

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
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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

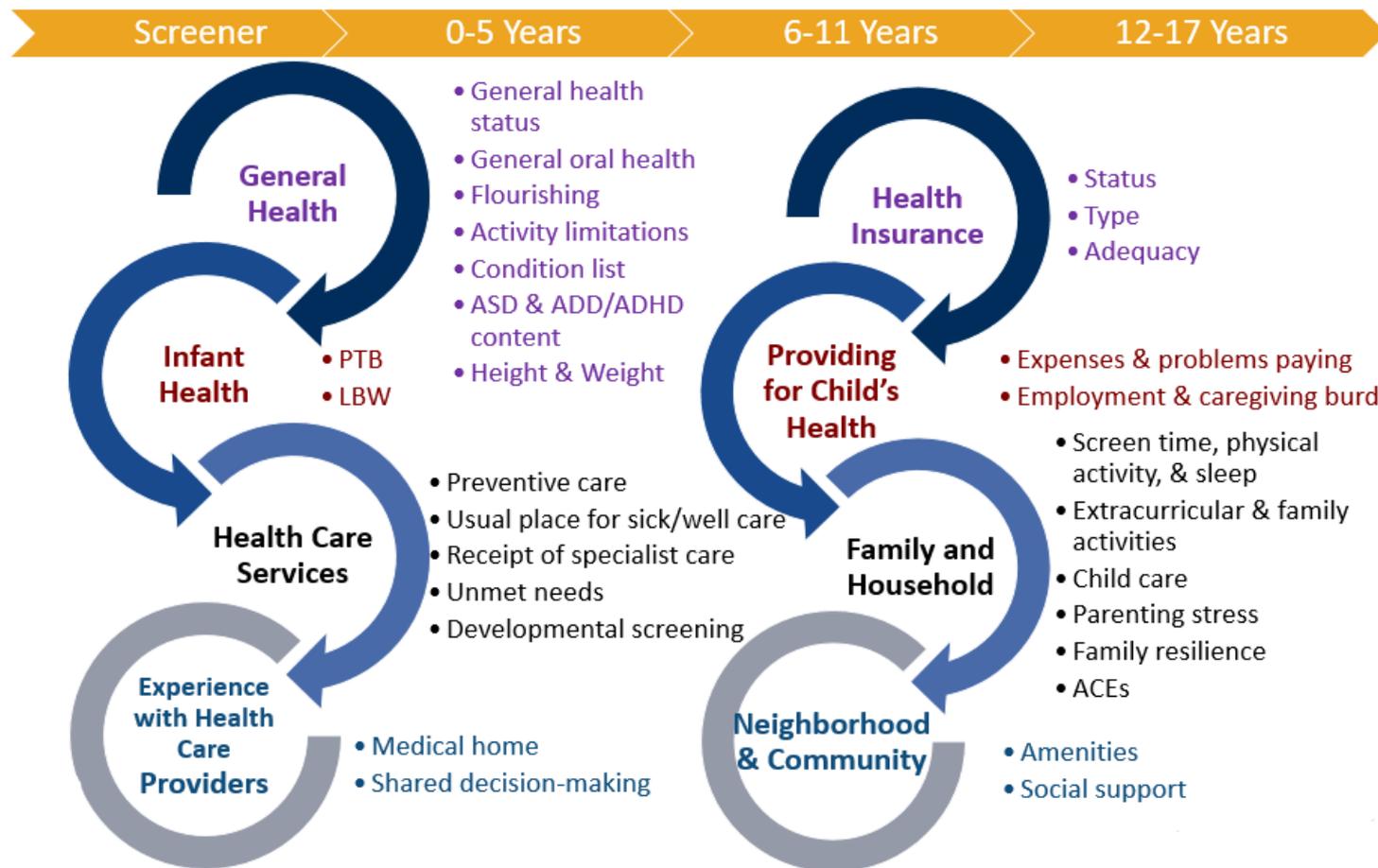
Broad Utility

- **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



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.

Initial

Reminder Postcard

Goal: Increase response by triggering memory of previous mailing and flagging future mailings.

Follow-up

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.

Title V National Performance and Outcome Measures

National Survey of Children's Health

Measure #	Short Title
NPM-6	Developmental screening
NPM-8	Physical Activity
NPM-9	Bullying
NPM-10	Adolescent well-visit
NPM-11	Medical home
NPM-12	Transition
NPM-13	Preventive dental visit
NPM-14	Smoking – household exposure
NPM-15	Adequate insurance
NOM-13	School readiness
NOM-14	Tooth decay/cavities
NOM-17.1	CSCHN
NOM-17.2	CSHCN Systems of care
NOM-17.3	Autism/ASD
NOM-17.4	ADD/ADHD
NOM-18	Mental health treatment
NOM-19	Overall health status
NOM-20	Obesity
NOM-25	Forgone health care



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

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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

Early Learning Skills

Recognizes letters of the alphabet

Recognizes the beginning sound of a word

Rhymes words

Explains things clearly

How high can the child count

Writes name

Identifies basic shapes

Self-Regulation

Keeps working until finished

Follows instructions

Easily distracted

Sits still

Social-Emotional Development

Shows concern

Bounces back quickly

Has difficulty making/keeping friends

Plays well with others

Physical Well-Being & Motor Development

Grips pencil in fist or fingers or does not use a pencil

Condition of teeth

Health status

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:

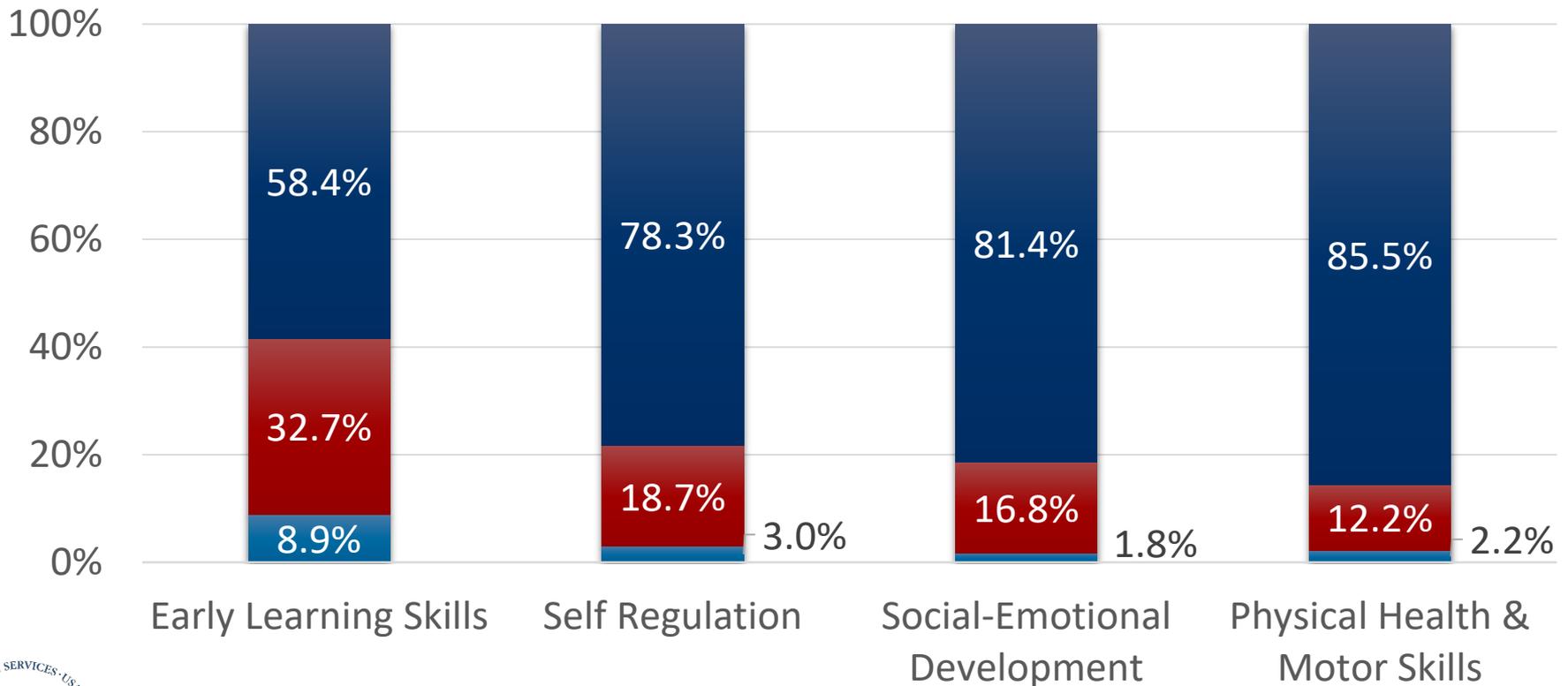
- Unadjusted and adjusted associations with covariates



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



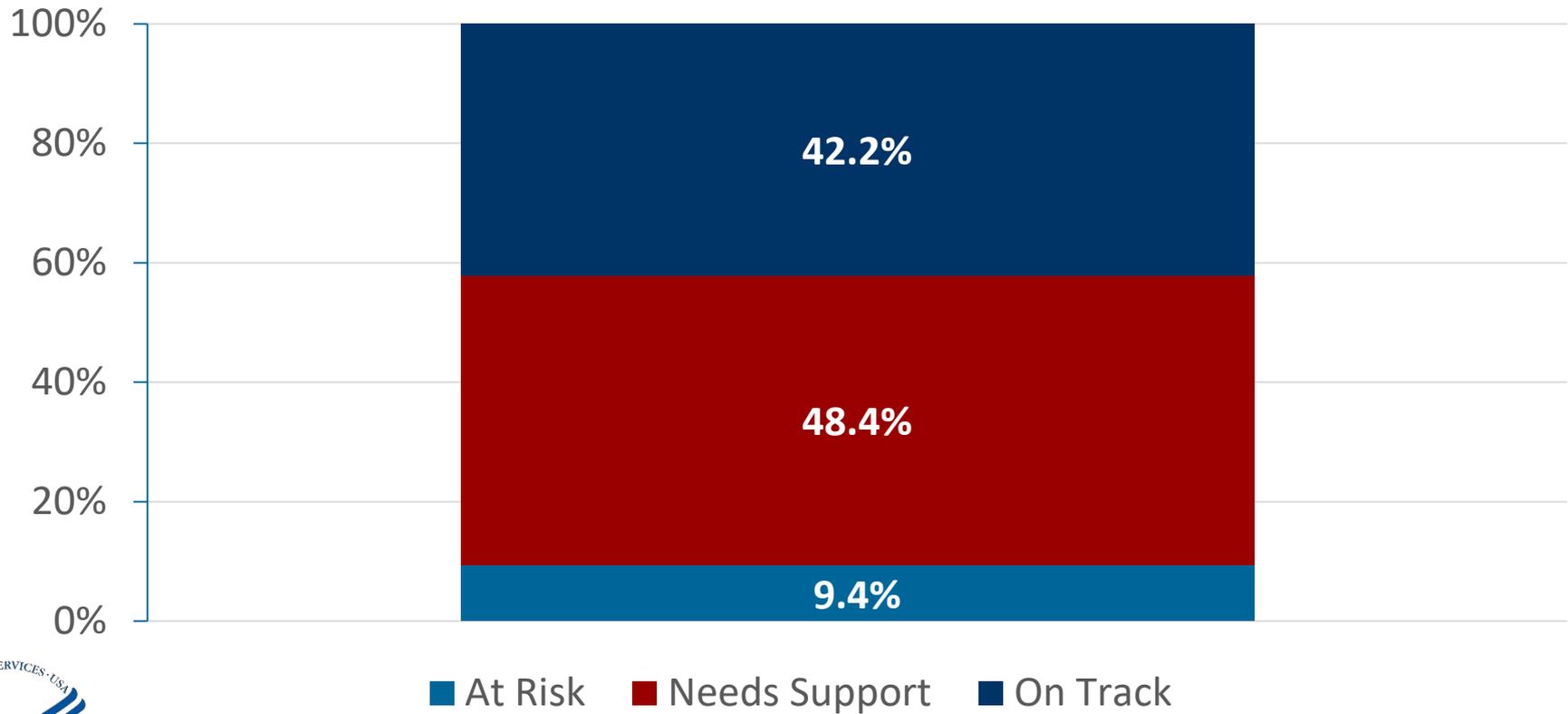
■ At Risk ■ Needs Support ■ On-Track



Healthy and Ready to Learn

Prevalence: Pilot NOM

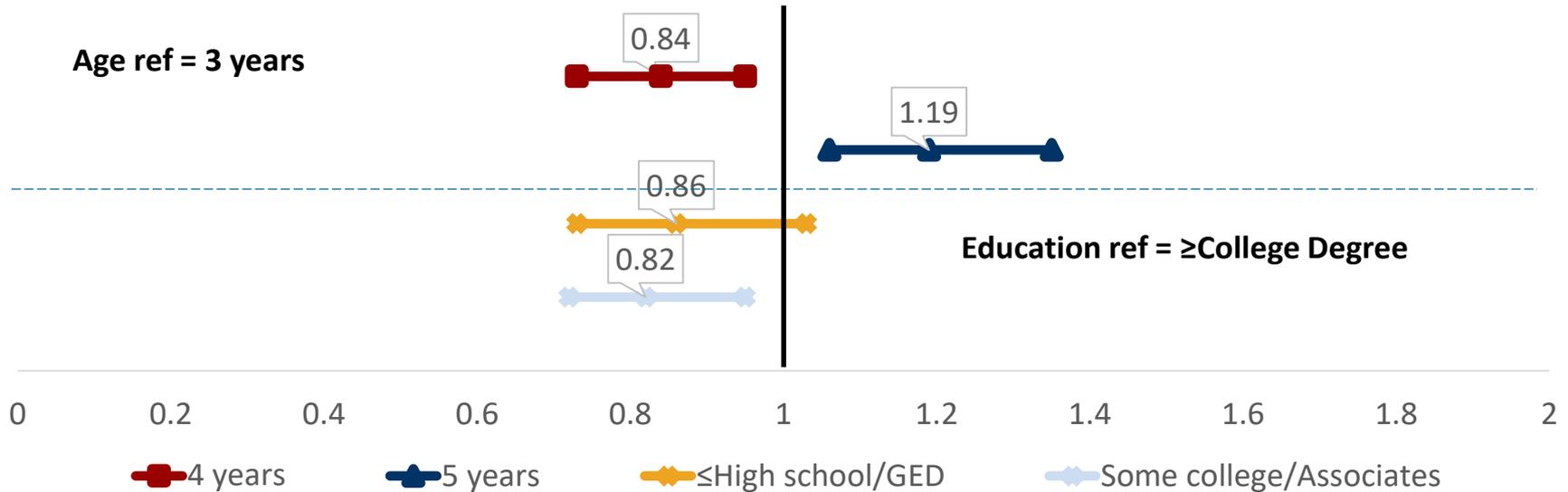
Proportion of U.S. Children Aged 3-5 Scoring “On-Track,” “Needs Support,” or “At-Risk” for Pilot Healthy and Ready to Learn NOM, 2016 NSCH



Healthy and Ready to Learn

Adjusted Results: Variation by Sociodemographic Characteristics

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



➤ No significant differences by Sex, Race/Ethnicity, Primary HH Language, Family Structure or Poverty.

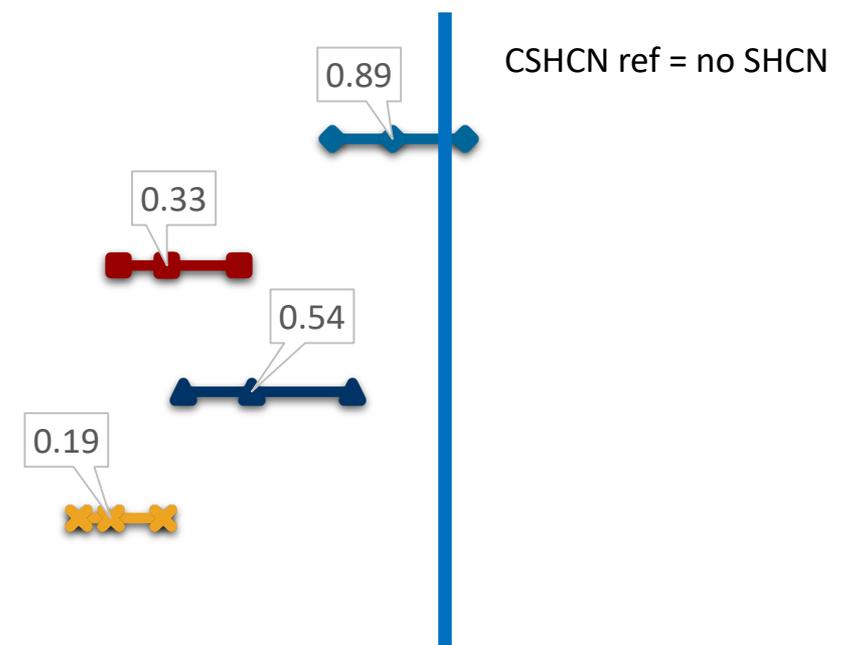
➤ Domain-specific results similar with a few exceptions:

- 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.

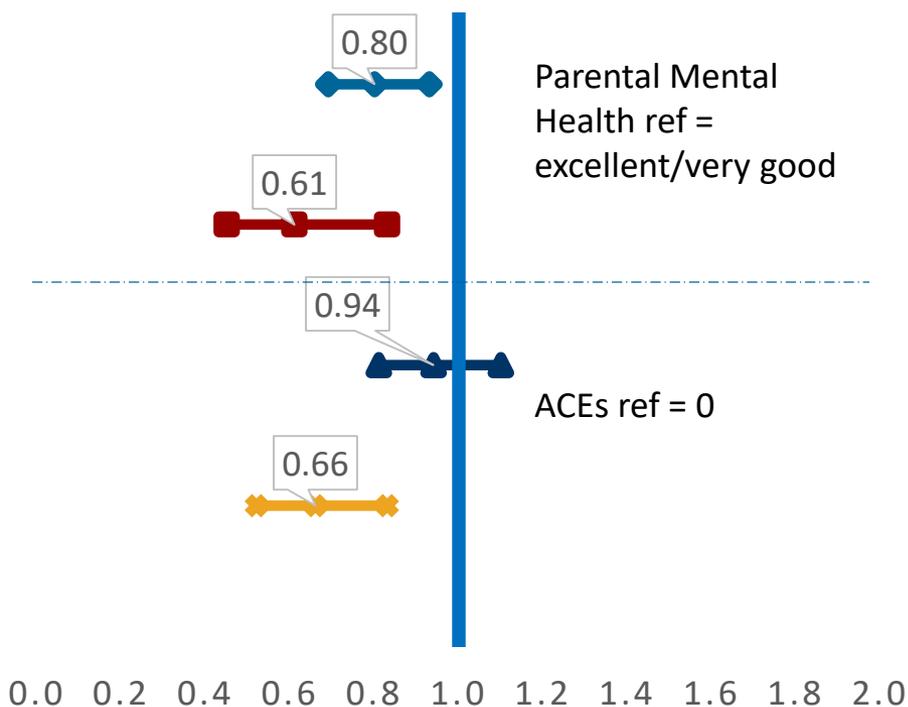
Healthy and Ready to Learn

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



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



◆ Rx Need/Use

■ Elevated Service Need/Use

■ Elevated Service Need/Use + Rx

■ Functional Limitations

◆ Good

■ Fair/Poor

◆ 1 ACE

◆ 2+ ACEs



Healthy and Ready to Learn

Adjusted Results: Variation by Family and Neighborhood Characteristics

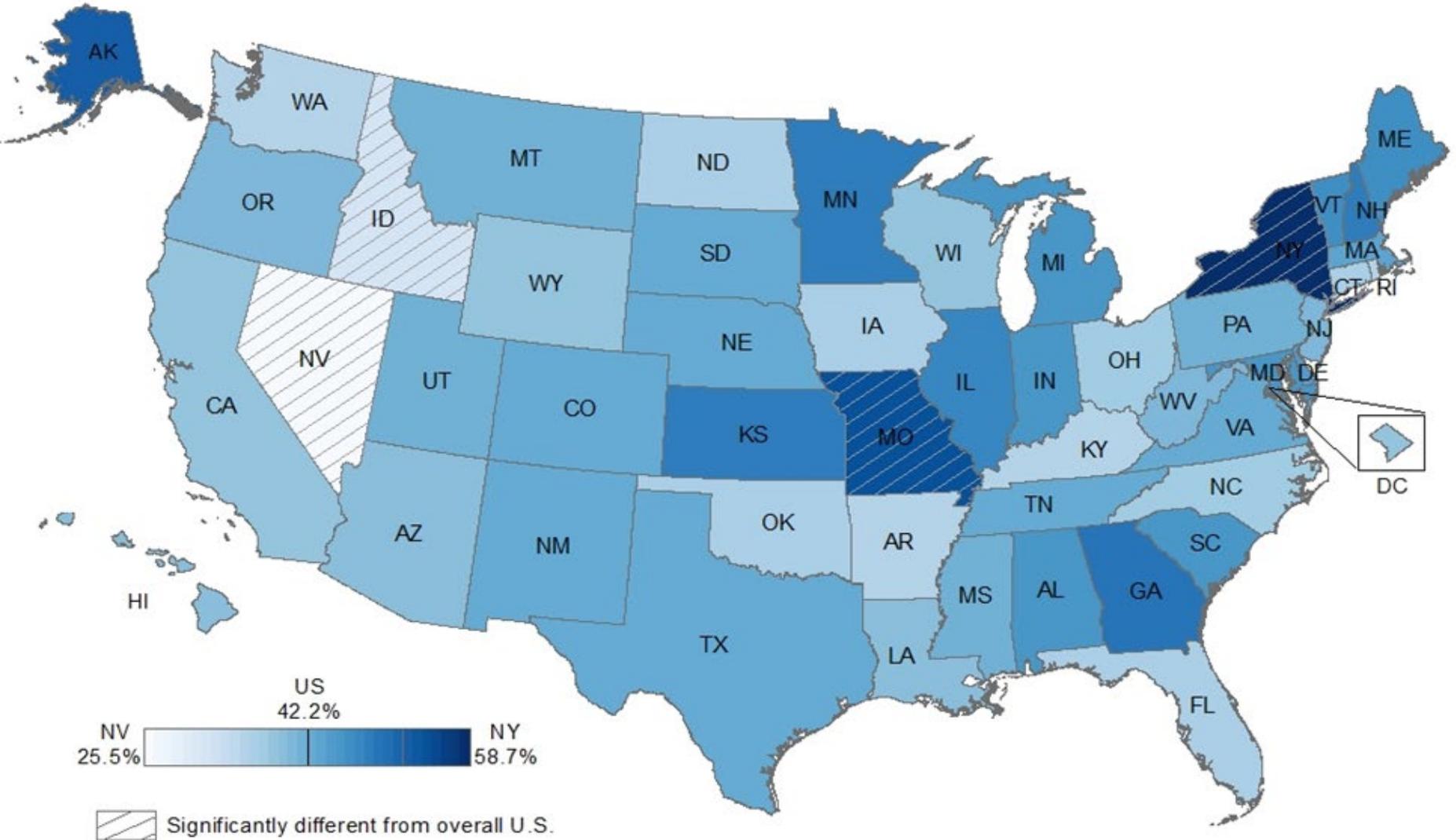
Family and Neighborhood Characteristics	Overall School Readiness	
	aRR	(95% CI)
Screen time (avg. weekday)		
≤1 hour	Ref	
2 hours	0.98	(0.88 - 1.09)
>2 hours	0.80	(0.71 - 0.90)
Hours of sleep (avg. weeknight)		
≤7 hours	Ref	
8-9 hours	1.13	(0.78 - 1.63)
≥ 10 hours	1.04	(0.73 - 1.49)
Number of days read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

➤ 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



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)



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

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National Outcome Measure 18

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

Goal	To increase the percent of children with a mental/behavioral condition who receive treatment or counseling.	
Definition	Numerator	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
	Denominator	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
	Unit Type	Percent
	Unit Number	100



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

C16 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.*

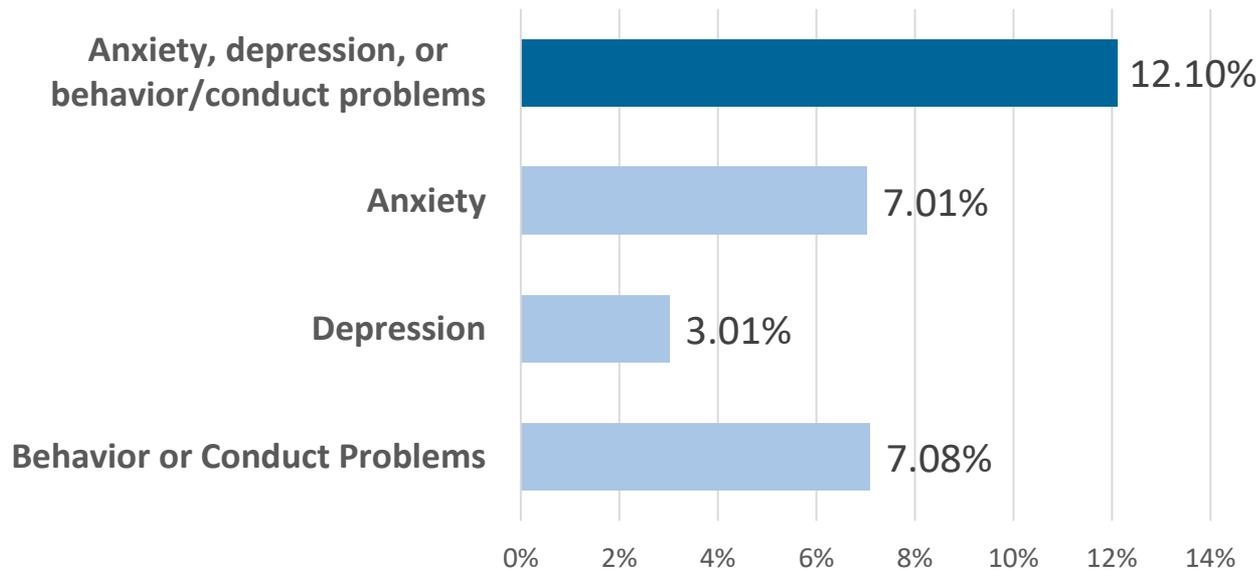
Yes

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**

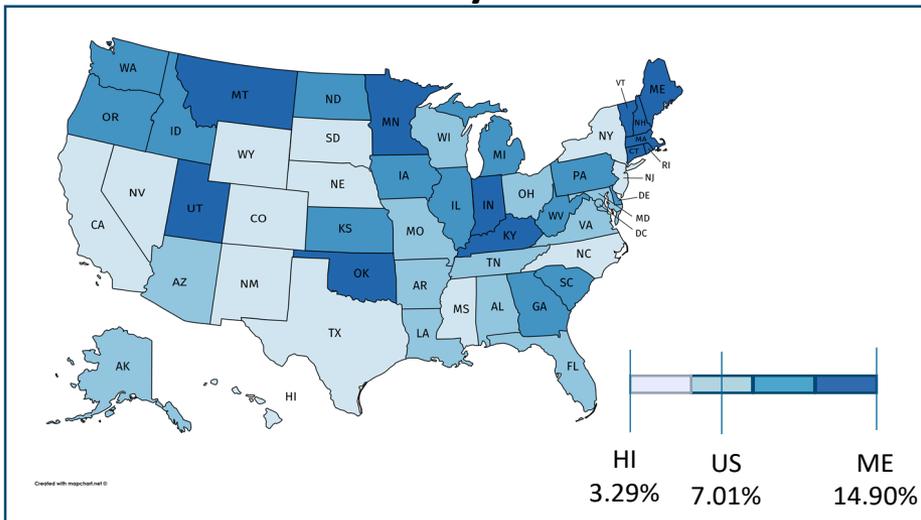
Overall Results – Mental Health Conditions

- **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.

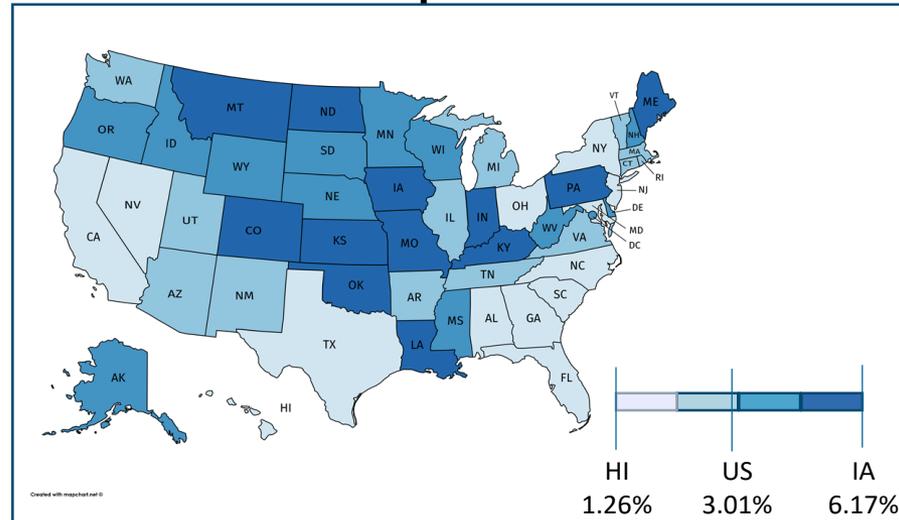


State-Level Variation in Prevalence of Mental Health Conditions – By Condition

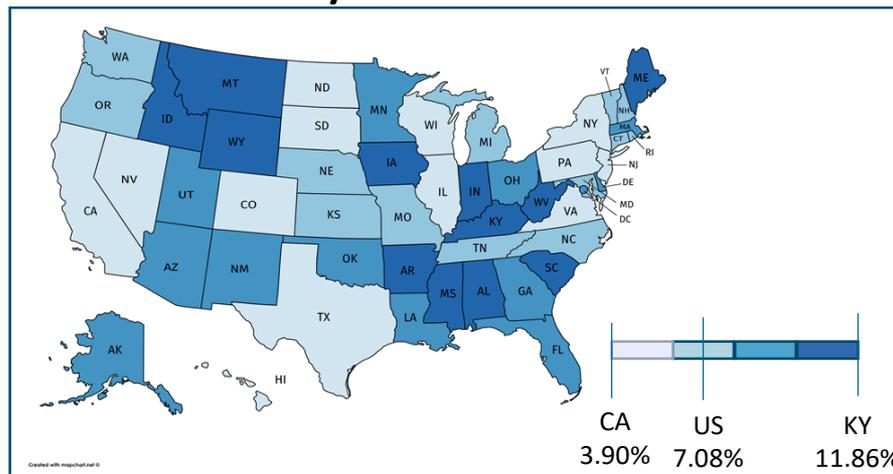
Anxiety



Depression



Behavior/Conduct Problems

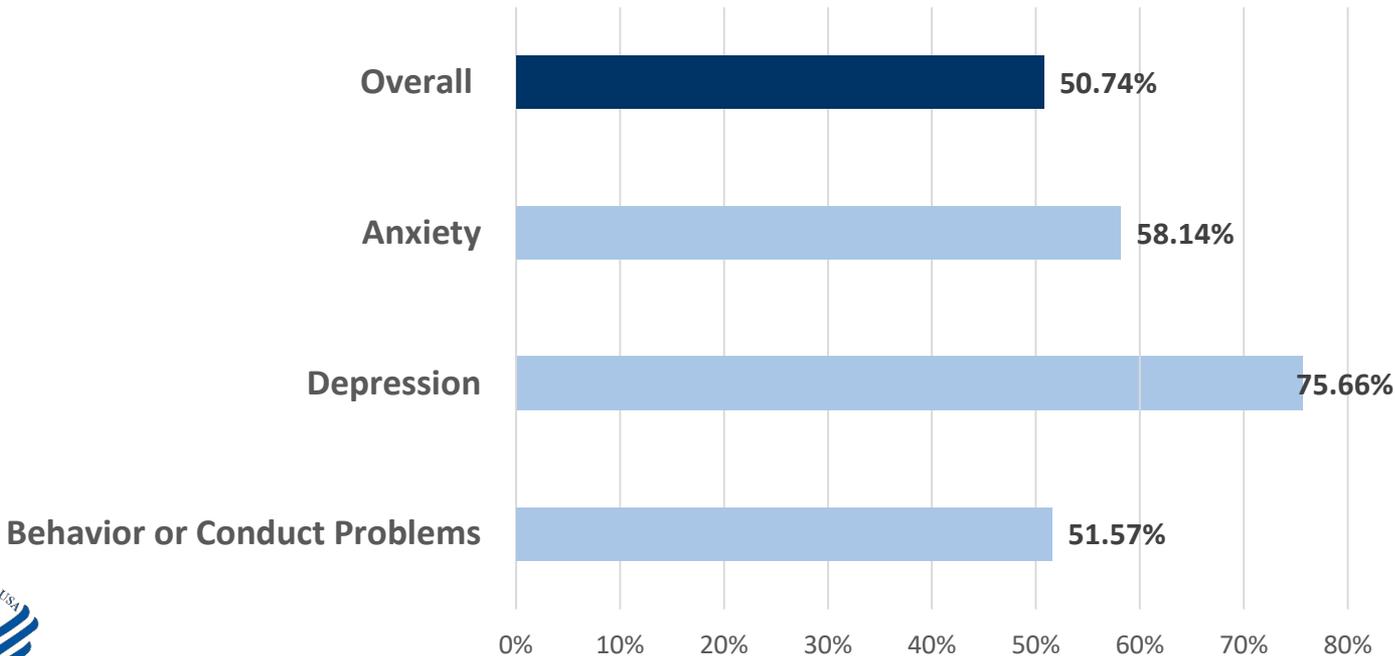


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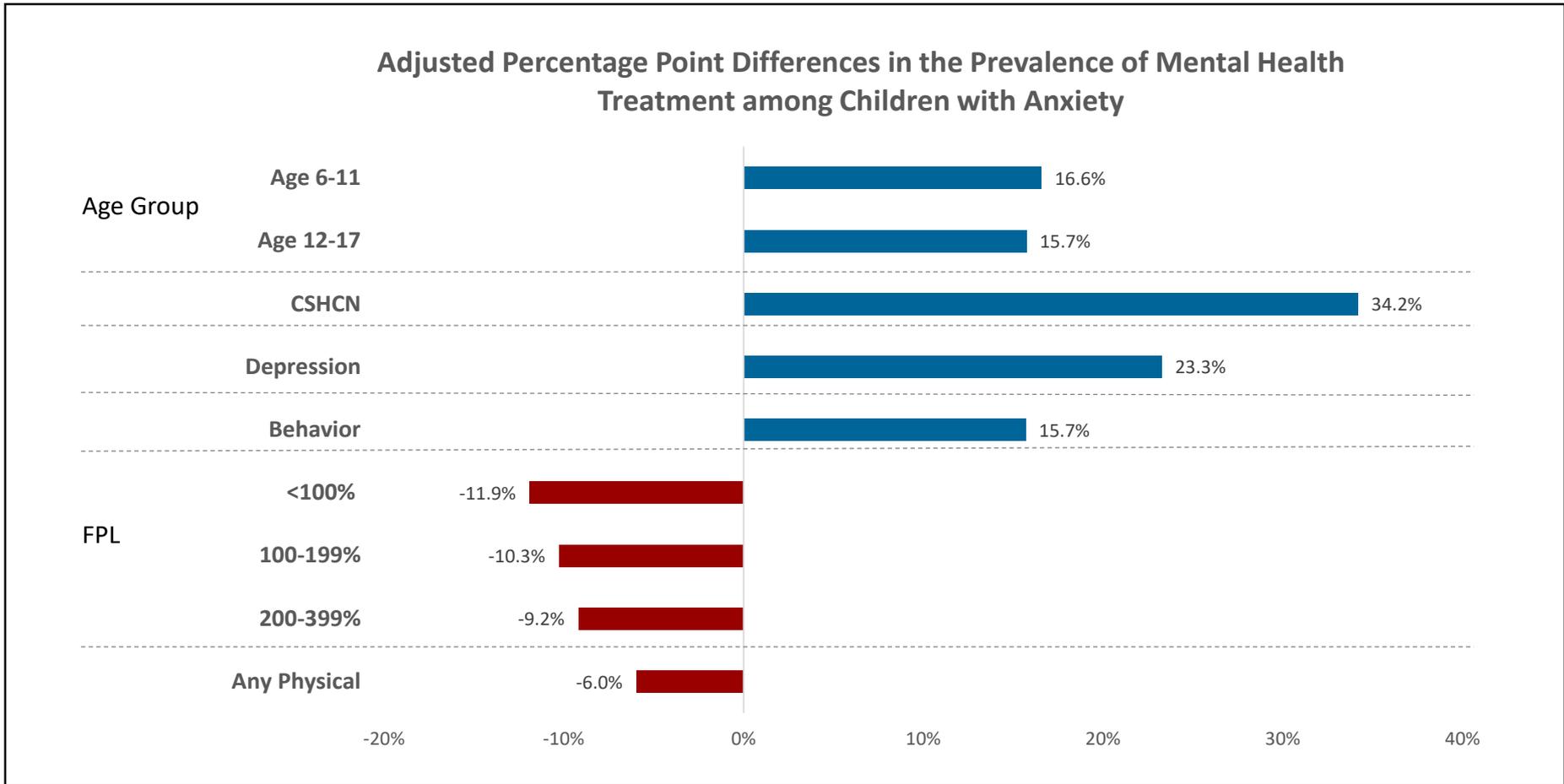


Overall Results – Mental Health Treatment

- 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



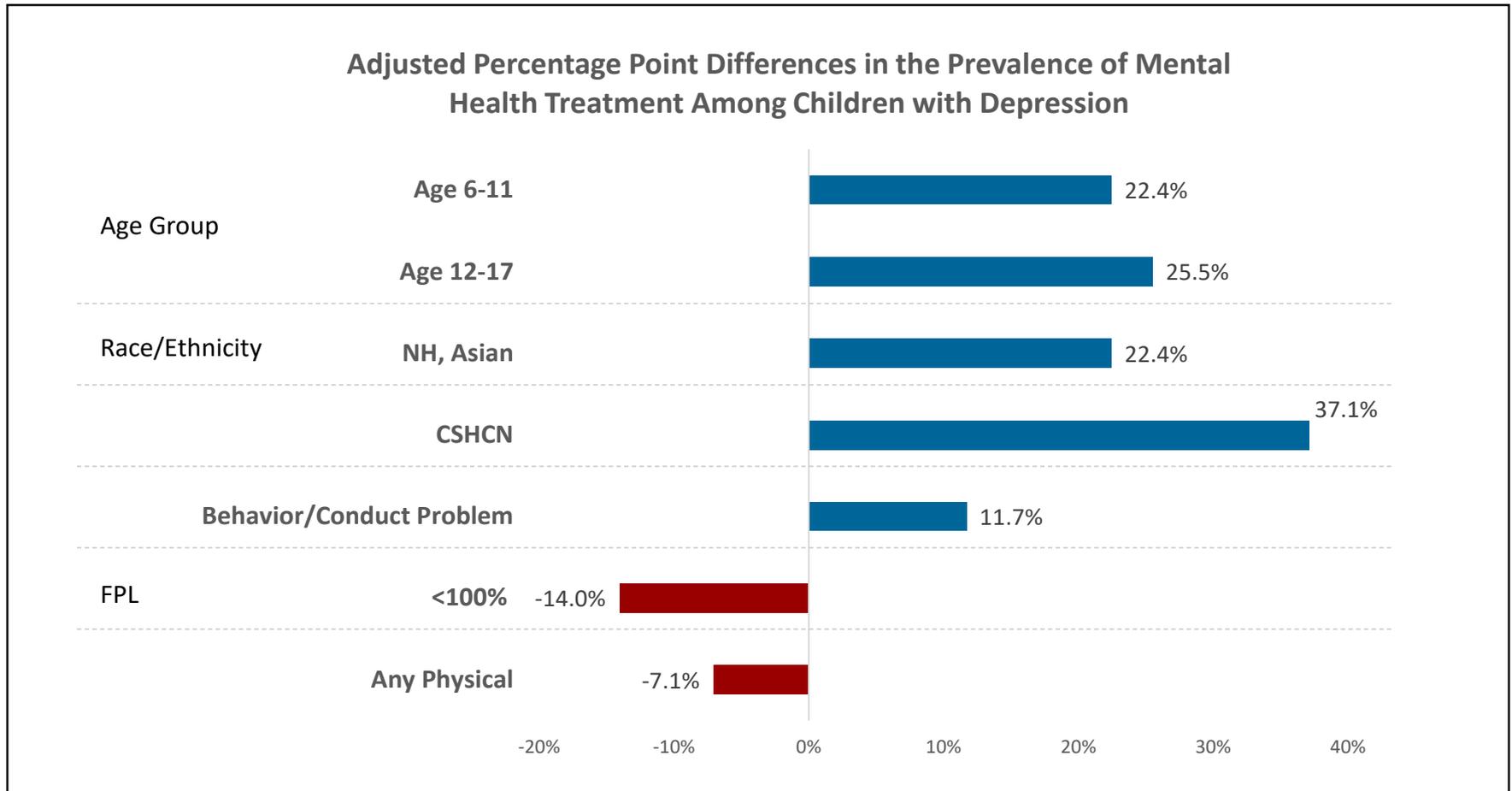
Adjusted Results – Mental Health Treatment among Children with Anxiety



All presented results are significant at the <0.05 level. Reference categories: age (3-5), FPL ($\geq 400\%$)



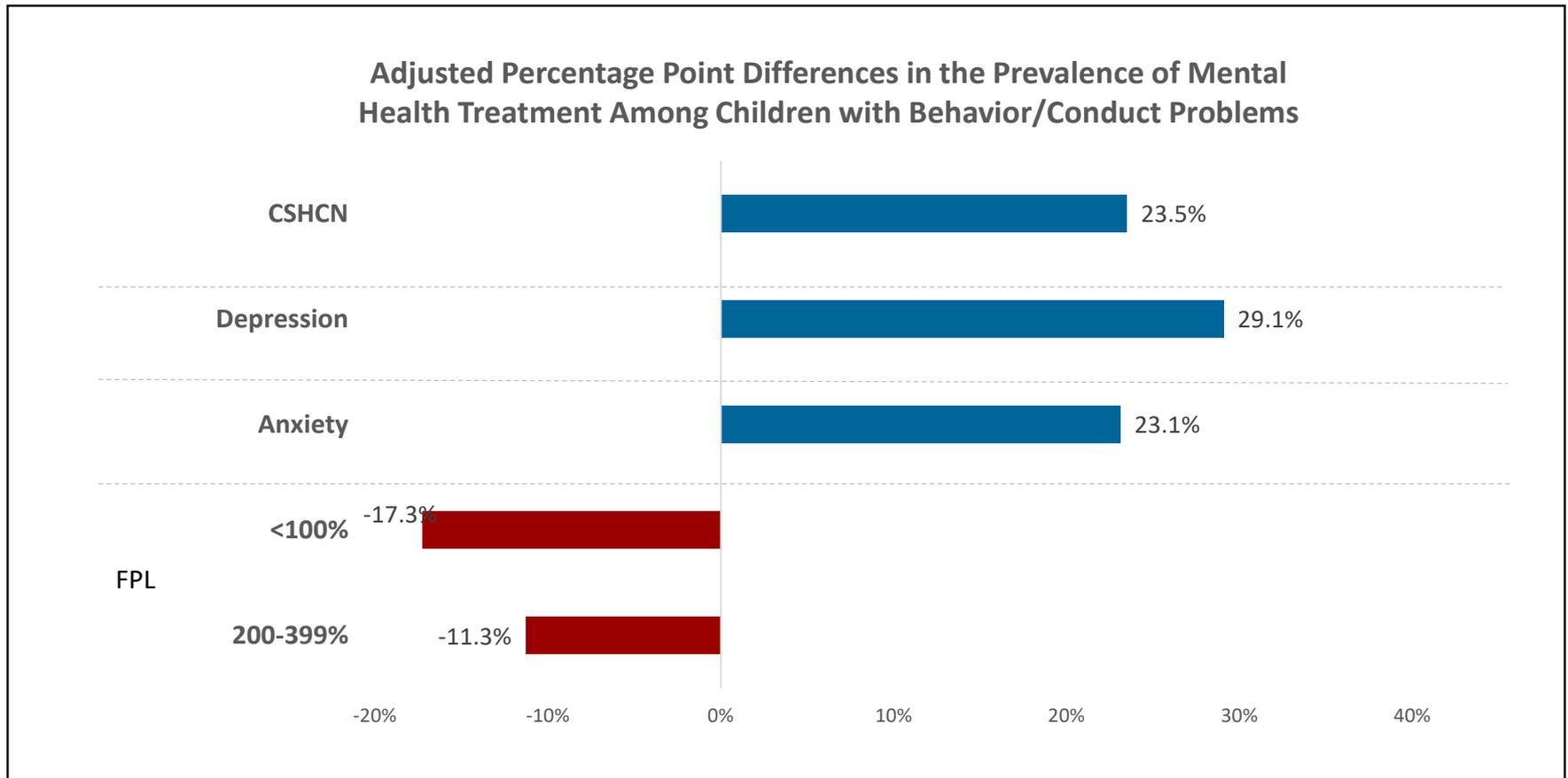
Adjusted Results - Mental Health Treatment among Children with Depression



All presented results are significant at the <0.05 level. Reference categories: age (3-5), Race/Ethnicity (Non-Hispanic White), FPL ($\geq 400\%$)



Adjusted Results – Mental Health Treatment among Children with Behavior or Conduct Problems

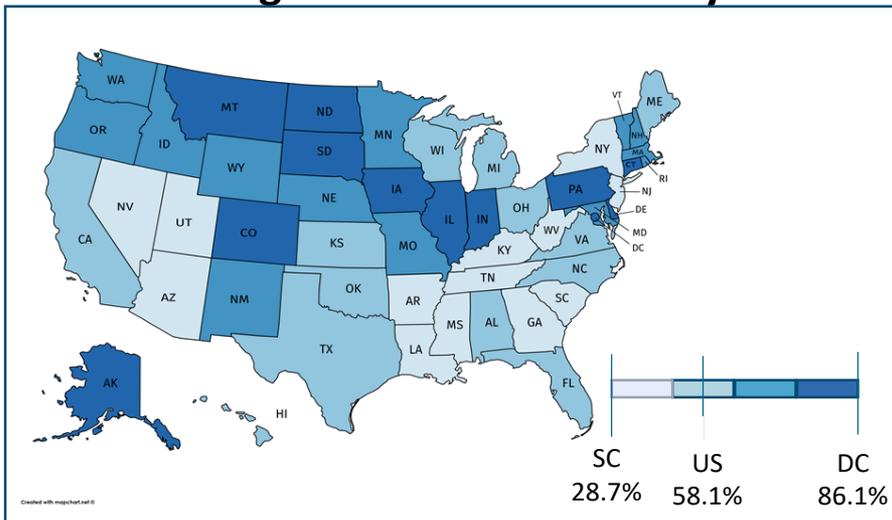


All presented results are significant at the <0.05 level. Reference categories: FPL ($\geq 400\%$)

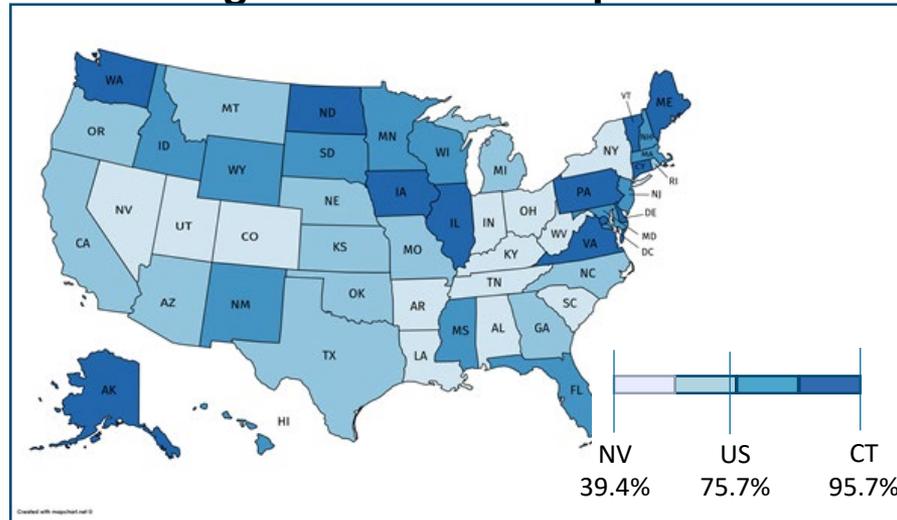


State-Level Variation in Treatment – By Mental Health Condition

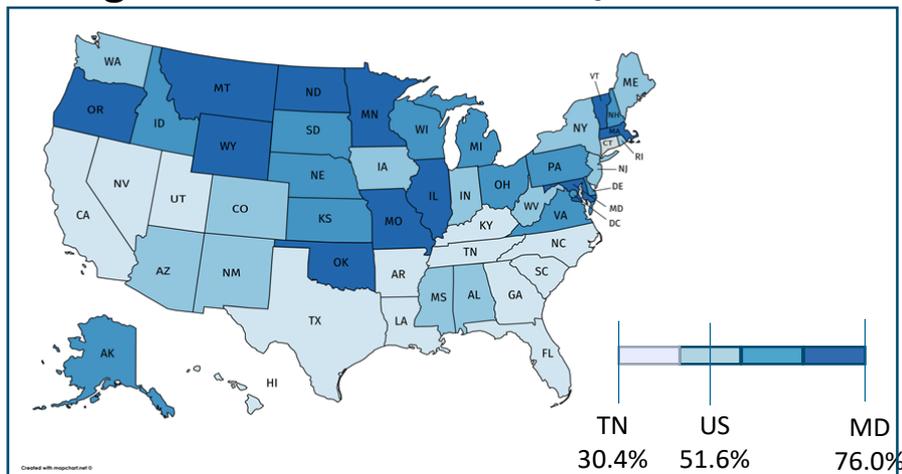
Among Children with Anxiety



Among Children with Depression



Among Children with Behavior/Conduct Problems

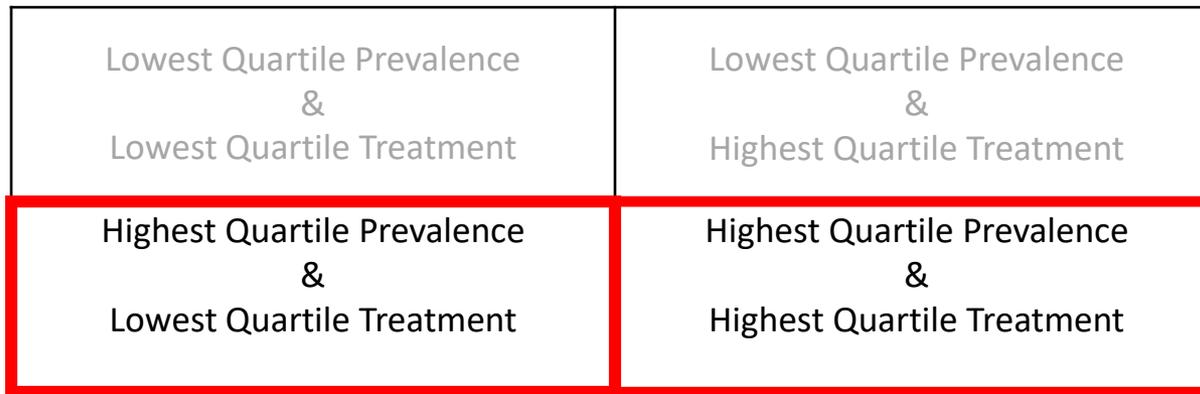


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The Intersection of Prevalence and Treatment

- Among states with prevalence rates in the highest quartile



Anxiety			Depression			Behavior/Conduct		
State	Prev	Tx	State	Prev	Tx	State	Prev	Tx
MT	9.6%	73.6%	IA	6.2%	86.8%	MT	9.2%	67.6%
CT	9.8%	73.5%	ME	5.0%	86.0%	WY	9.6%	63.2%
IN	10.2%	67.4%	ND	4.5%	90.2%			
			PA	4.4%	87.2%			



Treatment vs. Medication among Children with a Mental Health Condition

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



Medication Only (%)	Treatment Only (%)	Medication and Treatment (%)
16.06	10.24	23.76
11.99	20.75	12.52
24.81	12.15	26.17
17.04	14.17	25.42
21.40	10.33	31.36
18.05	13.03	29.49
15.38	10.57	32.00
13.57	9.50	33.74
8.83	18.81	26.04
23.82	12.94	30.73
17.22	17.70	28.79
10.61	13.98	33.02
24.29	16.95	28.60
8.48	21.60	24.25
2.31	30.07	16.31
13.13	18.50	28.04
18.41	11.02	36.86
6.88	23.03	24.97
11.09	23.29	26.55
11.85	19.33	30.63
20.80	10.00	40.35



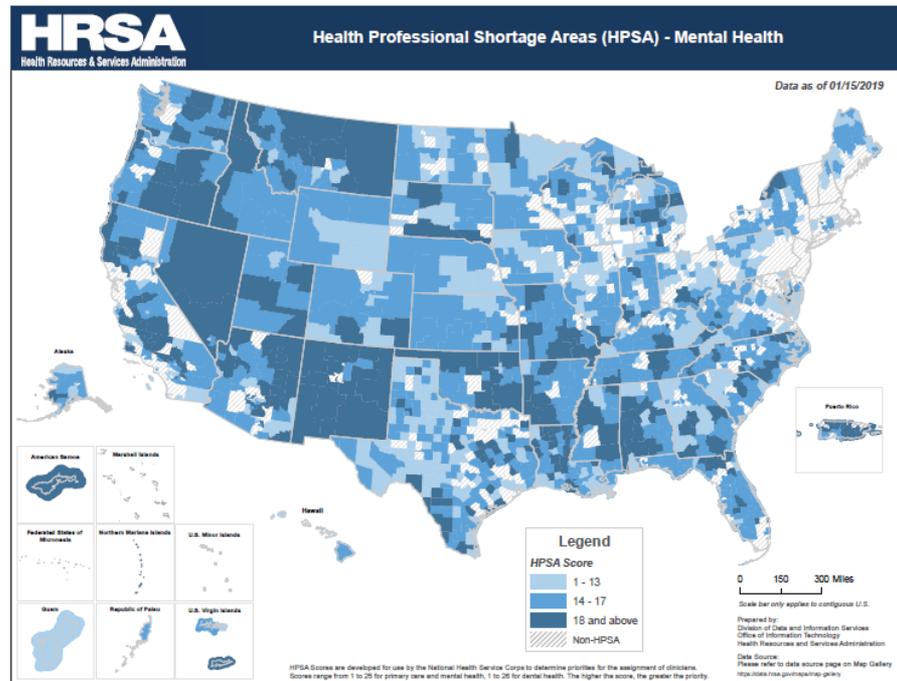
Conclusion and Implications

- **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**

Quadrant I Low severity physical – Low severity mental	Quadrant II High severity physical – Low severity mental	Primary Care
Quadrant III Low severity physical – High severity mental	Quadrant IV High severity physical – High severity mental	Specialty Mental Health Care

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



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

AMCHP 2019 Annual Conference

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Health Resources and Services Administration



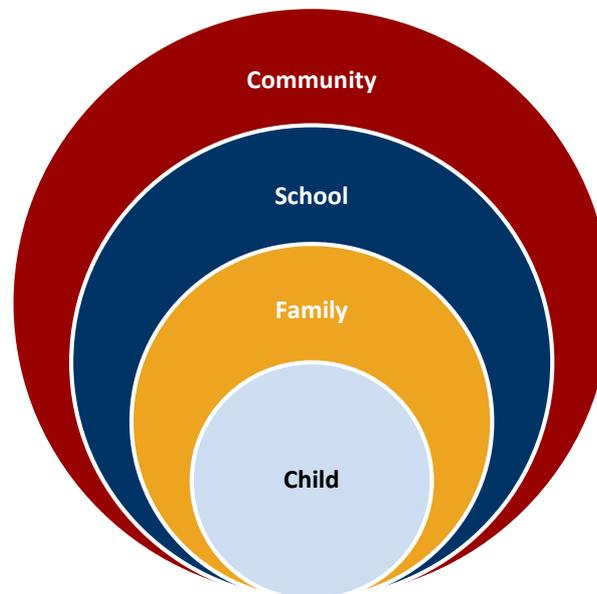
Background

- 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

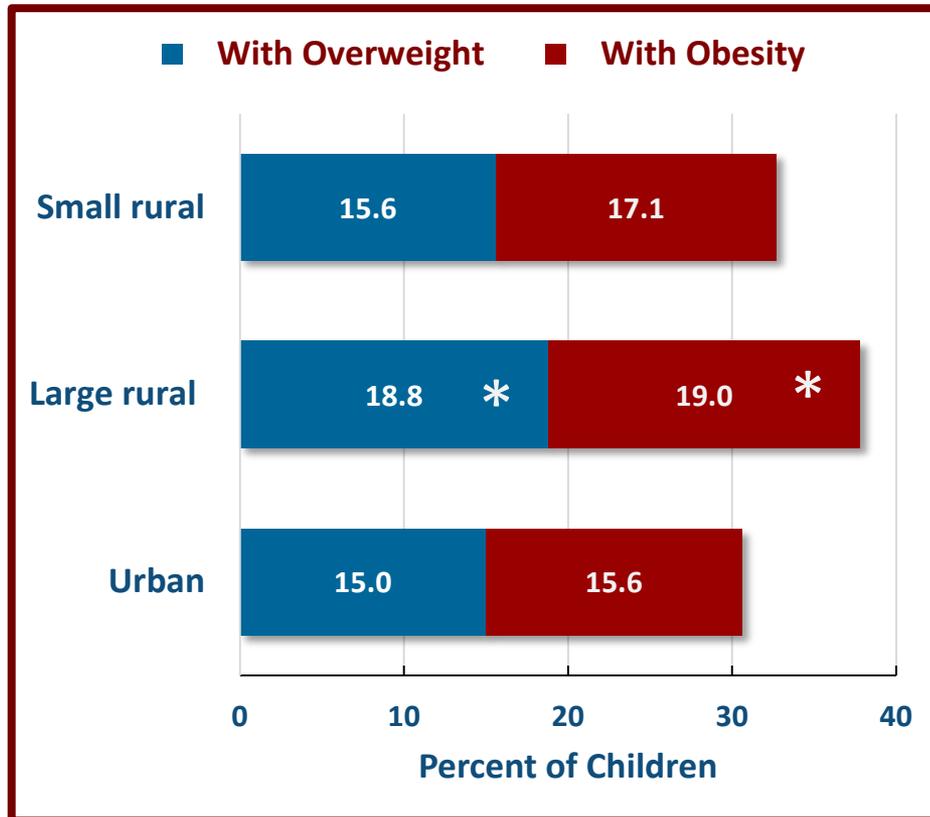
- Data from ~36,000 children aged 10-17 years in the 2016-2017 National Survey of Children's Health (NSCH)
- Dichotomous Outcome Measure:
 - Child with Excess Weight (BMI-for-age $\geq 85^{\text{th}}$ percentile)
 - Child without Excess Weight (BMI-for-age $< 85^{\text{th}}$ percentile)
- Independent 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 (%)

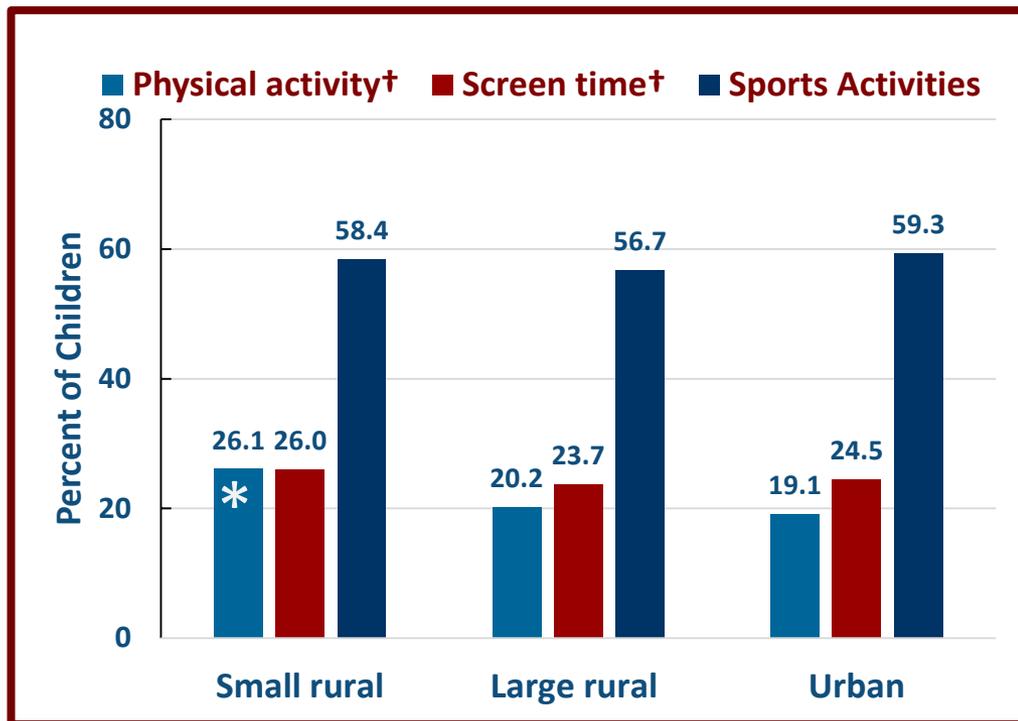


- Children in large rural areas were more likely to have excess weight than urban children
- Children in small rural areas were equally likely to have excess weight than urban children

* Significantly higher compared to urban areas at $p < 0.05$

Child Factors

Weighted Unadjusted Rates (%)



- 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

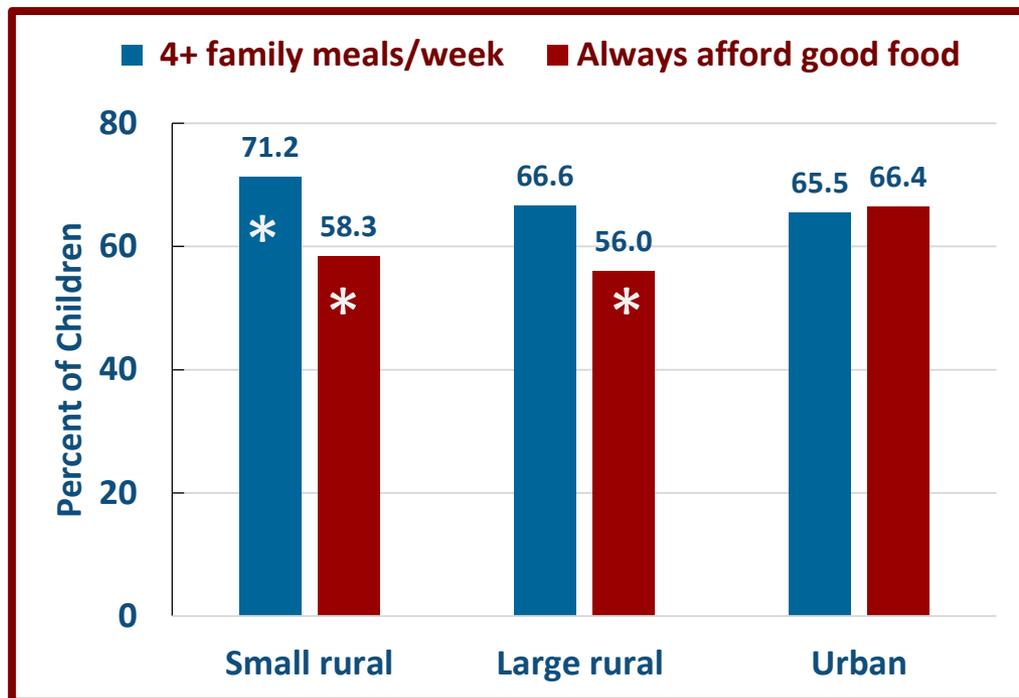
† Meets CDC Recommendations:

- 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 (%)

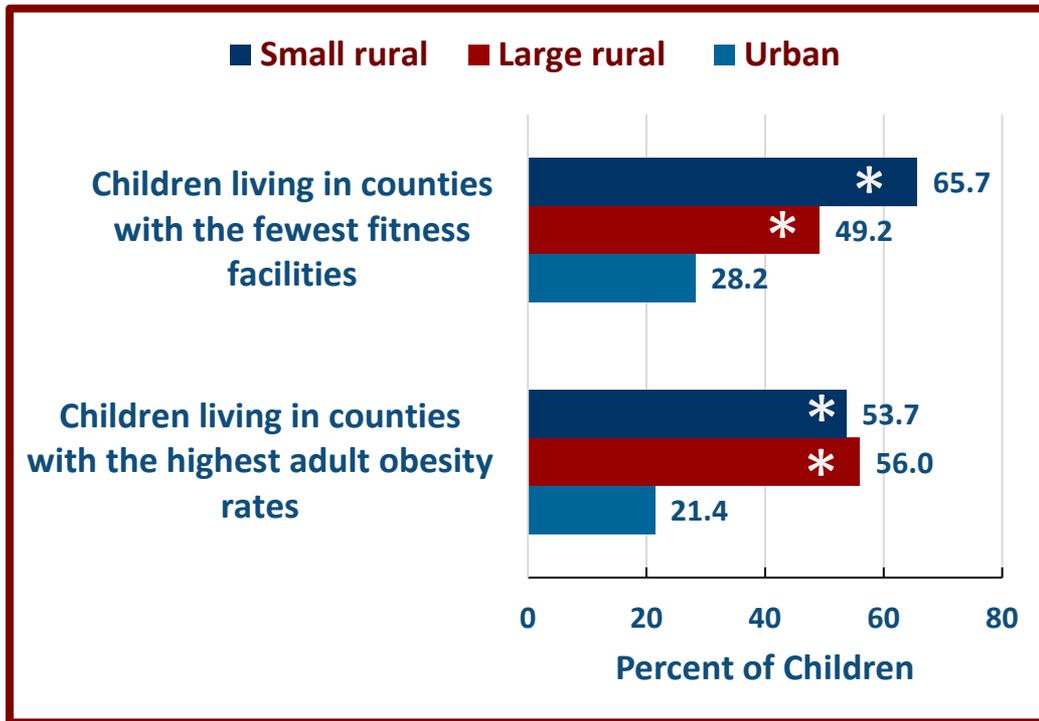


- Children in small rural areas were **more** likely than urban children to eat family meals together on 4+ days/week
- Children in small and large rural areas were **less** likely than urban children to live in families that were always able to afford good nutritious food

* Significantly different compared to urban areas at $p < 0.05$

County Level Factors

Weighted Unadjusted Rates (%)

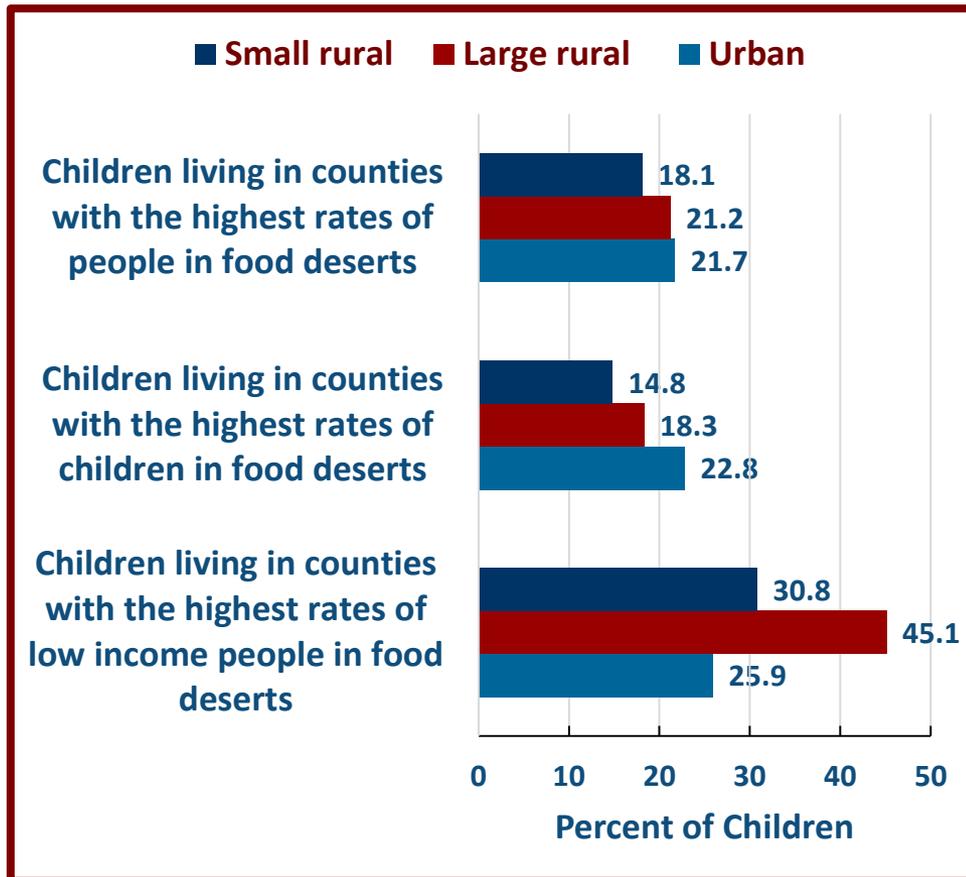


- Children in small and large rural areas were **more** likely than urban children to live in counties with the fewest recreation/fitness facilities per 1,000 population
- Children in small and large rural areas were **more** likely to live in counties with the highest adult obesity rates

* 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.



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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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- **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.



National Performance Measure 12

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 ✖

Goal	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.	
Definition	Numerator	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
	Denominator	Number of adolescents, ages 12 through 17
	Unit Type	Percent
	Unit Number	100

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

“Discussed Shift to Adult Provider”

D15 Has this child's doctor or other health care provider actively worked with this child to:

Yes No Don't know

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?

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?

“Active Work with Youth”

“Time Alone with Provider”

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

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 (μ SA)
 - Not Core-Based Statistical Area (Not CBSA)

- **Statistical Analysis:**

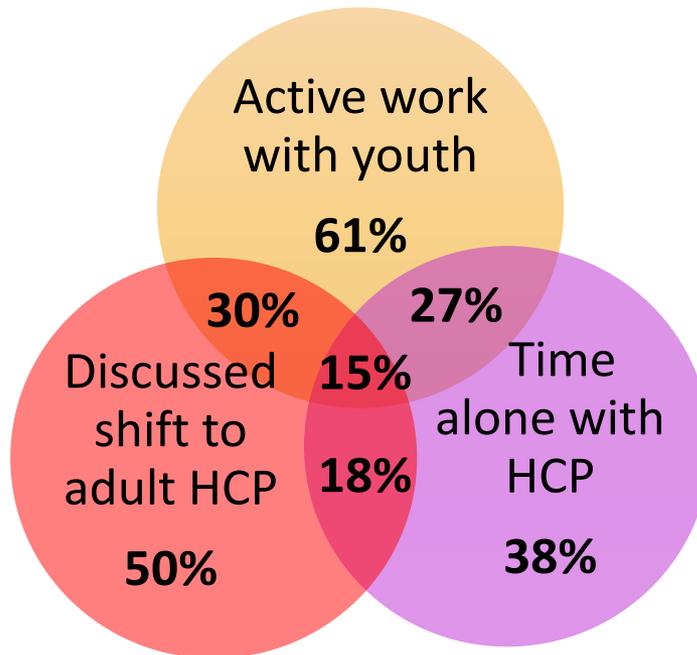
- Unadjusted prevalence rates for youth, overall and for individual elements
- Bivariate analyses to compare differences by SHCN status, state, and population density
- Weighted to account for survey design

Overall Results: HCT Planning

All Youth, NPM 12 and Individual Elements

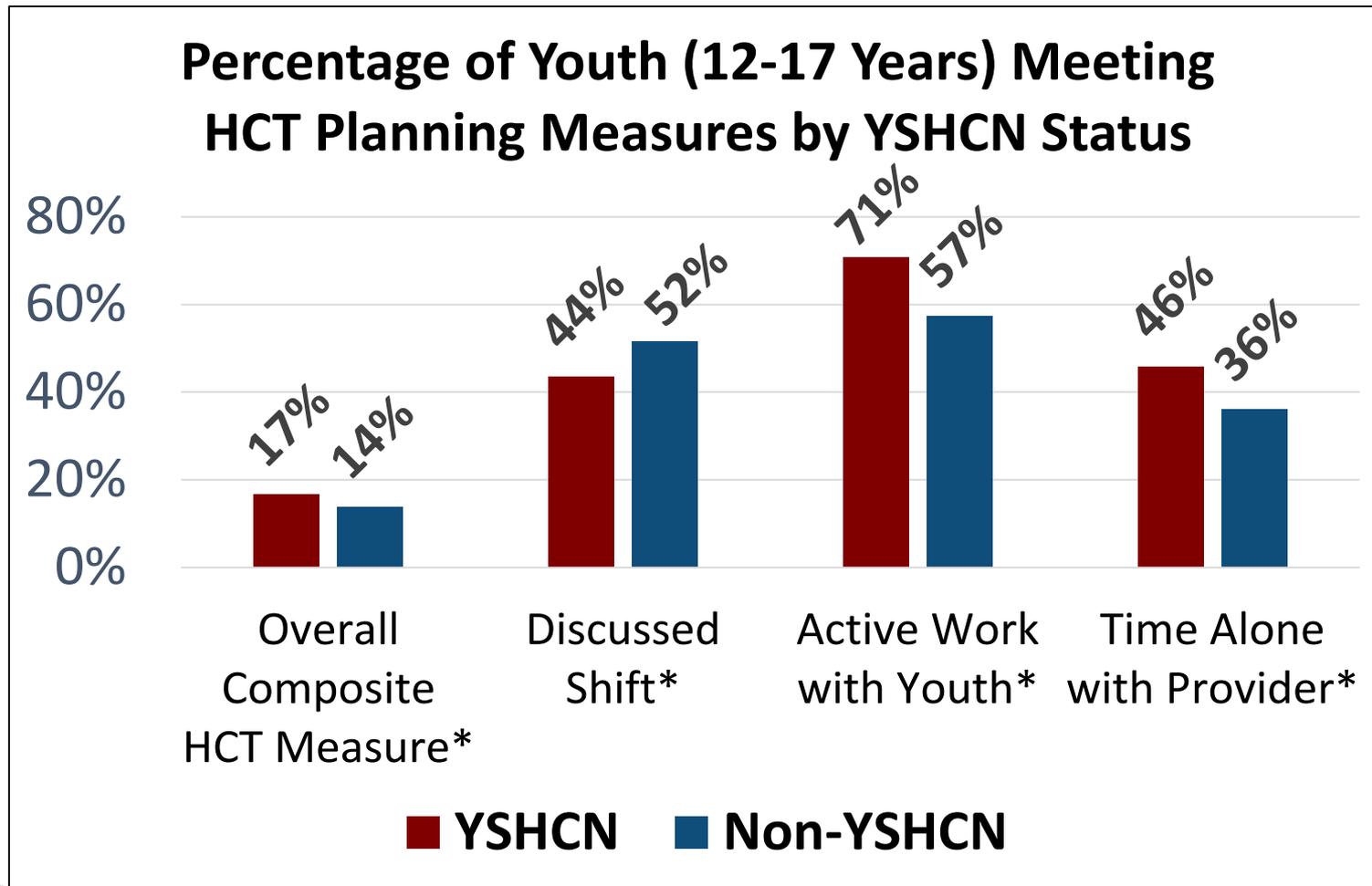
As reported by their parent/guardian(s) in 2016-2017:

- 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

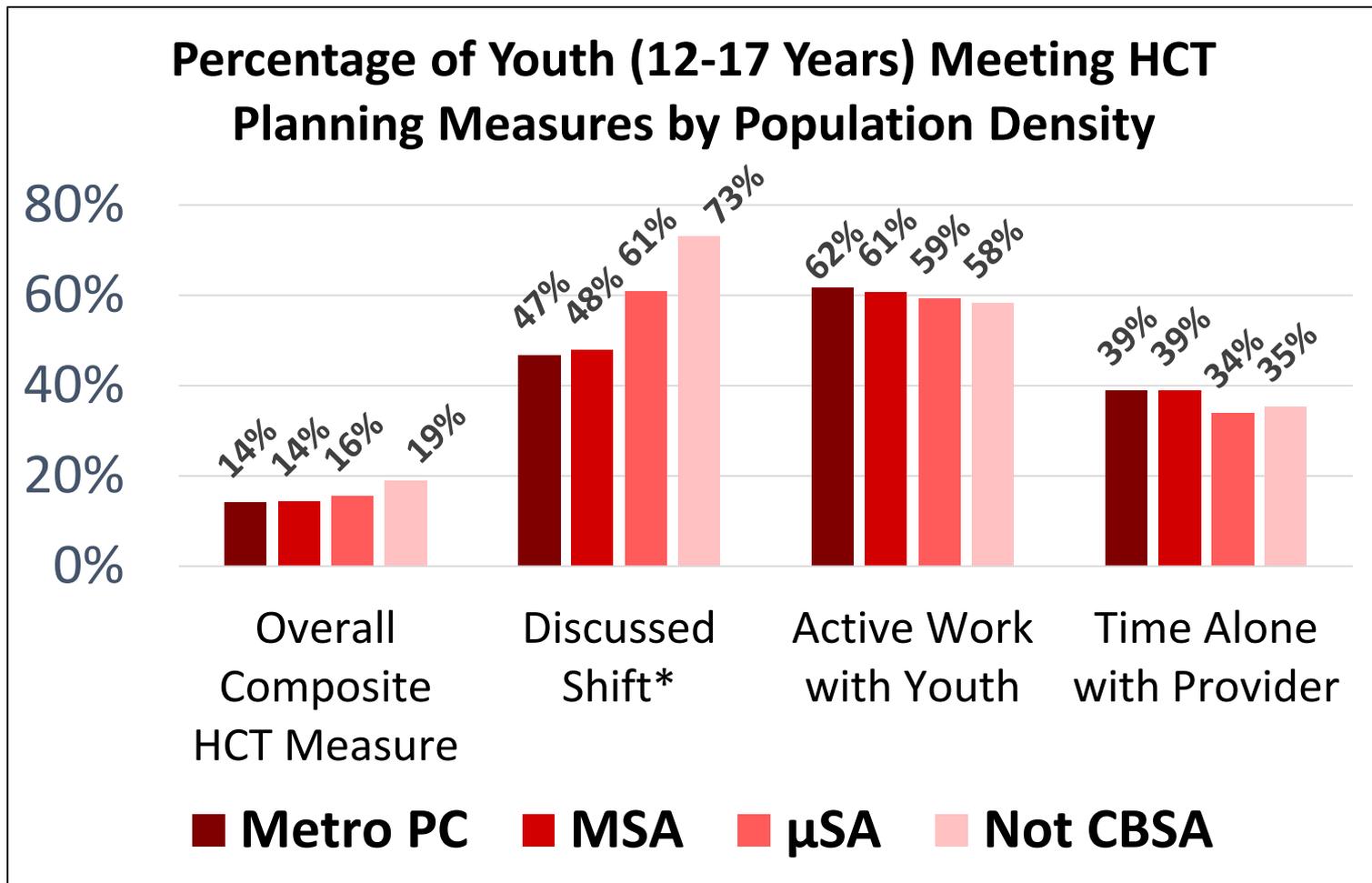
Variation by SHCN Status



* All differences between YSHCN and non-YSHCN statistically significant ($p < 0.01$).

HCT Planning

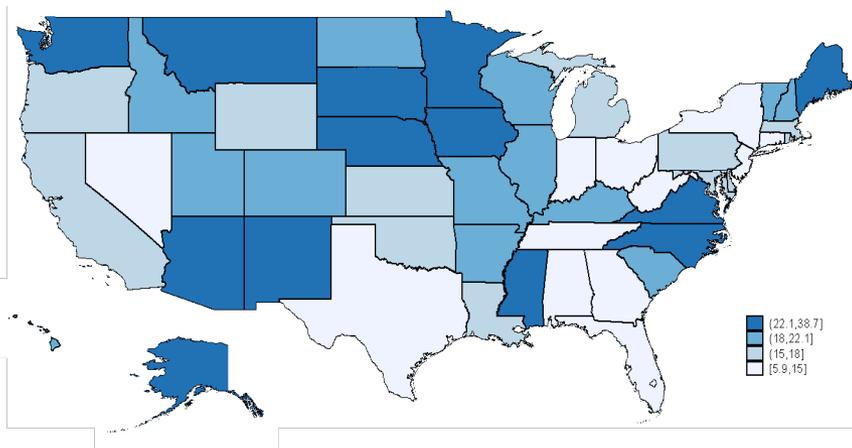
Variation by Population Density (All Youth)



* Statistically significant ($p < 0.001$).

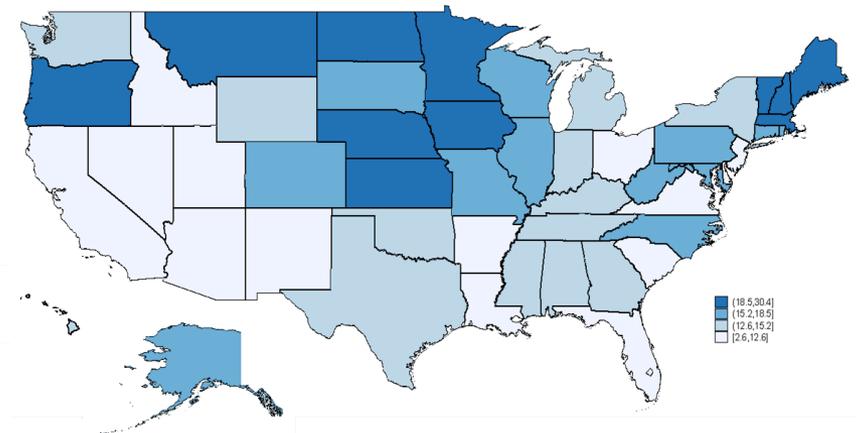
State-level Variation in Transition Planning

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.



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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

The screenshot shows the HRSA MCHB website for the National Survey of Children's Health. The browser's address bar shows the URL <https://mchb.hrsa.gov/data/national-surveys>, which is circled in red. The website header includes the HRSA logo and navigation tabs for Funding Opportunities, Maternal & Child Health Topics, Programs & Initiatives, Data, Research & Epidemiology, and About MCHB. The main content area features the title "National Survey of Children's Health" and a brief description. Two call-to-action buttons are present: "DATA USERS" and "PARTICIPANTS". A "What's New" section, also circled in red, lists recent updates such as "HRSA releases new data on child health across the U.S." and "2017 NSCH Fact Sheet". Below this is a "Survey Documents" section, also circled in red, with links to "eCodebooks", "Questionnaires, Datasets, and Supporting Documents", and "Publications/Presentations". A "Contact Us" sidebar on the right provides contact information for Michael D. Kogan, Ph.D., Director of MCHB Office of Epidemiology and Research. A "Related Sites/Resources" section lists links to the Census Bureau, Data Resource Center for Child and Adolescent Health, MCHB Title V, and Healthy People. The page footer includes the Department of Health & Human Services logo and the HRSA logo.

Using the 2016-17 NSCH Data Resource Center

The screenshot shows a web browser window with the URL <https://www.childhealthdata.org>. The browser's address bar and the website's logo are circled in red. The website header includes navigation links: "Ask a Question", "Request a Dataset", "Stay Connected", and "REGISTER for Data Resources". The main navigation bar contains four tabs: "Learn About the NSCH", "Explore the Data", "Spread the Word", and "About Us".

The "National Survey of Children's Health Interactive Data Query" section features a dropdown menu with "2016-2017 (two years combined)" selected, also circled in red. Below the dropdown is a "Continue" button and a note: "Archived Data Query for NSCH and NS-CSHCN (prior to 2016)".

The "How to Use the DRC Website" section provides instructions on using the DRC and lists resources such as "About the DRC", "DRC Frequently Asked Questions", "Data available in the online data query", and "Codebooks and datasets available by request".

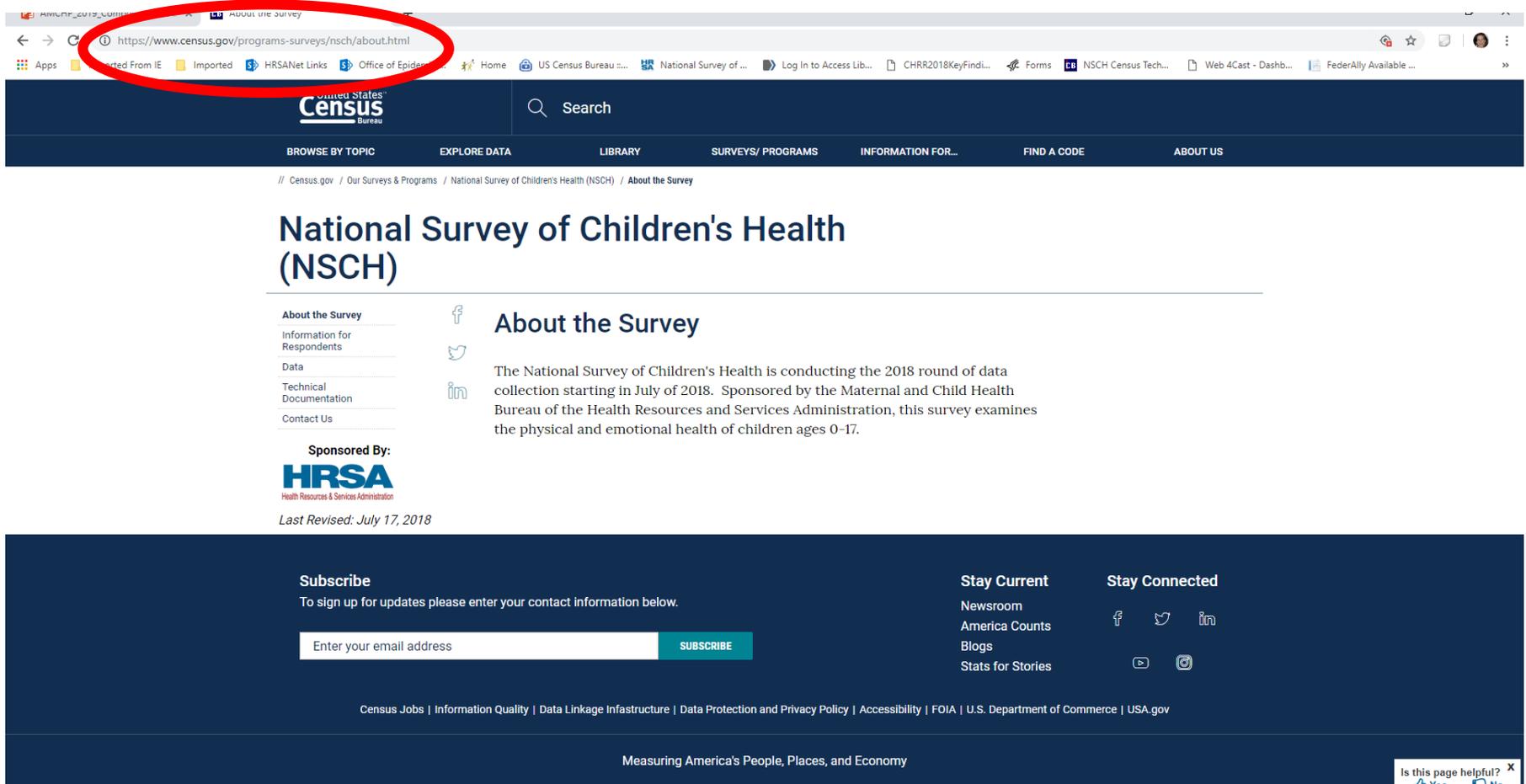
The "For Title V" section describes the DRC's focus on Title V programs and partners, listing links to "Ways to Compare Data Across States on the DRC Website", "HRSA MCHB Title V Information System", and "Get Help".

The "Compare Data Across States" section includes a map of the United States with states color-coded by region.



Using the 2016-17 NSCH

U.S. Census Bureau



The screenshot shows a web browser with the URL <https://www.census.gov/programs-surveys/nsch/about.html> circled in red. The page title is "About the Survey". The navigation bar includes "BROWSE BY TOPIC", "EXPLORE DATA", "LIBRARY", "SURVEYS/ PROGRAMS", "INFORMATION FOR...", "FIND A CODE", and "ABOUT US". The main heading is "National Survey of Children's Health (NSCH)". A sidebar on the left lists "About the Survey", "Information for Respondents", "Data", "Technical Documentation", and "Contact Us". The main content area features a social media icon for Facebook, the heading "About the Survey", and a paragraph: "The National Survey of Children's Health is conducting the 2018 round of data collection starting in July of 2018. Sponsored by the Maternal and Child Health Bureau of the Health Resources and Services Administration, this survey examines the physical and emotional health of children ages 0-17." Below this is a "Sponsored By:" section with the HRSA logo and the text "Health Resources & Services Administration" and "Last Revised: July 17, 2018". At the bottom, there is a "Subscribe" section with a text input field and a "SUBSCRIBE" button, and a "Stay Connected" section with links for "Newsroom", "America Counts", "Blogs", and "Stats for Stories". A footer contains links for "Census Jobs", "Information Quality", "Data Linkage Infrastructure", "Data Protection and Privacy Policy", "Accessibility", "FOIA", "U.S. Department of Commerce", and "USA.gov". A small feedback box in the bottom right corner asks "Is this page helpful?" with "Yes" and "No" options.



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