RURAL & MINORITY Health Research Center

Rural-urban differences in exposure to adverse childhood experiences (ACEs)

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Our center's mission

The Rural and Minority Health Research Center's mission is to illuminate and address the problems experienced by rural and minority populations in order to guide research, policy, and related advocacy.

Director: Jan M. Eberth, PhD

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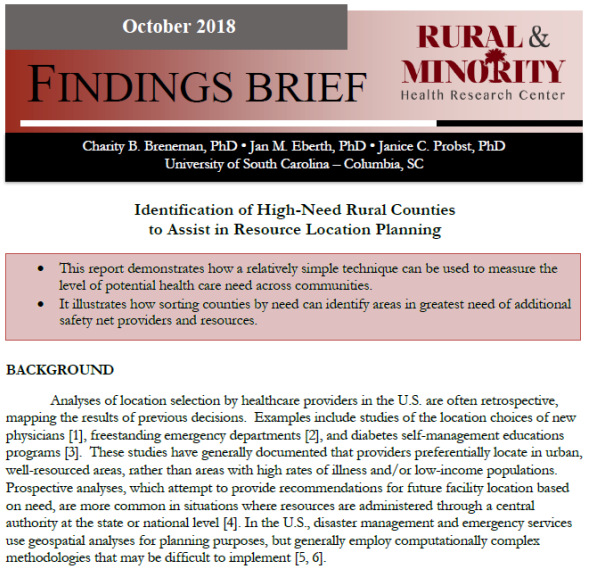

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FINDINGS BRIEF

RURAL & MINORITY Health Research Center

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University of South Carolina – Columbia, SC

Identification of High-Need Rural Counties to Assist in Resource Location Planning

- This report demonstrates how a relatively simple technique can be used to measure the level of potential health care need across communities.
- It illustrates how sorting counties by need can identify areas in greatest need of additional safety net providers and resources.

BACKGROUND

Analyses of location selection by healthcare providers in the U.S. are often retrospective, mapping the results of previous decisions. Examples include studies of the location choices of new physicians [1], freestanding emergency departments [2], and diabetes self-management educations programs [3]. These studies have generally documented that providers preferentially locate in urban, well-resourced areas, rather than areas with high rates of illness and/or low-income populations. Prospective analyses, which attempt to provide recommendations for future facility location based on need, are more common in situations where resources are administered through a central authority at the state or national level [4]. In the U.S., disaster management and emergency services use geospatial analyses for planning purposes, but generally employ computationally complex methodologies that may be difficult to implement [5, 6].

Findings briefs are produced 2-3 times/year on a variety of topics related to rural health and healthcare. Briefs are available at www.ruralhealthresearch.org.

Background

Adverse Childhood Experiences (ACEs)

- Traumatic events that occur in a child's life between birth and 18 years of age.
- ACE exposure linked to risky health behaviors and chronic health conditions in adulthood.
- ACE exposure may also result in an intergenerational cycle of experiences.
- There is a dose-response relationship present with ACE exposure.

Those experiencing four or more ACEs are more likely to…

Engage in risky drinking behavior such as binge drinking and heavy drinking (Crouch et al 2017)

Continue to smoke with diagnosis of a smoking exacerbated illness (Crouch et al 2018)

Have poor self-reported mental health and physical health in adulthood (Crouch et al 2017; Crouch et al 2017)

Early research funded by FORHP

Rural children less likely to witness violent household disagreement

PEDIATRICS®
OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

The Prevalence of Violent Disagreements in US Families: Effects of Residence, Race/Ethnicity, and Parental Stress

Charity G. Moore, Janice C. Probst, Mark Tompkins, Steven Cuffe and Amy B. Martin

Pediatrics 2007;119;S68
DOI: 10.1542/peds.2006-2089K

Children in rural areas: childhood adversity

NSCH ACES

NSCH: Parent/guardian reporting current experience

- Someone in home suicidal or mentally ill
- Alcohol or drugs in home
- Parent in jail
- Divorce
- Witness to domestic violence

NSCH but not BRFSS

- Parental death
- Racial discrimination
- Low income

CDC/BRFSS ACES

BRFSS: Adult reporting remembered experience

- Household mental illness
- Household substance abuse (alcohol)
- Household substance abuse (drugs)
- Household incarceration
- Parental separation/divorce
- Household domestic violence

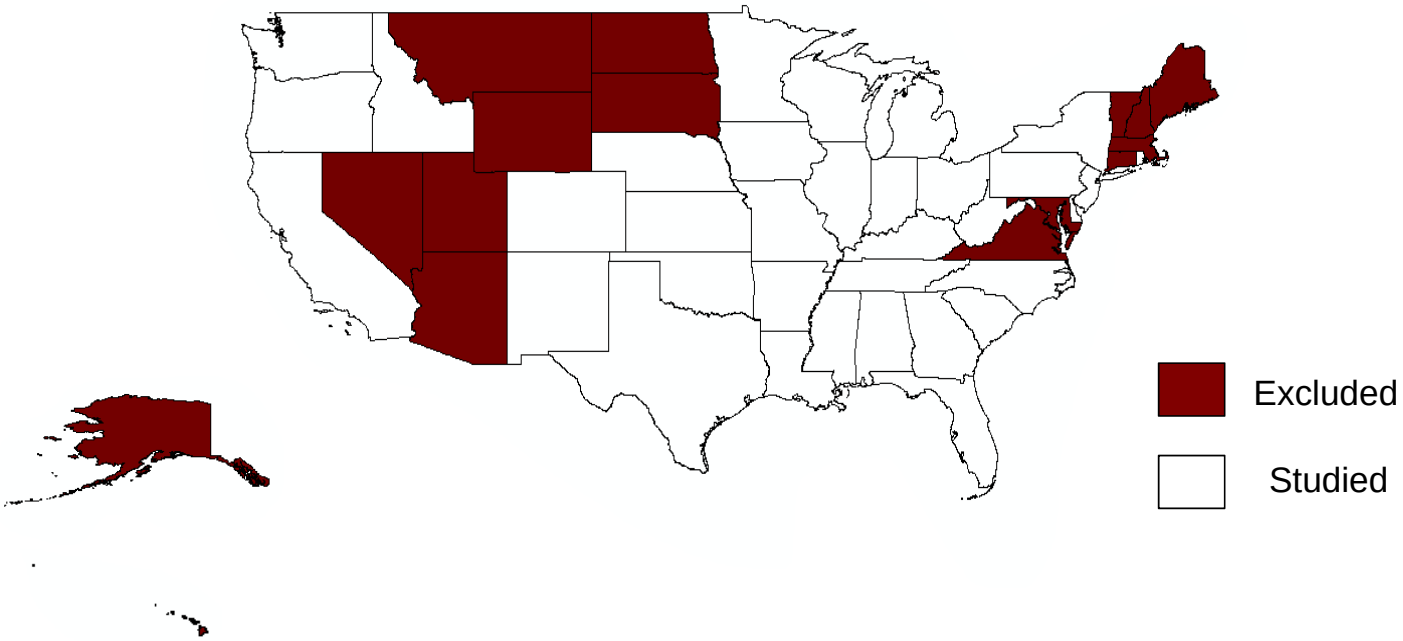
BRFSS but not NSCH

- Emotional abuse
- Physical Abuse
- Sexual abuse

What about ACEs in rural areas?

- Findings limited & mixed on ACE exposure in rural areas
- Maine (BRFSS), using eleven states, found overall that rural and urban residents reported similar burdens of ACE exposure.
- South Carolina (BRFSS) found rural adults less likely to report any adverse childhood experiences than urban adults
- Our work in progress from NSCH found that a higher proportion of children from rural areas experienced at least one ACE compared to their urban counterparts.

Map of studied states



Total observations with excluded states

- N=27,612
- Non-response issues for parent reporting for their child

ACE exposures differ

Adult Reports of ACES in the home, restricted to adults reporting	Total sample	Rural	Urban	P-value
	Weighted %			
Parental separation/divorce	24.3	**30.7**	23.6	<0.0001
Parental Death	3.4	3.2	**4.8**	0.02
Household incarceration	9.0	**15.8**	8.3	<0.0001
Witnessing household violence	6.3	**9.3**	6.0	0.0004
Household substance use	9.6	**13.8**	9.1	0.0003
Racial/ethnic mistreatment	3.8	2.1	**4.1**	0.0
Economic Hardship	29.1	**34.4**	28.5	0.0021

Source: Author's analysis, In progress. Not for general release

Differences in total exposure

Compared to urban children,

- Rural children more likely to have one to three ACEs (44.6% versus 41.0%, $p<0.0001$)
- Rural children more likely to have four or more ACEs (10.3% versus 6.3%, $p<0.0001$)
- Rural children less likely to have zero ACEs (45.1% versus 52.8%, $p<0.0001$)

Source: Author's analysis, In progress. Not for general release

Poverty as a key policy lever…

Model 1: Predicting a count of four or more ACEs, with economic hardship as an ACE, poverty was not included and rurality was significant

Model 2: Not including economic hardship as an ACE, but including poverty as a covariate, rurality was not significant

The inclusion of poverty accounts for the significance of rural in the model

Source: Author's analysis, In progress. Not for general release

Poverty as a key policy lever…

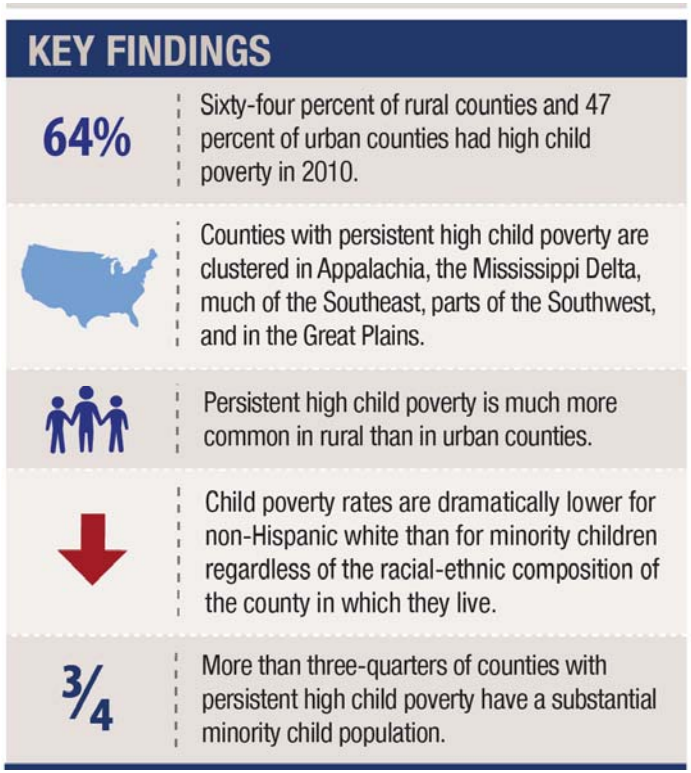
Poverty reduction is a policy issue that can be addressed, while rural is a proxy of many things not easily intervened upon

Children: the biggest health problem?

The effects of
poverty on the
health and well being
of young people
is the **greatest problem** facing American children today.

Academic Pediatric Association and the American Academy of Pediatrics, 2013

Children: the biggest health problem?



Child poverty
is higher
and more persistent in
rural America

Improving well-being among children in rural areas

"Many risk factors aren't directly related to geographic location, but to demographic characteristics of those who live in rural areas"

- Sociodemographic risk factors
- Economic disparities
- Intergenerational issues

Examples of policy programs in rural areas for targeting poverty

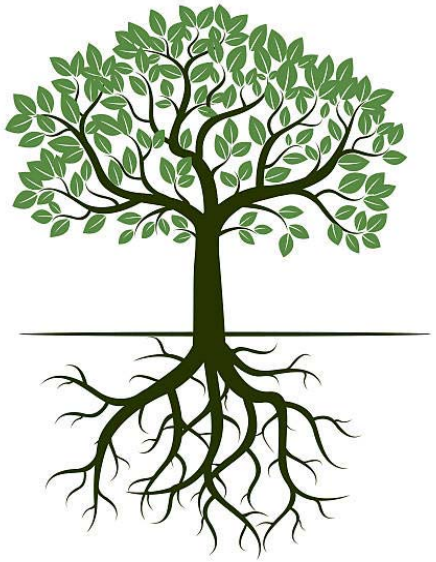
Title I of the Elementary and Secondary Education Act, and Title V, which targets school districts in rural counties

Funding formulas that allocate higher levels of funding to urban, rather than rural, schools as the funding formula is based on absolute numbers of students

National School Lunch Program and the National School Breakfast Program

Improving well-being among children in rural areas

If we want to focus on ACEs and poverty, we also need to focus on families becoming stronger and more resilient



Intergenerational programs to strengthen families

HRSA's Strengthening Families Program

- evidence-based family skills training program found to significantly improve parenting skills and family relationships, reduce problem behaviors, delinquency and alcohol and drug abuse in children and to improve social competencies and school performance

Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Program

- supports voluntary, evidence-based home visiting for at-risk pregnant women and parents with children up to kindergarten entry

Why the need for intergenerational programs?

There is a parable about a villager who finds a baby floating in the river. The villager jumps in and saves the baby.

The next day, the villager finds two more babies in the river. He brings the babies into the village and finds families to love and care for these new babies.

While the villagers are figuring out how to provide love, food, shelter for three new babies, they find more babies in the river.

While they struggle to cope with their new responsibilities, the wise person in the village hikes upstream determined to get to the source of the problem.

Questions and contact information

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