6</td>
</tr>
<tr>
<td>11</td>
<td>0.9</td>
<td>1.6</td>
</tr>
<tr>
<td>12</td>
<td>0.7</td>
<td>1.8</td>
</tr>
<tr>
<td>13</td>
<td>0.6</td>
<td>1.9</td>
</tr>
<tr>
<td>14</td>
<td>0.6</td>
<td>1.9</td>
</tr>
<tr>
<td>15</td>
<td>0.6</td>
<td>1.9</td>
</tr>
<tr>
<td>16</td>
<td>12.7</td>
<td>2.0</td>
</tr>
<tr>
<td>17</td>
<td>20.2</td>
<td>2.1</td>
</tr>
<tr>
<td>18</td>
<td>40.8</td>
<td>2.2</td>
</tr>
</tbody>
</table>

- **Sum of points** is the total score for each age group, ranging from 6 to 40.8.
- **Age (Years)** is listed from 3 to 18.
- **Mean Score** is calculated as the sum of points divided by the number of items (6 in this case).

**Min Score = 6 (1 pt/item) -**

**Max Score = 18 (3 pts/item)**

**Cut points chosen based on review of data and consistency across domains**

- **On Track**: Average score ≥ 2.5;
- **Emerging**: Average score 2.0-2.49;
- **Needs Support**: Average score < 2.0.

Learn more at [https://mchb.hrsa.gov](https://mchb.hrsa.gov)
The overall measure calculated by summing the number of domains in which a child was ‘On Track’, ‘Emerging’, and ‘Needs Support’.

**Considerations:**
1. Simplify messaging.
2. Acknowledge child development is highly variable.
3. Special consideration for motor and health domains.

- **Children who ‘Needs Support’ in ≥2 domains**
- **Children with 4 or fewer ‘On Track’ domains and no more than 1 ‘Needs Support’**
- **Children ‘On Track’ in 4-5 domains with no domain that ‘Needs Support’**
Healthy and Ready to Learn

Data Snapshot
Proportion of 3-5 Year-olds who are On Track, Emerging, or Needs Support by HRTL Domain

<table>
<thead>
<tr>
<th>Area</th>
<th>On Track</th>
<th>Emerging</th>
<th>Needs Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>OVERALL</td>
<td>63.6%</td>
<td>27.4%</td>
<td>9.0%</td>
</tr>
<tr>
<td>Early Learning Skills</td>
<td>68.8%</td>
<td>20.7%</td>
<td>10.4%</td>
</tr>
<tr>
<td>Social-Emotional Development</td>
<td>82.9%</td>
<td>10.0%</td>
<td>7.1%</td>
</tr>
<tr>
<td>Self-Regulation</td>
<td>72.6%</td>
<td>16.8%</td>
<td>10.6%</td>
</tr>
<tr>
<td>Motor Development</td>
<td>68.2%</td>
<td>22.8%</td>
<td>9.0%</td>
</tr>
<tr>
<td>Health</td>
<td>88.9%</td>
<td>9.3%</td>
<td>1.8%</td>
</tr>
</tbody>
</table>
Proportion of children 3-5 years who are On Track, Emerging, or Need Support in HRTL, by Age

<table>
<thead>
<tr>
<th>Age</th>
<th>On Track</th>
<th>Emerging</th>
<th>Needs Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>63.6%</td>
<td>27.4%</td>
<td>9.0%</td>
</tr>
<tr>
<td>3 Years</td>
<td>63.0%</td>
<td>29.3%</td>
<td>7.8%</td>
</tr>
<tr>
<td>4 Years</td>
<td>63.2%</td>
<td>27.9%</td>
<td>9.0%</td>
</tr>
<tr>
<td>5 Years</td>
<td>64.7%</td>
<td>25.1%</td>
<td>10.2%</td>
</tr>
</tbody>
</table>

Healthy and Ready to Learn (HRTL)
2022 National Survey of Children’s Health Estimates
Healthy and Ready to Learn (HRTL)

2022 National Survey of Children’s Health Estimates

# On Track Domains

- 5 domains: 42.0%
- 4 domains: 26.0%
- 3 domains: 14.9%
- 2 domains: 8.9%
- 1 domain: 5.3%
- 0 domains: 2.9%

68.0% On Track in 4-5 Domains

# Needs Support Domains

- 3+ domains: 4.5%
- 2 domains: 4.4%
- 1 domain: 14.6%
- 0 domains: 76.4%

23.6% Need Support in 1+ Domain

Learn more at https://mchb.hrsa.gov
Healthy and Ready to Learn (HRTL)

2022 National Survey of Children’s Health Estimates

Proportion of 3-5 Year-olds who are On Track, Emerging, or Needs Support by Race/Ethnicity

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>On Track</th>
<th>Emerging</th>
<th>Needs Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Hispanic Multiple Race</td>
<td>71.5%</td>
<td>22.3%</td>
<td>6.2%</td>
</tr>
<tr>
<td>Non-Hispanic White</td>
<td>69.9%</td>
<td>23.7%</td>
<td>6.4%</td>
</tr>
<tr>
<td>Non-Hispanic Asian</td>
<td>64.7%</td>
<td>30.6%</td>
<td>4.7%</td>
</tr>
<tr>
<td>Non-Hispanic AI/AN or NHPI</td>
<td>63.5%</td>
<td>20.1%</td>
<td>16.4%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>55.2%</td>
<td>34.0%</td>
<td>10.8%</td>
</tr>
<tr>
<td>Non-Hispanic Black</td>
<td>52.2%</td>
<td>29.3%</td>
<td>18.5%</td>
</tr>
</tbody>
</table>

Learn more at https://mchb.hrsa.gov
Healthy and Ready to Learn (HRTL)

2022 National Survey of Children’s Health Estimates

Proportion of 3-5 Year-olds who are On Track, Emerging, or Needs Support by Family Income

- **On Track**
  - <100% of Poverty: 45.5%
  - 100-199% of Poverty: 55.2%
  - 200-399% of Poverty: 66.7%
  - 400%+ of Poverty: 76.2%

- **Emerging**
  - <100% of Poverty: 35.7%
  - 100-199% of Poverty: 34.0%
  - 200-399% of Poverty: 26.0%
  - 400%+ of Poverty: 20.0%

- **Needs Support**
  - <100% of Poverty: 18.8%
  - 100-199% of Poverty: 10.8%
  - 200-399% of Poverty: 7.3%
  - 400%+ of Poverty: 3.7%

Learn more at https://mchb.hrsa.gov
Healthy and Ready to Learn (HRTL)
2022 National Survey of Children’s Health Estimates

Proportion of 3-5 year olds Healthy and Ready to Learn by CSHCN Status

- **Non-CSHCN**
  - On Track: 69.4%
  - Emerging: 26.2%
  - Needs Support: 4.4%

- **CSHCN**
  - On Track: 29.8%
  - Emerging: 34.7%
  - Needs Support: 35.5%
Healthy and Ready to Learn (HRTL)

2022 National Survey of Children’s Health Estimates

NOM-13: School Readiness

Compared to Overall U.S. (63.6%)

- 4 states significantly higher
  - RI (77.8%)
  - VA (77.7%)
  - MO (73.3%)
  - TN (70.7%)

- 2 states significantly lower
  - HI (51.6%)
  - TX (53.0%)

CAUTION: 22 states have reliability flags

Learn more at https://mchb.hrsa.gov
Healthy and Ready to Learn (HRTL)

2022 National Survey of Children’s Health Estimates

Multivariable Analysis Characteristics

Child
- Sex*
- Age
- Race/Ethnicity
- Special Health Care Needs Type*
- In School*

Family/Community
- Household Language*
- Parental Education*
- Family Income
- Food Sufficiency*
- Housing Instability
- Parental Mental Health*
- ACEs*
- Neighborhood Amenities*
- Medical Home*

Behavioral
- Screen Time
- Sleep Adequacy
- Reading/Singing or Telling Stories*
- Outdoor Play*

*Statistically significant
Healthy and Ready to Learn (HRTL)

2022 National Survey of Children’s Health Estimates

Protective Factors to Promote
Adjusted Prevalence Ratios

<table>
<thead>
<tr>
<th>factor</th>
<th>Adjusted Prevalence Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>In School</td>
<td>1.23</td>
</tr>
<tr>
<td>Reading/Singing or Telling Stories on Most Days</td>
<td>1.16</td>
</tr>
<tr>
<td>Outdoor Play 2+ hours/day</td>
<td>1.09</td>
</tr>
<tr>
<td>Neighborhood Amenities (3-4)</td>
<td>1.08</td>
</tr>
<tr>
<td>Medical Home Components</td>
<td>1.08</td>
</tr>
<tr>
<td>Personal Doctor/Nurse</td>
<td>1.11</td>
</tr>
<tr>
<td>Effective Care Coordination</td>
<td>1.16</td>
</tr>
</tbody>
</table>

Learn more at https://mchb.hrsa.gov
Healthy and Ready to Learn (HRTL)

2022 National Survey of Children’s Health Estimates

Risk Factors to Mitigate
Adjusted Prevalence Ratios

Male Sex

Parental Mental Health
Good/Fair/Poor

1+ ACE

Food Insufficiency

Special Health Care Needs

Parental Education ≤ High School

Non-English Language

Elevated Service Need Only

Service + Rx Med

Functional Limitations

Non-English Language

Elevated Service Need Only

Service + Rx Med

Functional Limitations

Learn more at https://mchb.hrsa.gov
Healthy and Ready to Learn

Strengths and Limitations
STRENGTHS & LIMITATIONS

Limitations:
- Parent/caregiver report
- Self-administered data collection
- Limited real estate
- Cultural, linguistic, and community norms
- (Relatively) complex measure
- Need to establish predictive validity

Strengths:
- Annual
- Multidimensional
- Standardized across states and nation
- Contextualized within larger health, family and community factors

Learn more at https://mchb.hrsa.gov
National Survey of Children’s Health

ACCESSING THE DATA

**MCHB Website**
https://mchb.hrsa.gov/data/national-surveys

**Census Bureau Website**
https://www.census.gov/programs-surveys/nsch.html

**Data Resource Center**
www.childhealthdata.org
(2021 file not yet updated)

**Enhanced Historical Files**
- Revised Imputation/Weighting for Race/Ethnicity
- Multiple race flags for AIAN, Asian, NHPI
- BMI for 6-9 (previously 10-17)
- Height/Weight 6-17
- Breastfeeding corrections
Reem Ghandour, DrPH, MPA
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Maternal and Child Health Bureau (MCHB)
Health Resources and Services Administration (HRSA)
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Web: mchb.hrsa.gov
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