Disparities in Health Care Utilization and the Effect of Family Resilience and Neighborhood Support

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Background

Resilience, the ability to recover from adversity and turn obstacles into strengths and successes, can mitigate negative health outcomes associated with external drivers of health. Poverty, low educational attainment, insurance status and marginalized communities along with adverse childhood events are all known to be associated with poor health outcomes. Resilience is increasingly understood as a potent mitigating factor of negative health outcomes associated with toxic stress and social determinants of health. Individual resilience itself is impacted by external drivers such as family resilience and community cohesion.

Medical homes seek to promote patient well-being by establishing a partnership of trust and responsibility between physicians and patients. This shared trust, collaboration and responsibility in turn drives the development of healthy habits and behaviors. Obtaining non-urgent medical care in an emergency department, on the other hand, leads to fragmented care which can lack shared trust and responsibility for optimal care.

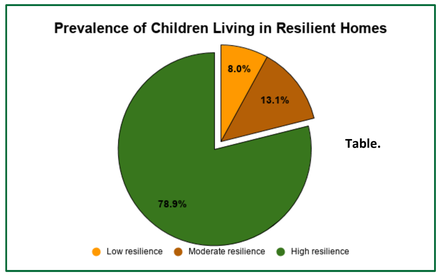
Objective

To examine the association between family resiliency, neighborhood support and how healthcare is accessed while controlling for the effects of age, sex, race, health insurance, poverty level, parental education and children with special health care needs in a nationally representative sample of children aged 4 to 17 years. Outcome measures were 'having a usual place of care', 'receiving care in a medical home' and and ≥2 emergency department (ED) visits in the past year.

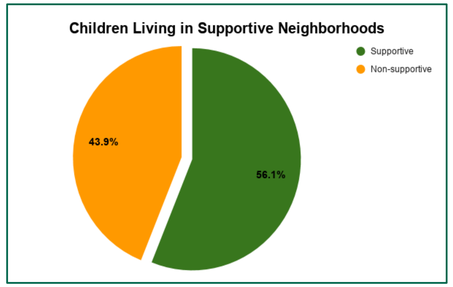
Methods

- Data for children aged 4-17 years were drawn from the 2016-2017 National Survey of Children's Health (NSCH), which randomly sampled households in all 50 states and the District of Columbia. NSCH is conducted by the Census Bureau and funded by Health Resources and Services Administration's Maternal and Child Health Bureau (HRSA MCHB) within the U.S. Department of Health and Human Services.
- The effects of family resilience and neighborhood support were determined for 3 negative health care outcomes: not having a usual place for sick care, not receiving care through a medical home, and ≥2 (ED) visits in the past year.
- Multiple logistic regression with weighting was used to determine adjusted odds ratios and 95% confidence intervals for the effects of family resilience, neighborhood support on health care outcomes, controlling for child's age, sex, race, health insurance, parent education, family structure, income and children with special health care needs (CSHCN). Data analysis was performed with SPSS Statistics for Windows, and Version 25.0 complex sampling design module.
- CSHCN were identified by CSHCN screener to adjust for their complex needs and high utilization.
- An IRB waiver was obtained due to the use of de-identified publicly available dataset for our research.

Results



Family Resilience. ***Low***: ("All or most of the time to 0-1 item"), ***Moderate***: ("All or most of the time to 2-3 item"), ***High***: (All or most of the time to all 4 item).



Neighborhood Support. ***Supportive:*** *(*Most/all of the time to all 3 items), ***Non-supportive***: (Most/all or most of the time to less than 3 item).

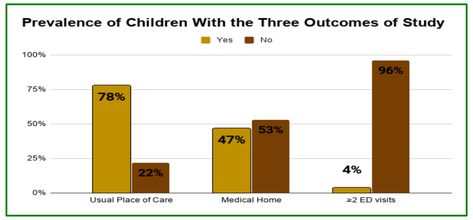


Table. Effect of Family Resilience and Neighborhood Support on Health Care Utilization

Family Resilience		Prevalence of variable levels % (95% CI)	Does not have Usual Place of Care	Does not receive care in Medical Home	≥2 ED visits
Health Care Utilization Outcome					
Family Resilience	High	80.2 (79.4-80.9)	0.83 (0.68-1.00)	**0.60 (0.52-0.71)**	1.34 (0.96-1.80)
	Moderate	12.2 (11.6-12.8)	0.80 (0.63-1.02)	**0.74 (0.62-0.89)**	1.06 (0.72-1.57)
	Low	7.6 (7.1-8.1)	Referent	Referent	Referent
Neighborhood Support	Supportive	55.4 (54.5-56.3)	1.08 (0.96-1.21)	**0.75 (0.69-0.82)**	0.97 (0.74-1.27)
	Non-supportive	44.6 (43.7-45.5)	Referent	Referent	Referent
Age Groups	4- 11 years	56.9 (56.0-57.9)	**1.24 (1.11-1.38)**	0.95 (0.87-1.03)	1.00 (0.78-1.28)
	12-17 years	43.1 (42.1-44.0)	Referent	Referent	Referent
Sex	Female	48.9 (48.0-49.8)	1.10 (0.99-1.23)	1.02 (0.94-1.11)	1.15 (0.90-1.46)
Race	Black	13.1 (12.4-13.7)	**1.43 (1.20-1.70)**	**1.43 (1.24-1.65)**	**1.38 (1.02-1.86)**
	Hispanic	24.7 (23.8-25.7)	**1.36 (1.17-1.59)**	**1.62 (1.43-1.85)**	1.17 (0.80-1.70)
	Other	10.8 (10.3-11.2)	**1.77 (1.54-2.03)**	**1.41 (1.27-1.56)**	0.99 (0.74-1.32)
	White	51.4 (50.6-52.3)	Referent	Referent	Referent
Health Insurance	Noninsured	31.6 (30.8-32.4)	**1.28 (1.14-1.43)**	**1.74 (1.59-1.90)**	1.19 (0.94-1.52)
	Insured	68.4 (67.6-69.2)	Referent	Referent	Referent
Poverty Level	Below (<99% FPL)	21.2 (20.4-22.1)	**1.45 (1.24-1.70)**	**1.29 (1.12 -1.49)**	**2.08 (1.24-3.48)**
	Near (100-200% FPL)	21.7 (21.0-22.6)	**1.36 (1.17-1.58)**	**1.34 (1.18-1.49)**	1.01 (0.60-1.72)
	Above (>200% FPL)	57.0 (56.1-57.9)	Referent	Referent	Referent
Special Health Care Needs	SHCN	18.8 (18.1-19.4)	**0.63 (0.55-0.72)**	**1.13 (1.03-1.24)**	**3.68 (2.91-4.65)**
	Non-SHCN	81.2 (80.6-81.9)	Referent	Referent	Referent
Family Structure	Two parents, not married	8.9 (8.4-9.5)	**1.38 (1.08-1.64)**	**1.33 (1.11-1.60)**	**1.77 (1.14-2.73)**
	Single	15.0 (14.4-15.6)	1.00 (0.86-1.17)	1.11 (0.99-1.26)	**1.52 (1.15-2.01)**
	Other family, no parent reported	9.0 (8.4-9.6)	**1.60 (1.32-1.93)**	**1.27 (1.08-1.48)**	1.21 (0.87-1.70)
	Two parents, married	67.1 (66.2-68.0)	Referent	Referent	Referent
Education	Less than high school	8.9 (8.2-9.7)	**2.19 (1.52-3.15)**	**1.94 (1.52-2.50)**	**2.42 (1.53-3.84)**
	High school/GED	19.6 (18.8-20.4)	**2.45 (1.95-3.08)**	**1.82 (1.60-2.07)**	**1.42 (1.02-1.96)**
	Some college	22.4 (21.7-23.1)	**1.69 (1.40-2.04)**	**1.46 (1.32-1.61)**	**1.49 (1.04-2.15)**
	College degree or higher	49.1 (48.2-50.0)	Referent	Referent	Referent

High and moderate family resilience, and a supportive neighborhood were protective against not receiving care in a medical home, but were not associated with a usual place of sick care or ≥2 ED visits (Table). Caregiver education less than a college degree, Black race, income below poverty level, two unmarried parents, and CSHCN were associated with all negative outcomes.

58,336 children aged 4-17 years (51% male), representing a weighted sample of 57,688,434 were included. The person responding 90% of the time was the biological or adoptive parent of the selected child. The weighted Overall Response Rate for the 2016 and 2017 NSCH was 40.7% and 37.4% respectively.

Defining Constructs-Survey Questions

- **Family Resilience**:

  Family resilience was generated by asking how a family faces a challenge. Responses are on a Likert type of "all of the time", "most of the time", "some of the time", "none of the time".

  1. "When your family faces problems, how often are you likely to do each of the following?"
     - Talk together about what to do
     - Work together to solve our problems
     - Know we have strengths to draw on
     - Stay hopeful even in difficult times

- **Neighborhood Support:**

  Community cohesion was generated by asking three questions regarding neighborhood support. Responses are on a Likert type scale (definitely agree, somewhat agree, somewhat disagree or definitely disagree)

  a. People in my neighborhood help each other out.
  b. We watch out for each other's children in this neighborhood
  c. When we encounter difficulties, we know where to go for help in our community

- **Outcome Variable-Medical Home**:

  The NSCH utilized 5 of the 7 qualities essential to a medical home as defined by the American Academy of Pediatrics (AAP). Children who qualify as having a medical home must meet criteria for the first three components. Additionally, any children who needed referrals or care coordination must also meet criteria for those components to qualify as having a medical home.

  1. Personal doctor or nurse
  2. Usual source for sick care
  3. Family-centered care
  4. Does not have problems getting needed referrals
  5. Effective care coordination when needed

Discussion/Conclusion

Family resilience and neighborhood support, two key factors of resilience, have a protective effect on a child's use of a medical home even after controlling for multiple factors including race, insurance status, family education and special health care needs. Causation cannot be established due to the cross sectional nature of our study. It is unclear if resilient families seek out medical homes or if the medical home promotes resilience. Family resilience and neighborhood support did not affect ED utilization or having a usual place of care.

The trusting and collaborative relationship established between a health professional and a child and family may be a mechanism through which resilience mitigates negative health outcomes and health care disparities.