Geographic Variations in Selected Title V National Performance and Outcome Measures: Data from the Combined 2016-2017 National Surveys of Children’s Health

Association of Maternal and Child Health Programs Annual Conference March 10, 2019

Office of Epidemiology and Research
Maternal and Child Health Bureau (MCHB)
Health Resources and Services Administration (HRSA)
Outline

1. Provide a brief overview of the National Survey of Children’s Health (NSCH) design, operations, and innovations.

2. Present findings on geographic and other variations in selected Title V NPMs and NOMs using the 2016-2017 NSCH:
   - “Healthy and Ready to Learn” (NOM-13);
   - Mental Health Diagnoses and Treatment (NOM-18);
   - Overweight, Obesity and Parental Perceptions (NOM-20);
   - Health Care Transition Planning (NPM-12).

3. Wrap Up and Q & A
National Survey of Children’s Health
Overview: 2016-2017

Quick Facts:
Data collected:
2016 = June 2016-February 2017
2017 = August 2017-February 2018

Subjects: Non-institutionalized children ages 0-17 yrs.

Respondents: Parents/guardians

Language: English & Spanish

Average Length: ≈ 30 minutes

Sample:
2016 = 50,212 nationally;
≈ 955 from each State & DC
2017 = 21,599 nationally
≈ 400 from each State & DC

Weighted Response & Interview Completion Rates:
2016 = 40.7% / 69.7%
2017 = 37.4% / 70.9%

• 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, USDA, and EPA.

• 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, including:
  • Special Health Care Need Status and impacts;
  • Health conditions;
  • Health care access, utilization and quality;
  • Child and family health behaviors;
  • Neighborhood amenities and resources;
  • Sociodemographic characteristics.

• Provides both National and State-level estimates.
National Survey of Children’s Health

Broad Utility

• Title V Maternal and Child Health Services Block Grant needs assessments and funding applications
  • 19 National Performance and Outcome Measures

• State-level planning and program development

• Federal policy and program development
  • Healthy People 2010/2020/2030

• Scientific Research
  • Health conditions, health care, State and Regional Analyses, and Special Populations
NSCH Content:
Core Content Areas

<table>
<thead>
<tr>
<th>Screen</th>
<th>0-5 Years</th>
<th>6-11 Years</th>
<th>12-17 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Health</td>
<td>General health status</td>
<td>General oral health</td>
<td>Status</td>
</tr>
<tr>
<td></td>
<td>General health status</td>
<td>Flourishing</td>
<td>Type</td>
</tr>
<tr>
<td></td>
<td>General health status</td>
<td>Activity limitations</td>
<td>Adequacy</td>
</tr>
<tr>
<td></td>
<td>Condition list</td>
<td>ASD &amp; ADD/ADHD content</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Height &amp; Weight</td>
<td></td>
</tr>
<tr>
<td>Infant Health</td>
<td>Preventive care</td>
<td>Providing for Child’s Health</td>
<td>Expenses &amp; problems paying</td>
</tr>
<tr>
<td></td>
<td>PTB</td>
<td></td>
<td>Employment &amp; caregiving burden</td>
</tr>
<tr>
<td></td>
<td>LBW</td>
<td></td>
<td>Screen time, physical activity, &amp; sleep</td>
</tr>
<tr>
<td>Health Care Services</td>
<td>Usual place for sick/well care</td>
<td>Extracurricular &amp; family activities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Receipt of specialist care</td>
<td>Child care</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unmet needs</td>
<td>Parenting stress</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Developmental screening</td>
<td>Family resilience</td>
<td></td>
</tr>
<tr>
<td>Experience with Health Care Providers</td>
<td>Medical home</td>
<td>Neighborhood &amp; Community</td>
<td>Amenities</td>
</tr>
<tr>
<td></td>
<td>Shared decision-making</td>
<td></td>
<td>Social support</td>
</tr>
<tr>
<td>Family and Household</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neighborhood &amp; Community</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2016 Data Collection

- Data collected June 2016 – February 2017
- Data released September 5, 2017
- 50,212 completed topical questionnaires
  - 80.6% were completed using the web instrument, 19.4% were completed using paper
  - State range of 638 (Mississippi) to 1351 (Minnesota)
- Weighted response rate = 40.7%.
  - Interview completion rate = 69.7%
- Included new content on HRTL, food sufficiency
  - New partnership with USDA
2017 Data Collection

• Data collected August 2017-February 2018

• Data released October 1, 2018

• 21,599 completed topical questionnaires
  • 75.9% were completed using the web instrument, 24.1% were complete using paper
  • State range of 343 (Arkansas) to 470 (Connecticut)

• Weighted response rate = 37.4%
  • Interview completion rate = 70.9%

• Included new content on environmental health
  • New partnership with EPA
2018 Data Collection

• Data collected June 2018-January 2019

• Data release *expected* October 7, 2019

• ≈ 30,000 completed topical questionnaires

• **Weighted response rate = 43.1%**
  • Interview completion rate = 75.3%

• **Included new content on Early Language Development**
  • Extended partnership with CDC/NCBDDD
Overview of Experiments/Innovations

**Sampling Innovations**

- **Valid Address Flag**
  - **Goal:** Improve upon an ACS Flag to accurately identify households that can receive mail.

- **Child Flag**
  - **Goal:** Identify the households most likely to include children in order to support targeted sampling.

- **Stratum Assignment**
  - **Goal:** Increase proportion of sampled households to contain children (using Child Flag).

- **CSHCN Oversample**
  - **Goal:** Increase proportion of CSHCN in data collection in order to support state-level analyses.

- **Age 0-5 Oversample**
  - **Goal:** Increase proportion of young children in data collection in order to support state-level analyses.

**Contact Innovations**

- **Web Push**
  - **Goal:** Evaluate the viability of web-based data collection & customize survey recruitment based on likelihood of web response.

- **Reminder Postcard**
  - **Goal:** Increase response by triggering memory of previous mailing and flagging future mailings.

- **Telephone Follow-up**
  - **Goal:** Reduce nonresponse by calling households that had not yet responded to survey.

**Packaging & Incentive Innovations**

- **Mail Carrier**
  - **Goal:** Increase response by maximizing perception of envelope as “important”.

- **Branding**
  - **Goal:** Increase response by maximizing perception of envelope as “trusted” and/or “official”.

- **Infographic**
  - **Goal:** Increase response by increasing respondents’ understanding of the importance and uses of the survey.

- **Incentives**
  - **Goal:** Determine the most cost effective incentive.

- **Sticky Dot**
  - **Goal:** Ensure that respondents see financial incentive.

**Survey Experience Innovations**

- **Expert Review**
  - **Goal:** Align NSCH wording, formatting, and layout with best practices and other Federal surveys as appropriate.

- **Cognitive Interviews**
  - **Goal:** Assess question wording to improve reliability and validity of collected data.

- **Usability Testing**
  - **Goal:** Improve user experience to reduce break-offs and improve data quality.
<table>
<thead>
<tr>
<th>Measure #</th>
<th>Short Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPM-6</td>
<td>Developmental screening</td>
</tr>
<tr>
<td>NPM-8</td>
<td>Physical Activity</td>
</tr>
<tr>
<td>NPM-9</td>
<td>Bullying</td>
</tr>
<tr>
<td>NPM-10</td>
<td>Adolescent well-visit</td>
</tr>
<tr>
<td>NPM-11</td>
<td>Medical home</td>
</tr>
<tr>
<td><strong>NPM-12</strong></td>
<td><strong>Transition</strong></td>
</tr>
<tr>
<td>NPM-13</td>
<td>Preventive dental visit</td>
</tr>
<tr>
<td>NPM-14</td>
<td>Smoking – household exposure</td>
</tr>
<tr>
<td>NPM-15</td>
<td>Adequate insurance</td>
</tr>
<tr>
<td><strong>NOM-13</strong></td>
<td><strong>School readiness</strong></td>
</tr>
<tr>
<td>NOM-14</td>
<td>Tooth decay/cavities</td>
</tr>
<tr>
<td>NOM-17.1</td>
<td>CSCHN</td>
</tr>
<tr>
<td>NOM-17.2</td>
<td>CSHCN Systems of care</td>
</tr>
<tr>
<td>NOM-17.3</td>
<td>Autism/ASD</td>
</tr>
<tr>
<td>NOM-17.4</td>
<td>ADD/ADHD</td>
</tr>
<tr>
<td><strong>NOM-18</strong></td>
<td><strong>Mental health treatment</strong></td>
</tr>
<tr>
<td>NOM-19</td>
<td>Overall health status</td>
</tr>
<tr>
<td><strong>NOM-20</strong></td>
<td><strong>Obesity</strong></td>
</tr>
<tr>
<td>NOM-25</td>
<td>Forgone health care</td>
</tr>
</tbody>
</table>
Estimates from the 2016 & 2016-2017 NSCH
“Healthy and Ready to Learn”: Findings from the 2016 NSCH & Future efforts to measure young children’s readiness to start school

Reem Ghandour, DrPH, MPA
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Office of Epidemiology and Research
Maternal and Child Health Bureau (MCHB)
Health Resources and Services Administration (HRSA)
Objectives

- Review the genesis of and process utilized to add content to the NSCH on “School Readiness”

- Briefly describe the work to develop the NOM and associated domain-specific measures

- Present results from work underway to explore sociodemographic, health and family-related factors associated with being “Healthy and Ready to Learn”

- Share next steps and future directions for work to refine and validate summary measures and survey items
Healthy and Ready to Learn
Timeline & Major Activities: 2012-2015

- NSCH and Title V Block Grant Performance Measurement System Redesigned. (2012-2013)
- Candidate items identified from other data collection systems along the 5 NSRII Domains of School Readiness. (2013-2014)
- Items vetted by experts and stakeholders + cognitive and usability testing. (2015)
- Item Level and Confirmatory Factor Analyses → Domain and Summary indices created. (2017)
Healthy and Ready to Learn
Timeline & Major Activities: Development of Pilot NOM & Domain Measures

Item Level Analyses
- Distribution of data
- Concurrent validity
- Can we use the item to distinguish, in a meaningful way, between children?
- Outcome: identification of 18 items that can be used and confirmation of possible changes.

Confirmatory Factor Analyses
- Domain specific measures
- Composite measure
- Can the items (overall and in subsets) be used to meaningfully measure underlying constructs of Healthy and Ready to Learn?
- Outcome: 4 Domain-Specific + 1 Summary Measure
  1) Early learning skills;
  2) Self-regulation;
  3) Socio-Emotional Development;
  4) Physical Health & Motor Development.

Development of Domain Indices
- Standardize item scales
- Account for differences by age
  Can items be standardized to create meaningful summary scores?
  Outcome: Defined 3 age-specific levels of “readiness” for each domain:
  1) Needs Support
  2) At Risk
  3) On track
## Healthy and Ready to Learn

### Timeline & Major Activities: Development of Pilot NOM & Domain Measures

<table>
<thead>
<tr>
<th>Early Learning Skills</th>
<th>Self-Regulation</th>
<th>Social-Emotional Development</th>
<th>Physical Well-Being &amp; Motor Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recognizes letters of the alphabet</td>
<td>Keeps working until finished</td>
<td>Shows concern</td>
<td>Grips pencil in fist or fingers or does not use a pencil</td>
</tr>
<tr>
<td>Recognizes the beginning sound of a word</td>
<td>Follows instructions</td>
<td>Bounces back quickly</td>
<td>Condition of teeth</td>
</tr>
<tr>
<td>Rhymes words</td>
<td>Easily distracted</td>
<td>Has difficulty making/keeping friends</td>
<td>Health status</td>
</tr>
<tr>
<td>Explains things clearly</td>
<td>Sits still</td>
<td>Plays well with others</td>
<td></td>
</tr>
<tr>
<td>How high can the child count</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Writes name</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identifies basic shapes</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Methods

• **Data Source: 2016 National Survey of Children’s Health**
  - Nationally and state representative parent-completed survey
  - Address-based mailed survey with web/paper response options
    ➤ Cannot combine with 2017 due to changes in response options

• **Study Population: Children 3-5 years**

• **Outcomes:**
  • Pilot Healthy and Ready to Learn NOM comprised of 18 items
  • Pilot Domain-specific Measures: Early Learning Skills; Self-Regulation; Socio-Emotional Well-being; Physical Health & Motor Development;

• **Covariates:**
  • **Sociodemographic characteristics:** age; sex; race/ethnicity; household education/income; primary language; and family structure.
  • **Health:** special health care need status and type and parental mental health
  • **Family and Neighborhood:** sleep amount; screen time; reading/singing/story-telling; ACEs; and neighborhood amenities

**Statistical Analysis:**
• Unadjusted and adjusted associations with covariates
Healthy and Ready to Learn
Prevalence: Pilot Domain Specific Measures

Proportion of U.S. Children Aged 3-5 Scoring “On-Track,” “Needs Support,” or “At-Risk” for Each Healthy and Ready to Learn Domain, 2016 NSCH

- Early Learning Skills: 58.4% At Risk, 32.7% Needs Support, 8.9% On-Track
- Self Regulation: 78.3% At Risk, 18.7% Needs Support, 3.0% On-Track
- Social-Emotional Development: 81.4% At Risk, 16.8% Needs Support, 1.8% On-Track
- Physical Health & Motor Skills: 85.5% At Risk, 12.2% Needs Support, 2.2% On-Track
Proportion of U.S. Children Aged 3-5 Scoring “On-Track,” “Needs Support,” or “At-Risk” for Pilot Healthy and Ready to Learn NOM, 2016 NSCH

- On Track: 42.2%
- Needs Support: 48.4%
- At Risk: 9.4%
Healthy and Ready to Learn

Adjusted Results: Variation by Sociodemographic Characteristics

aRRs for Pilot "Healthy and Ready to Learn" NOM by Significant Sociodemographic Characteristics

- **Age ref = 3 years**
  - 4 years: 0.84
  - 5 years: 0.86

- **Education ref = ≥College Degree**
  - 4 years: 1.19

- **Domain-specific results similar with a few exceptions:**
  - Females slightly more likely to report demonstrating Self-Regulation;
  - No age differences for Social-Emotional Development of Physical Health & Motor Development;
  - Children in non-English speaking HH slightly less likely to be “on track’ re: Social-Emotional Development;
  - Children in poor (<100 FPL) and less wealthy (200-399% FPL) HH were slightly less likely to be “on track” re: Social-Emotional Development and Early Learning Skills, respectively.

- **No significant differences by Sex, Race/Ethnicity, Primary HH Language, Family Structure or Poverty.**
Healthy and Ready to Learn

Adjusted Results: Variation by CSHCN Status/Type, ACEs and Parental Mental Health

aRRs for Pilot "Healthy and Ready to Learn" NOM by CSHCN Status/Type

- CSHCN ref = no SHCN
- Parental Mental Health ref = excellent/very good
- ACEs ref = 0

aRRs for Pilot "Healthy and Ready to Learn" NOM by ACEs and Parental Mental Health

- Good
- Fair/Poor
- 1 ACE
- 2+ ACEs
**Healthy and Ready to Learn**

**Adjusted Results: Variation by Family and Neighborhood Characteristics**

<table>
<thead>
<tr>
<th>Family and Neighborhood Characteristics</th>
<th>Overall School Readiness</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Characteristic</strong></td>
<td>aRR (95% CI)</td>
</tr>
<tr>
<td><strong>Screen time (avg. weekday)</strong></td>
<td></td>
</tr>
<tr>
<td>≤1 hour</td>
<td>Ref</td>
</tr>
<tr>
<td>2 hours</td>
<td>0.98 (0.88 - 1.09)</td>
</tr>
<tr>
<td>&gt;2 hours</td>
<td>0.80 (0.71 - 0.90)</td>
</tr>
<tr>
<td><strong>Hours of sleep (avg. weeknight)</strong></td>
<td></td>
</tr>
<tr>
<td>≤7 hours</td>
<td>Ref</td>
</tr>
<tr>
<td>8-9 hours</td>
<td>1.13 (0.78 - 1.63)</td>
</tr>
<tr>
<td>≥ 10 hours</td>
<td>1.04 (0.73 - 1.49)</td>
</tr>
<tr>
<td><strong>Number of days read to/sung to/told stories (past week)</strong></td>
<td></td>
</tr>
<tr>
<td>Either/Both 0-3 days</td>
<td>Ref</td>
</tr>
<tr>
<td>Either/Both 4-6 days</td>
<td>1.18 (0.99 - 1.41)</td>
</tr>
<tr>
<td>Either but not both everyday</td>
<td>1.29 (1.10 - 1.51)</td>
</tr>
<tr>
<td>Both everyday</td>
<td>1.50 (1.29 - 1.75)</td>
</tr>
<tr>
<td><strong>Presence of neighborhood amenities</strong></td>
<td></td>
</tr>
<tr>
<td>0-1 Amenities</td>
<td>Ref</td>
</tr>
<tr>
<td>2-3 Amenities</td>
<td>1.14 (1.00 - 1.30)</td>
</tr>
<tr>
<td>4 Amenities</td>
<td>1.21 (1.05 - 1.39)</td>
</tr>
</tbody>
</table>

- Domain-specific results similar, except:
  - Screen Time, Singing/Reading, and Neighborhood Amenities were only associated with Early Learning Skills
  - >7 Hours of sleep only associated with Social-Emotional Development
Healthy and Ready to Learn

Prevalence: State Variation

[Map of the United States showing state variation in prevalence.]
Healthy and Ready to Learn

Summary

• Overall, about 40% of US children ages 3-5 years could be considered to be “Healthy and Ready to Learn”. The portion meeting this threshold is higher for individual domains ranging from 58-86%.

• After adjustment, child age and parental education were the only sociodemographic characteristics associated with the Pilot NOM.

• Health, behavioral, and contextual factors were independently associated with both the Pilot NOM and domain-specific measures of Healthy and Ready to Learn.

• State prevalence estimates ranged from 31.5% to 58.7% for the Pilot NOM with few significant differences due to wide CIs (32 flagged as unreliable). Analyses of state variation will require more years of data.
Healthy and Ready to Learn
Next Steps and Future Directions

Refined/revised items for 2017 based on preliminary analyses (2016)

• Added additional response option (5 options v. 4 options) where feasible and appropriate.
• Added item on color recognition to expand Cognition & General Knowledge items.

Added items for 2018 based on Expert input (2017)

• With support from CDC/NCBDDD 11 items added on Early Language Development for children 12 mo. and older

Released/awarded validation contract (2018)

• Early work suggests reframing of categories (Needs Support, Emerging, On-Track, and Advanced for Age)

Cognitive and Usability Testing (2019)
Contact Information

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State-Level Variation in Mental Health Treatment among Children with Mental Health Conditions in the US

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Maternal and Child Health Bureau (MCHB)
Health Resources and Services Administration (HRSA)
### National Outcome Measure 18

**NOM 18: Percent of children, ages 3 through 17, with a mental/behavioral condition who receive treatment or counseling**

<table>
<thead>
<tr>
<th>Goal</th>
<th>To increase the percent of children with a mental/behavioral condition who receive treatment or counseling.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Definition</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Numerator</strong></td>
<td>Number of children, ages 3 through 17, reported by their parents to have been diagnosed by a health care provider with a mental/behavioral condition (depression, anxiety problems, or behavioral or conduct problems) who currently have the condition and received treatment or counseling in the last year</td>
</tr>
<tr>
<td><strong>Denominator</strong></td>
<td>Number of children, ages 3 through 17, reported by their parents to have been diagnosed by a health care provider with a mental/behavioral condition (depression, anxiety problems, or behavioral or conduct problems) who currently have the condition</td>
</tr>
<tr>
<td><strong>Unit Type</strong></td>
<td>Percent</td>
</tr>
<tr>
<td><strong>Unit Number</strong></td>
<td>100</td>
</tr>
</tbody>
</table>
Background – Mental Health Conditions in Childhood

• Mental health conditions in childhood/adolescence are prevalent, costly, and can negatively impact child development

• Development of mental health conditions in childhood/adolescence are associated with having these conditions in adulthood

• Early identification and treatment are important, however the receipt of mental health treatment is low
Background – Mental Health Treatment in the US

• There is a shortage in the mental health workforce in the US
  • Nationally there are an estimated 8.67 child/adolescent psychiatrists per 100,000 children
  • State rates vary from 3.1/100,000 in Alaska to 21.3/100,000 in Massachusetts

• The location where children receive mental health services is shifting
  • In 2005-2007, the percent of adolescents who received care in educational settings was about the same as specialty mental health settings. 3% received care in a pediatric or primary care setting

• There is substantial variation in state-level mental health policies and programs across the country
Objectives

Use the combined 2016-2017 NSCH to:

• Examine state-level variation in the prevalence of current mental health conditions

• Examine state-level variation in the receipt of mental health treatment among children with current mental health conditions
Methods

• **Data Source:** 2016-2017 National Survey of Children’s Health

• **Study Population:** Children age 3-17 years old

• **Outcomes:**
  • **Mental Health Diagnosis** – current anxiety, depression, behavior or conduct problems
  • **Mental Health Treatment** – child received mental health care in the past 12 months

• **Covariates:**
  • Child: age, sex, race/ethnicity, insurance type, CSHCN, general health status, any physical comorbidity, co-occurring mental health condition
  • Family: household education, income, family structure, respondent mental health

• **Statistical Analysis:**
  • Unadjusted and adjusted associations with covariates
  • State-level estimates
How Mental Health Treatment is Captured in the NSCH

DURING THE PAST 12 MONTHS, has this child received any treatment or counseling from a mental health professional? Mental health professionals include psychiatrists, psychologists, psychiatric nurses, and clinical social workers.

☐ Yes

☐ No, but this child needed to see a mental health professional

☐ No, this child did not need to see a mental health professional → SKIP to question C18
Overall Results – Mental Health Conditions

- As reported by their parent/guardian(s) in 2016-2017:
  - Approximately 7.4 million children age 3-17 (12.1%) had a reported mental health condition.
  - Both anxiety and behavior/conduct problems were more prevalent than depression.

![Chart showing mental health conditions]

- Anxiety: 7.01%
- Depression: 3.01%
- Behavior or Conduct Problems: 7.08%
- Overall: 12.10%
State-Level Variation in Prevalence of Mental Health Conditions – By Condition

**Anxiety**
- HI: 3.29%
- US: 7.01%
- ME: 14.90%

**Depression**
- HI: 1.26%
- US: 3.01%
- IA: 6.17%

**Behavior/Conduct Problems**
- CA: 3.90%
- US: 7.08%
- KY: 11.86%
Overall Results – Mental Health Treatment

• In 2016-2017, 50.7% of children with a mental health condition received mental health treatment in the past 12 months

• Receipt of mental health treatment was highest among children with depression and lowest among children with behavior/conduct problems
Adjusted Results – Mental Health Treatment among Children with Anxiety

Adjusted Percentage Point Differences in the Prevalence of Mental Health Treatment among Children with Anxiety

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Adjusted Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age 6-11</td>
<td>16.6%</td>
</tr>
<tr>
<td>Age 12-17</td>
<td>15.7%</td>
</tr>
<tr>
<td>CSHCN</td>
<td>34.2%</td>
</tr>
<tr>
<td>Depression</td>
<td>23.3%</td>
</tr>
<tr>
<td>Behavior</td>
<td>15.7%</td>
</tr>
<tr>
<td>FPL &lt;100%</td>
<td>-11.9%</td>
</tr>
<tr>
<td>FPL 100-199%</td>
<td>-10.3%</td>
</tr>
<tr>
<td>FPL 200-399%</td>
<td>-9.2%</td>
</tr>
<tr>
<td>Any Physical</td>
<td>-6.0%</td>
</tr>
</tbody>
</table>

All presented results are significant at the <0.05 level. Reference categories: age (3-5), FPL (>=400%)
Adjusted Results - Mental Health Treatment among Children with Depression

Adjusted Percentage Point Differences in the Prevalence of Mental Health Treatment Among Children with Depression

- **Age Group**
  - Age 6-11: 22.4%
  - Age 12-17: 25.5%

- **Race/Ethnicity**
  - NH, Asian: 22.4%
  - CSHCN: 37.1%

- **Behavior/Conduct Problem**
  - 11.7%

- **FPL**
  - <100%: -14.0%

- **Any Physical**
  - -7.1%

All presented results are significant at the <0.05 level. Reference categories: age (3-5), Race/Ethnicity (Non-Hispanic White), FPL (>400%)
Adjusted Results – Mental Health Treatment among Children with Behavior or Conduct Problems

Adjusted Percentage Point Differences in the Prevalence of Mental Health Treatment Among Children with Behavior/Conduct Problems

- CSHCN: 23.5%
- Depression: 29.1%
- Anxiety: 23.1%
- FPL <100%: -17.3%
- FPL 200-399%: -11.3%

All presented results are significant at the <0.05 level. Reference categories: FPL (>=400%)
State-Level Variation in Treatment – By Mental Health Condition

Among Children with Anxiety

- SC: 28.7%
- US: 58.1%
- DC: 86.1%

Among Children with Depression

- NV: 39.4%
- US: 75.7%
- CT: 95.7%

Among Children with Behavior/Conduct Problems

- TN: 30.4%
- US: 51.6%
- MD: 76.0%

Created with mapchart.net
## The Intersection of Prevalence and Treatment

- Among states with prevalence rates in the highest quartile

### Table: Prevalence and Treatment Rates

<table>
<thead>
<tr>
<th>State</th>
<th>Anxiety Prevalence</th>
<th>Treatment</th>
<th>Depression Prevalence</th>
<th>Treatment</th>
<th>Behavior/Conduct Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>MT</td>
<td>9.6%</td>
<td>73.6%</td>
<td>6.2%</td>
<td>86.8%</td>
<td>9.2%</td>
</tr>
<tr>
<td>CT</td>
<td>9.8%</td>
<td>73.5%</td>
<td>5.0%</td>
<td>86.0%</td>
<td>9.6%</td>
</tr>
<tr>
<td>IN</td>
<td>10.2%</td>
<td>67.4%</td>
<td>4.5%</td>
<td>90.2%</td>
<td></td>
</tr>
<tr>
<td>PA</td>
<td>4.4%</td>
<td>87.2%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Treatment vs. Medication among Children with a Mental Health Condition

<table>
<thead>
<tr>
<th>State</th>
<th>Mental Health Treatment (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC</td>
<td>33.56</td>
</tr>
<tr>
<td>NV</td>
<td>33.72</td>
</tr>
<tr>
<td>LA</td>
<td>38.32</td>
</tr>
<tr>
<td>UT</td>
<td>39.59</td>
</tr>
<tr>
<td>TN</td>
<td>41.69</td>
</tr>
<tr>
<td>AR</td>
<td>42.10</td>
</tr>
<tr>
<td>GA</td>
<td>42.29</td>
</tr>
<tr>
<td>NC</td>
<td>43.24</td>
</tr>
<tr>
<td>AZ</td>
<td>43.27</td>
</tr>
<tr>
<td>KY</td>
<td>43.67</td>
</tr>
<tr>
<td>NY</td>
<td>45.46</td>
</tr>
<tr>
<td>WV</td>
<td>45.53</td>
</tr>
<tr>
<td>TX</td>
<td>45.55</td>
</tr>
<tr>
<td>HI</td>
<td>45.65</td>
</tr>
<tr>
<td>CA</td>
<td>46.38</td>
</tr>
<tr>
<td>FL</td>
<td>46.46</td>
</tr>
<tr>
<td>MS</td>
<td>47.88</td>
</tr>
<tr>
<td>NJ</td>
<td>48.00</td>
</tr>
<tr>
<td>WA</td>
<td>49.65</td>
</tr>
<tr>
<td>IN</td>
<td>49.96</td>
</tr>
<tr>
<td>AL</td>
<td>50.35</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>State</th>
<th>Medication Only (%)</th>
<th>Treatment Only (%)</th>
<th>Medication and Treatment (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC</td>
<td>16.06</td>
<td>10.24</td>
<td>23.76</td>
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<tr>
<td>NV</td>
<td>11.99</td>
<td>20.75</td>
<td>17.45</td>
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<tr>
<td>LA</td>
<td>24.81</td>
<td>12.15</td>
<td>26.17</td>
</tr>
<tr>
<td>UT</td>
<td>17.04</td>
<td>14.17</td>
<td>25.42</td>
</tr>
<tr>
<td>TN</td>
<td>21.40</td>
<td>10.33</td>
<td>31.36</td>
</tr>
<tr>
<td>AR</td>
<td>18.05</td>
<td>13.03</td>
<td>29.49</td>
</tr>
<tr>
<td>GA</td>
<td>15.38</td>
<td>10.57</td>
<td>32.00</td>
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<tr>
<td>NC</td>
<td>13.57</td>
<td>9.50</td>
<td>33.74</td>
</tr>
<tr>
<td>AZ</td>
<td>8.83</td>
<td>18.81</td>
<td>26.04</td>
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<tr>
<td>KY</td>
<td>23.82</td>
<td>12.94</td>
<td>30.73</td>
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<td>NY</td>
<td>17.22</td>
<td>17.70</td>
<td>28.79</td>
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<td>WV</td>
<td>10.61</td>
<td>13.98</td>
<td>33.02</td>
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<tr>
<td>TX</td>
<td>24.29</td>
<td>16.95</td>
<td>28.60</td>
</tr>
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<td>HI</td>
<td>8.48</td>
<td>21.60</td>
<td>24.25</td>
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<td>CA</td>
<td>2.31</td>
<td>30.07</td>
<td>16.31</td>
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<td>FL</td>
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<td>18.50</td>
<td>28.04</td>
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<td>MS</td>
<td>18.41</td>
<td>11.02</td>
<td>36.86</td>
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<td>6.88</td>
<td>23.03</td>
<td>24.97</td>
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<td>11.09</td>
<td>23.29</td>
<td>26.55</td>
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<tr>
<td>IN</td>
<td>11.85</td>
<td>19.33</td>
<td>30.63</td>
</tr>
<tr>
<td>AL</td>
<td>20.80</td>
<td>10.00</td>
<td>40.35</td>
</tr>
</tbody>
</table>
Conclusion and Implications

- Mental health prevalence and mental health treatment varied considerably by state
  - Miss-matches in prevalence and treatment highlight states for improvement

- Lower rates of mental health treatment among children with anxiety and behavior/conduct problems may be related to care location and mental health coverage

- Comorbidities play a role

<table>
<thead>
<tr>
<th>Quadrant I</th>
<th>Quadrant II</th>
<th>Quadrant III</th>
<th>Quadrant IV</th>
<th>Care Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low severity physical – Low severity mental</td>
<td>High severity physical – Low severity mental</td>
<td>Low severity physical – High severity mental</td>
<td>High severity physical – High severity mental</td>
<td>Primary Care</td>
</tr>
</tbody>
</table>
Conclusion and Implications

• State-level variation in prevalence and treatment may be linked with mental health coverage/parity

• State-level variation may be linked to the mental health workforce – in general, states with lower treatment have greater amount of mental health HPSAs
Contact Information

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Children with Excess Weight in Urban and Rural Areas: a Preliminary Analysis in an Ecological Framework

AMCHP 2019 Annual Conference

Mary Kay Kenney, PhD
Division of Epidemiology
Office of Epidemiology and Research
Maternal and Child Health Bureau (MCHB)
Health Resources and Services Administration
Children with excess weight are at higher risk of adverse health outcomes, including elevated blood pressure/cholesterol, impaired glucose tolerance, type 2 diabetes, and other health conditions.

A variety of factors at multiple levels of influence are related to the development of excess weight in childhood and these may differ for children in rural and urban areas.

Programs that seek to address excess weight in rural children must understand the variation in individual and environmental influencers.

No nationally representative studies have examined individual, family and contextual factors associated with excess weight in rural children.
Objectives

Use nationally representative data to:

- Estimate the prevalence of excess weight among children in urban, large rural, and small rural/isolated areas
- Identify individual, family and contextual factors potentially associated with excess weight among 10-17 year-old children in rural and urban areas using an ecological framework
Survey Sample and Measures

- Data from ~36,000 children aged 10-17 years in the 2016-2017 National Survey of Children’s Health (NSCH)

- Dichotomous Outcome Measure:
  - Child with Excess Weight (BMI-for-age ≥85th percentile)
  - Child without Excess Weight (BMI-for-age <85th percentile)

- Independent Location/Residence Predictor
  - Rural-Urban Commuting Area (RUCA) codes at 3 levels: Urban, Large Rural, and Small Rural/Isolated (collapsed)

- Potential predictors
  - Child/family sociodemographic characteristics
  - Child behaviors previously found to be related to developing excess weight
  - Family characteristics previously found to be related to developing excess weight
  - Contextual Factors: Linked county level factors that could potentially contribute to developing excess weight (external USDA data source on food and fitness facility availability)
Current Exploratory Analysis

- **Methods**: Bivariate Cross-tabulation and Chi Squared Test

- **Subsample**: Children aged 10-17 years

- **Cross-tabulated factors**: Rural/Urban distribution of Child, Family and Contextual factors
  - **Child weight status**: Excess weight: % overweight and % obese
  - **Child factors** (vis-à-vis CDC activity recommendations):
    - 60 minutes/day physical activity
    - No more than 1-2 hours/day of screen time (all electronic devices)
  - **Child factor**: Participation on sports team or engagement in sports lessons

- **Family factors**:
  - Eating meals together on 4 or more days/week
  - Ability to afford good nutritious meals

- **Contextual factors** (county level continuous data converted to quartiles):
  - Highest quartile (percent) of adult obesity
  - Lowest quartile (number per 1,000 population) of access to recreational/fitness facilities
  - Highest quartile (percent) of low income people living in food deserts
  - Highest quartile (percent) of general population living in food deserts
  - Highest quartile (percent) of children living in food deserts
Excess Weight Prevalence Rates

Weighted Unadjusted Rates (%)

- Children in large rural areas were *more* likely to have excess weight than urban children.
- Children in small rural areas were *equally* likely to have excess weight than urban children.

* Significantly higher compared to urban areas at p<0.05
Children in small rural areas were more likely to meet CDC physical activity guidelines than urban children.

Children in all areas were equally likely to meet screen time guidelines and to participate on sports teams or take sports lessons as urban children.

† Meets CDC Recommendations:
- 60 minutes of daily physical activity
- no more than 1-2 hours/day screen time (all electronic devices)

* Significantly higher compared to urban areas at p<0.05
Family Factors

Weighted Unadjusted Rates (%)

- Children in small rural areas were more likely than urban children to eat family meals together on 4+ days/week.
- Children in small and large rural areas were less likely than urban children to live in families that were always able to afford good nutritious food.

* Significantly different compared to urban areas at p<0.05
Children in small and large rural areas were more likely than urban children to live in counties with the fewest recreation/fitness facilities per 1,000 population.

Children in small and large rural areas were more likely to live in counties with the highest adult obesity rates.

* Significantly higher compared to urban areas at p<0.05
County Level Factors

Weighted Unadjusted Rates (%)

- Children in small and large rural areas were *more* likely than urban children to live in counties with the highest rates of low income people living in food deserts.

- Children in all areas were *equally* likely to live in counties with the highest rates of children and general population living in food deserts.

* Significantly higher compared to urban areas at p<0.05
Summary and Conclusion

Summary of comparisons with urban areas:

- A higher rate of excess weight was associated with living in large rural areas.
- Higher levels of physical activity were associated with living in small rural areas.
- A healthier familial pattern of eating together was associated with small rural areas, but families in all rural areas were less likely to afford good nutritious food.
- Living in small and large rural areas was associated with higher rates of exposure to adults with excess weight and few recreation/fitness facilities.
- Small and large rural living was associated with higher rates of exposure to low income food deserts.

Conclusion:

- This research found an unequal distribution of children with excess weight across geographic areas and associations between rural residence and potential environmental influences on the development of excess weight that should be further explored.
Contact Information

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Geographic Differences in Health Care Transition Planning among US Youth With and Without Special Health Care Needs

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Health Resources and Services Administration (HRSA)
Acknowledgments

• Marie Mann, Sarah Beth McLellan
  HRSA/MCHB

• Peggy McManus, Patience White, Samhita Ilango
  Got Transition

• Mallory Cyr
  Colorado Department of Health Care Policy and Financing
Background – Health Care Transition (HCT)

• An organized, clinical process of changing from a pediatric model of health care to an adult model, including transition preparation, transfer of care, and integration into adult-centered care.

• There are 25 million youth ages 12-17 in the U.S. About 1 in 4 youth (6 million) have special health care needs (SHCN).

• AAP/AAFP/ACP jointly developed a clinical report and algorithm to improve health care transitions for ALL youth and families, beginning at age 12 (2011, 2018).

• Transition planning is a Title V block grant national performance measure (NPM #12), selected by 36 states.
NPM 12 - Percent of adolescents with and without special health care needs, ages 12 through 17, who received services necessary to make transitions to adult health care

<table>
<thead>
<tr>
<th>Goal</th>
<th>To increase the percent of adolescents with and without special health care needs who have received the services necessary to make transitions to adult health care.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definition</td>
<td></td>
</tr>
<tr>
<td>Numerator</td>
<td>Number of adolescents with and without special health care needs, ages 12 through 17, whose families report that they received the services necessary to transition to adult health care</td>
</tr>
<tr>
<td>Denominator</td>
<td>Number of adolescents, ages 12 through 17</td>
</tr>
<tr>
<td>Unit Type</td>
<td>Percent</td>
</tr>
<tr>
<td>Unit Number</td>
<td>100</td>
</tr>
</tbody>
</table>
Background – Why Does HCT Matter?

• **Benefits of HCT Preparation:**
  - Improve youth and young adults’ ability to manage their own health, develop healthy habits and self-care skills, and use health care services

• **Consequences of Lack of HCT Preparation:**
  - Lack of knowledge about health conditions, medical history, prescriptions, insurance
  - Fewer preventive health care visits, gaps in care, lack of usual source of care
  - Lower adherence to treatment, more medical errors and complications, dissatisfaction with care
  - Preventable ER and hospital use, duplicative tests, higher costs
Objectives

1. Provide updated estimates of transition planning among youth with and without SHCN, using the most recent National Survey of Children’s Health data.

2. Examine the geographic variations associated with transition planning among youth with and without SHCN.
Methods

- **Data Source:** 2016-2017 National Survey of Children’s Health
- **Study Population:** Youth ages 12-17 years
- **Outcomes:**
  - 3 individual HCT Elements (yes/no for each):
    - (A) **Discussed Shift to Adult Provider:** Doctor or other health care provider (HCP) discussed eventual shift to HCP who cares for adults.
    - (B) **Active Work with Youth:** HCP worked with youth to gain self-care skills **OR** understand changes in health care at 18.
    - (C) **Time Alone with Provider:** Youth had time to speak with HCP privately during last preventive visit.
- **NPM 12:** Overall HCT Planning Composite: (A) **AND** (B) **AND** (C)
How is HCT Planning assessed in the NSCH?

- **D13**: Do any of this child’s doctors or other health care providers treat only children?
  - Yes
  - No → SKIP to question **D15**

- **D14**: If yes, have they talked with you about having this child eventually see doctors or other health care providers who treat adults?
  - Yes
  - No

- **D15**: Has this child’s doctor or other health care provider actively worked with this child to:
  - c. Gain skills to manage his or her health and health care. For example, by understanding current health needs, knowing what to do in a medical emergency, or taking medications he or she may need?
  - No
  - Don’t know
  - d. Understand the changes in health care that happen at age 18. For example, by understanding changes in privacy, consent, access to information, or decision-making?
  - No
  - Don’t know

- **C4**: At his or her LAST preventive check-up, did this child have a chance to speak with a doctor or other health care provider privately, without you or another adult in the room?
  - Yes
  - No

“Discussed Shift to Adult Provider”

“Active Work with Youth”

“Time Alone with Provider”
Methods (continued)

- **Covariates:**
  - **SHCN status:** YSHCN, Non-YSHCN
  - **States:** 50 states + District of Columbia
  - **Population Density (Urban/Rural):**
    - Metropolitan Principal City (Metro PC)
    - Metropolitan Statistical Area-Not PC (MSA)
    - Micropolitan Statistical Area (μSA)
    - Not Core-Based Statistical Area (Not CBSA)

- **Statistical Analysis:**
  - Unadjusted prevalence rates for youth, overall and for individual elements
  - Bivariate analyses to compare differences by SHCN status, state, and population density
  - Weighted to account for survey design
Overall Results: HCT Planning
All Youth, NPM 12 and Individual Elements

As reported by their parent/guardian(s) in 2016-2017:

- 61% met “active work” element, 50% met “discussed shift” element, and 38% met “time alone” element
- 15% of youth, 12-17 years, met the overall HCT planning measure
HCT Planning
Variation by SHCN Status

Percentage of Youth (12-17 Years) Meeting HCT Planning Measures by YSHCN Status

Overall Composite HCT Measure*
- YSHCN: 17%
- Non-YSHCN: 14%

Discussed Shift*
- YSHCN: 44%
- Non-YSHCN: 52%

Active Work with Youth*
- YSHCN: 71%
- Non-YSHCN: 57%

Time Alone with Provider*
- YSHCN: 46%
- Non-YSHCN: 36%

* All differences between YSHCN and non-YSHCN statistically significant (p<0.01).
HCT Planning
Variation by Population Density (All Youth)

Percentage of Youth (12-17 Years) Meeting HCT Planning Measures by Population Density

- Overall Composite HCT Measure:
  - Metro PC: 14%
  - MSA: 14%
  - μSA: 16%
  - Not CBSA: 19%

- Discussed Shift*:
  - Metro PC: 47%
  - MSA: 48%
  - μSA: 61%
  - Not CBSA: 73%

- Active Work with Youth:
  - Metro PC: 62%
  - MSA: 61%
  - μSA: 59%
  - Not CBSA: 58%

- Time Alone with Provider:
  - Metro PC: 39%
  - MSA: 39%
  - μSA: 34%
  - Not CBSA: 35%

* Statistically significant (p<0.001).
State-level Variation in Transition Planning

**YSHCN**
- Range = 6% to 39%
- U.S. Average = 17%

**Non-YSHCN**
- Range = 6% to 30%
- U.S. Average = 14%
HCT Planning

Summary

• Vast majority (85%) of U.S. youth are NOT receiving comprehensive HCT preparation, regardless of SHCN status.

• However, the proportion meeting individual HCT elements is higher, ranging from 36-71%.

• State-level performance was not consistent between YSHCN and non-YSHCN.

• Despite low overall rates, state variation underscores the promise and potential for quality improvement efforts.

• Higher performing states show that improvement is possible across the country.

• Few differences based on population density.
Contact Information

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Health Resources and Services Administration (HRSA)
Wrap Up and Q & A
2019 NSCH and Beyond
Current and Future Data Collections

• **2019 Survey**
  - Minimal changes to content are expected in order to support combining 2018 and 2019 data.
    - Revised age item to ascertain birth month
  - Experiments focusing on envelope messages or “overwrites”.

• **2020 Survey**
  - Major opportunity for content changes.
  - First year of state oversamples.
Using the 2016-17 NSCH MCHB NSCH Website
Using the 2016-17 NSCH Data Resource Center
Using the 2016-17 NSCH

U.S. Census Bureau
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