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**INFORMATION**



Mental and Behavioral Health of Rural Children -  
Insights from the CDC MMWR Rural Health Series



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## Mental and Behavioral Health of Rural Children - Insights from the CDC MMWR Rural Health Series

Rural Health Information Hub Webinar  
May 3, 2017

**Reem M. Ghandour, DrPH, MPA**  
U.S. Department of Health and Human Services  
Health Resources and Services Administration  
Maternal and Child Health Bureau



## Outline

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1. Brief overview of the National Surveys
2. Redesign of the National Survey of Children's Health
3. Future Directions and Opportunities



## NSCH/NS-CSHCN

### History and Purpose

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#### National Survey of Children's Health:

- Produce national and State-based estimates of the health and well-being of children ages 0-17 years, their families, and their communities.
- *2003, 2007, 2011-12*

#### National Survey of Children with Special Health Care Needs:

- Assess the prevalence and impact of special health care needs among children ages 0-17 years in the U.S., and to evaluate change over time.
- *2001, 2005-06, 2009-10*

#### Common Elements:

- Historically directed and funded by HRSA MCHB and fielded by the CDC/NCHS as a module of SLAITS as a RDD telephone survey (landline + cell-phone samples)
- Produced both national and state-level estimates
- All data are parent/care-giver reported



## NSCH/NS-CSHCN

### History and Uses

- Title V Maternal and Child Health Services Block Grant needs assessments and funding applications;
- State-level planning and program development
- Federal policy and program development
- Healthy People 2010/2020/2030 Objectives



## NSCH/NS-CSHCN

### History and Uses: Scientific Research

- **Conditions:**
  - Blumberg, S.J., Bramlett, M.D., Kogan, M.D., Schieve, L.A., Jones, J.R., Lu, M.C. **Changes in prevalence of parent-reported autism spectrum disorder in school-aged U.S. children: 2007 to 2011-2012** (2013) National health statistics reports, (65), pp. 1-11.
- **Systems Indicators:**
  - Strickland, B.B., Jones, J.R., Newacheck, P.W., Bethell, C.D., Blumberg, S.J., Kogan, M.D. **Assessing Systems Quality in a Changing Health Care Environment: The 2009–10 National Survey of Children with Special Health Care Needs** (2014) Maternal and Child Health Journal, 19 (2), pp. 353-361.
- **State-level Analyses:**
  - Visser, S.N., Blumberg, S.J., Danielson, M.L., Bitsko, R.H., Kogan, M.D. **State-based and demographic variation in parent-reported medication rates for attention-deficit/hyperactivity disorder, 2007-2008** (2013) Preventing Chronic Disease, 10 (1),
- **County and Regional Analyses:**
  - Kramer MR, Raskind IG, Van Dyke ME, Matthews SA, Cook-Smith JN. **Geography of Adolescent Obesity in the U.S., 2007-2011**. Am J Prev Med. 2016 Dec;51(6):898-909.
  - Kasehagen L, Busacker A, Kane D, Rohan A. **Associations between neighborhood characteristics and physical activity among youth within rural-urban commuting areas in the US**. Matern Child Health J. 2012 Dec;16 Suppl 2:258-67.
- **Population-Specific Analyses:**
  - Kenney MK, Singh GK. **Adverse Childhood Experiences among American Indian/Alaska Native Children: The 2011-2012 National Survey of Children's Health**. Scientifica. 2016;2016:7424239.



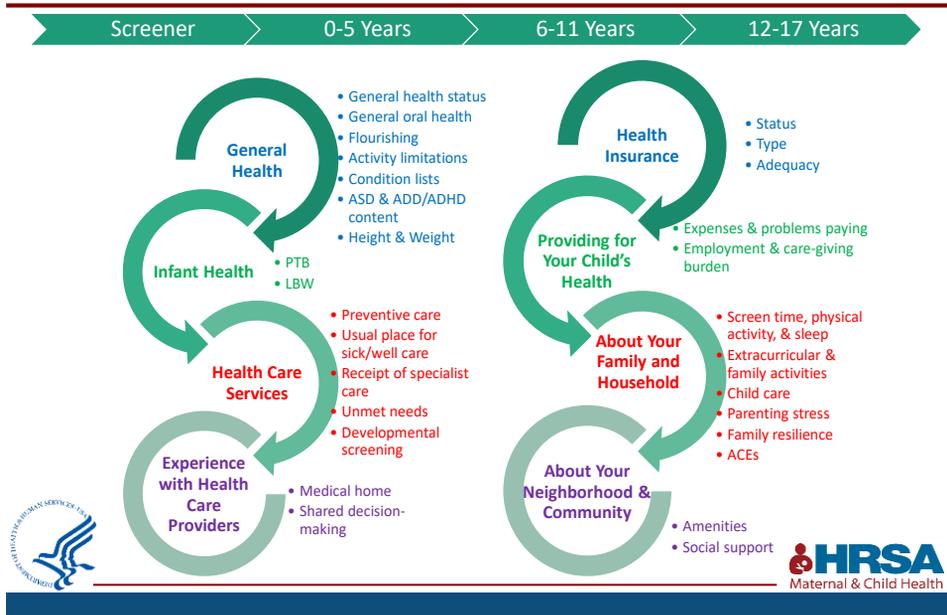
# NSCH/NS-CSHCN History and Uses (cont.)

		Excellent/Very good	Good	Fair/Poor	Total %
Urban core	%	83.9	12.9	3.2	100.0
	C.I.	(83.1 - 84.6)	(12.2 - 13.6)	(2.9 - 3.6)	
	n	51,024	5,558	1,431	
Suburban	Pop. Est.	43,169,188	6,651,150	1,661,083	
	%	86.6	11.0	2.4	100.0
	C.I.	(85.0 - 88.3)	(9.4 - 12.5)	(1.7 - 3.1)	
Large town	n	9,067	855	203	
	Pop. Est.	6,463,741	817,272	180,120	
	%	84.7	12.7	2.6	100.0
Small town/Rural	C.I.	(83.0 - 86.3)	(11.1 - 14.3)	(2.1 - 3.2)	
	n	10,518	1,229	309	
	Pop. Est.	5,500,739	824,819	171,440	
Small town/Rural	%	84.3	12.1	3.6	100.0
	C.I.	(82.8 - 85.8)	(10.8 - 13.5)	(2.8 - 4.3)	
	n	12,117	1,429	384	
	Pop. Est.	5,385,524	774,779	227,600	

C.I. = 95% Confidence Interval. Percentages are weighted to population characteristics.  
n = Number of respondents (unweighted numerator).

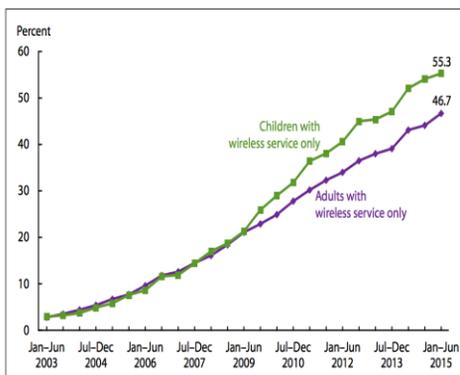
**DATA ALERT:** The Rural Urban Commuting Area (RUCA) taxonomy is derived from the relationship between cities and towns as measured by work commuting flows. The four categories shown here are available only for national-level results. Sample sizes for large town and rural categories within many states are too small to provide reliable statistical estimates. Data source: NCHS restricted data files.

## NSCH Content: Core Content Areas



## 2016 NSCH Redesign: Rationale and Goals

Figure. Percentages of adults and children living in households with only wireless telephone service: United States, 2003-2015



NOTE: Adults are aged 18 and over; children are under age 18.  
DATA SOURCE: CDC/NCHS, National Health Interview Survey.

The purpose of the redesign is fourfold:

1. To shift the survey's sampling frame from landline and cell phone numbers to household addresses.
2. To shift mode of administration from an interviewer-administered survey via telephone to a self-administered survey via web and paper.
3. To combine the NSCH and NS-CSHCN into a single instrument.
4. To provide more timely data.



## 2016 NSCH Redesign:

### Key Decisions

**Summary: Retain as much content and functionality as possible, while dramatically changing sampling strategy and mode of administration.**

- Retained a two-phase administration: A “Screener” to determine child demographics and SHCN status followed by an age-specific “Topical” survey.
- **Retain core content** on all CSHCN Core Outcomes and Title V NOMs/NPMs.
- **A single, combined survey** fielded annually; new state-level estimates available bi-annually (in most cases).
- An **Addressed-Based Sampling (ABS) frame** utilized to improve response rates and support non-response bias analyses.
- The majority of interviews conducted via a **self-directed response mode** (web-push + mail)
- **Content added** on a variety of topics, including aspects of being “Healthy and Ready to Learn”, food sufficiency, and behavioral treatment for ADHD, etc



## 2017 NSCH and Beyond:

### Future Directions & Opportunities

#### 2016 Survey:

- **Data Collection Instruments available at:**
  - <http://mchb.hrsa.gov/data/national-surveys> under Data Users Tab.
- **Public Data Release (Summer 2017)**
  - Data Resource Center: [www.childhealthdata.org](http://www.childhealthdata.org)
  - Census Bureau: [www.census.gov/programs-surveys/nsch.html/](http://www.census.gov/programs-surveys/nsch.html/)
- **Methodological and Data Use Documents under development**

#### 2017 Survey:

- **Content finalized (minimal changes: environmental health and military deployment)**
- **Launch July 2017 with some amendments to design**

#### 2018 Survey:

- **Cognitive testing Summer 2017**
- **Finalize content Fall 2017**



## Contact Information

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**Facebook: [facebook.com/HHS.HRSA](https://facebook.com/HHS.HRSA)**



National Center on Birth Defects and Developmental Disabilities



**Differences in Health Care, Family, and Community**  
**Factors Associated with Mental, Behavioral, and**  
**Developmental Disorders Among Children Aged 2–8**  
**Years in Rural and Urban Areas — United States,**  
**2011–2012**

**Lara R. Robinson, PhD, MPH**  
 Rural Health Information Hub webinar  
 May 3, 2017

*The findings and conclusions in this presentation have not been formally disseminated by the Centers for Disease Control and Prevention and should not be construed to represent any agency determination or policy.*

## Outline of Presentation

- Background
- Our study
- Results
- What can we do to help children in rural communities thrive?
- Study limitations
- How can I learn more?



## Background

- Mental, behavioral, and developmental disorders (MBDDs) can affect life-long health and well-being.
- Nurturing, enriched environments help children reach their full potential.
- Children with MBDDs and their families face personal, financial, and neighborhood challenges more often than families of children without these disorders.
- The type of community that families live in may increase some of these challenges.



**1 in 7 children aged 2-8 years have a mental, behavioral, or developmental disorder**

Bitsko RH, Halbrook JR, Robinson LR, et al. ; EdS. EdS. Health care, family, and community factors associated with mental, behavioral, and developmental disorders in early childhood—United States, 2011–2012. MMWR Morb Mortal Wkly Rep 2016;65:221–6

## Our Study



- National Survey of Children’s Health, 2011-2012
- Children aged 2-8 years
- Analytic sample of 34,535 children
- Parent report of provider-diagnosed MBDD
- Parent mental health, neighborhood, and other personal and community factors



## Rural Urban Commuting Area (RUCA) codes

- Rurality (small, large, and isolated) defined by RUCA codes
  - Census tract–based classification system
  - Daily commuting information



<https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes.aspx>



## Differences by Rural Status

- Children in all rural areas more often
  - Lived in a neighborhood in poor condition
  - Lived in a neighborhood that lacked amenities
- Children in small rural and large rural areas compared with children in urban areas more often
  - Lived in families with financial difficulties



## Strengths of Some Rural Communities



- Children in isolated areas less often
  - Lived in an unsafe neighborhood (also small rural)
  - Lived in a neighborhood lacking social support
  - Lacked a medical home
  - Had a parent with fair or poor mental health



## Children with MBDDs

- In urban and the majority of rural community types, more often than children without an MBDD,
  - Lacked a medical home
  - Had a parent with poor mental health
  - Lived in families with financial difficulties
  - Lived in a neighborhood lacking physical and social resources



## Differences by Rural Status and MBDD



- Higher prevalence of children with an MBDD in small rural areas (18.6%) than in urban areas (15.2%)
- Rural children with an MBDD, more often than urban children with these same conditions\*,
  - Had a parent with fair or poor mental health
  - Lived in families with financial difficulties
  - Lived in a neighborhood with limited amenities
  - Lived in a neighborhood in poor condition

\*After adjusting for race/ethnicity and poverty, the only factor that was no longer associated with rurality was financial difficulties

## What Can We Do to Help Children in Rural Communities Thrive?

- Collaboration between healthcare systems, primary care clinicians, and family support programs may offset the challenges faced by children in rural areas.



## What Can We Do to Help Children in Rural Communities Thrive?



- States
  - Policies
  - Health plans
  - Neighborhood resources
- Healthcare systems
  - Collaboration
  - Affordable services
- Primary care clinicians
  - Connecting families to services
  - Screening for MBDDs

## Study Limitations

- Parent report of an MBDD diagnosis not confirmed
- Unable to assess causal associations
- Neighborhood definitions may vary
- Rural urban coding based on 2000/2004 data
- Changes in residence cannot be accounted for
- Independent contributions of rurality and poverty may be difficult to determine
- Nonresponse bias may affect outcomes



## Take Home Messages

- Rural children with mental, behavioral, and developmental disorders face certain family and community challenges more often than children in urban areas with the same disorders.
- Children in rural areas with mental, behavioral, and developmental disorders may need additional support.
- All children with mental, behavioral, and developmental disorders could benefit from better access to mental and behavioral health care, programs that support parents and caregivers, and opportunities to learn, play, and socialize.



## How Can I Learn More?

- *MMWRs* in the Rural Health Series
  - <https://www.cdc.gov/ruralhealth/>
- *New England Journal of Medicine* commentary
  - <http://www.nejm.org/doi/full/10.1056/NEJMp1700713>
- Policy brief published by the *Milbank Memorial Fund*
  - <https://www.milbank.org/publications/behavioral-health-integration-in-pediatric-primary-care-considerations-and-opportunities-for-policy-makers-planners-and-providers/>



Robinson LR, Holbrook JR, Bitsko RH, et al. Differences in Health Care, Family, and Community Factors Associated with Mental, Behavioral, and Developmental Disorders Among Children Aged 2–8 Years in Rural and Urban Areas — United States, 2011–2012. *MMWR Surveill Summ* 2017;66(No. SS-8):1–11. DOI: <http://dx.doi.org/10.15585/mmwr.ss6608a1>

### Questions or Comments?

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## Ben Archer Health Center

### Behavioral Health Services to children in rural areas of New Mexico

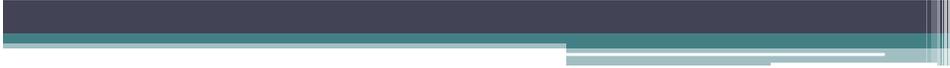
**Linda Summers, PhD, FNP,**  
Clinical Nurse Specialist and  
Certified Nurse Practitioner-  
Psychiatric

**Kara Bower, LBSW, Welcome Baby**  
Healthy Start Program Director

## What are we seeing in rural New Mexico?

- Poverty
- Language
- Citizenship
- Divorce, Drug Abuse and Domestic Violence
- Child Abuse or Neglect
- US/Mexico border
- Health Disparities





## How Are We Addressing Need?

- Early Childhood Intensive Home Visiting
- Mental Health First Aid
- Circle of Security
- Comprehensive Community Support Services (CCSS)
- National Health Service Corps
- Eye Movement Desensitization and Reprocessing (EMDR)
- Integrated Primary Care and Behavioral Health
- Telehealth
- School-based services



## Early Childhood Intensive Home Visiting





## Mental Health First Aid



## Circle of Security®



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## Comprehensive Community Support Services (CCSS)

### Community Support Workers:

- Teach
- Train
- Organize/plan
- Provide Support
- Facilitate and Link
- Coordinate/Communicate
- Coach
- Skill Building



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## National Health Service Corps

- **Behavioral Health Professional Shortage Area**
- **Recruit and Retain Behavioral Health Professionals**
- **NHSC Sites**
- **Child Psychiatrist**
- **Prescribing Psychologists**
- **Clinical Nurse Specialist**
- **25 Therapists**



## What is EMDR?

- Eye Movement Desensitization and Reprocessing (EMDR) is a psychotherapy treatment
- Enables people to heal from the symptoms and emotional distress resulting from disturbing life experiences
- Assist people who suffer from trauma, anxiety, panic, disturbing memories, post traumatic stress and many other emotional problems
- 2011 funding resulted in four therapists trained in EMDR
- Six therapists currently trained
- Good results using EMDR with children in rural settings on US/Mexico border

## School-based Health Services No Wrong Door



- Medical and Behavioral Health Services in six high schools
- Behavioral Health Services in several elementary schools

## Integrated Primary Care and Behavioral Health



- Accessibility
- Availability
- Acceptability

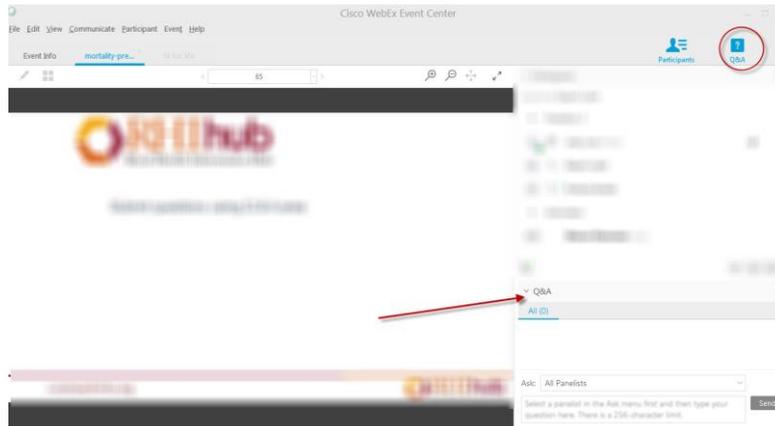
## Telehealth

- Telehealth Now Being Offered to Rural Schools
- Expertise from New Mexico State University Nursing Department





## Questions?



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- Contact us at [ruralhealthinfo.org](http://ruralhealthinfo.org) with any questions
- Please complete webinar survey
- Recording and transcript will be available on RHIhub website

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