Does a medical home buffer the association between child poverty and poor health?

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INTRODUCTION

- Children living in poverty are less likely to receive timely medical care and are more likely to have unmet health care needs.
- The medical home is a care delivery model that has been proposed to improve health outcomes of children living in poverty.
- Many health experts believe that the medical home could provide a means to overcome income-based health disparities.
- Few studies have assessed the differential effect of the medical home among those living in poverty and those not living in poverty.
- Examining this difference may reveal whether the medical home provides a greater benefit to children living in poverty than those not living in poverty and could plausibly act to overcome the health disadvantages associated with poverty among children.

OBJECTIVES

- We examined the associations of children's overall health, health care use, and unmet health care needs with having a medical home.
- We compared the strength of these associations between children living in poverty and children not living in poverty.

MATERIALS & METHODS

- Caregiver-reported data from the 2016-2017 National Survey of Children's Health (NSCH)
- Medical home was defined according to meeting criteria for having a personal provider, having a usual source of health care, receiving family and patient-centered care, receiving appropriate referrals, and receiving satisfactory coordination of care, if needed.
- Poverty was defined as family income <100% of the Federal Poverty Level.
- Multivariable logistic regression with interaction terms between poverty and medical home access was used to estimate the impact of the medical home according to poverty status.

RESULTS

Table 1: Relationship of covariates according to medical home access

Variable	Weighted proportion or mean (95% CI)	
	Children living in poverty	
	No medical home	Medical home[a]
Poor health	0.04 (0.03, 0.06)	0.02 (0.01, 0.02)**
Any preventive care visits	0.96 (0.94, 0.97)	0.96 (0.94, 0.98)
Any hospital ED visits	0.31 (0.27, 0.34)	0.31 (0.26, 0.35)
Any dental care visits	0.73 (0.71, 0.76)	0.78 (0.75, 0.82)*
Any specialist visits	0.16 (0.14, 0.18)	0.21 (0.18, 0.24)*
Unmet health care needs	0.06 (0.05, 0.08)	0.02 (0.01, 0.03)***
Age (years)	8.7 (8.4, 9.0)	7.9 (7.4, 8.3)**
Sex		
Male	0.51 (0.48, 0.54)	0.50 (0.46, 0.55)
Female	0.49 (0.46, 0.52)	0.50 (0.45, 0.54)
Race/ethnicity		
Non-Hispanic White	0.26 (0.24, 0.28)	0.40 (0.36, 0.44)***
Non-Hispanic Black	0.23 (0.21, 0.26)	0.20 (0.17, 0.23)
Hispanic/Latino	0.41 (0.37, 0.44)	0.31 (0.26, 0.36)**
Other	0.10 (0.08, 0.11)	0.09 (0.07, 0.11)
Household structure		
Two parents	0.53 (0.50, 0.56)	0.60 (0.56, 0.64)*
Mother only	0.33 (0.30, 0.36)	0.30 (0.26, 0.34)
Other	0.14 (0.12, 0.16)	0.10 (0.08, 0.13)*
Parents' highest education		
High school or less	0.56 (0.53, 0.59)	0.38 (0.33, 0.42)***
Some college	0.31 (0.28, 0.34)	0.38 (0.34, 0.42)**
College degree	0.09 (0.07, 0.11)	0.16 (0.12, 0.19)***
Advanced degree	0.04 (0.03, 0.05)	0.09 (0.06, 0.11)***
Health insurance		
Any private	0.12 (0.10, 0.14)	0.21 (0.18, 0.24)***
Public only	0.75 (0.72, 0.78)	0.76 (0.73, 0.80)
No insurance	0.13 (0.11, 0.15)	0.03 (0.02, 0.04)***

* P<0.05, ** P<0.01; *** P<0.001
[a] P-values comparing to children without a medical home are calculated using bivariate regression adjusted for survey weights, complex sampling design, and multiple imputation.
CI, confidence interval; ED, emergency department; SHCN, special health care needs.

Table 2: Odds ratios for the medical home according to poverty status.

Independent variable[a]	Dependent variables							
	Poor Health		Preventive Care		Dental Care		Unmet Health Care Needs	
Medical home association with outcomes	OR (95% CI)	P	OR (95% CI)	P	OR (95% CI)	P	OR (95% CI)	P
Among children not living in poverty	0.40 (0.27, 0.59)	<0.001	1.53 (1.25, 1.86)	<0.001	1.32 (1.20, 1.46)	<0.001	0.38 (0.29, 0.50)	<0.001
Among children living in poverty	0.43 (0.23, 0.80)	0.008	1.03 (0.53, 1.99)	0.930	1.50 (1.11, 2.02)	0.008	0.40 (0.25, 0.64)	<0.001
Interaction between medical home access and poverty[b]	1.08 (0.51, 2.32)	0.834	0.67 (0.33, 1.37)	0.277	1.13 (0.82, 1.56)	0.446	1.04 (0.59, 1.84)	0.891

[a] All models control for child age, sex, race/ethnicity, household structure, parents' educational attainment, child's health insurance coverage, special health care needs status, and region of residence. [b] For all outcomes, magnitude of the medical home coefficient was not statistically significantly different between children living and poverty and children not living in poverty (interaction OR p>0.05). CI, confidence interval; OR, odds ratio.

- 71,811 children were included in the analysis.
- 45% had access to a medical home and 21% lived in poverty (defined as a household income <100% FPL).
- For children living in poverty, access to a medical home was associated with a 57% reduction in the odds of poor health
- For children not living in poverty, access to a medical home was associated with 60% reduction in the odds of poor health
- Children living in poverty were less likely to have access to a medical home than those not living poverty (31% vs. 50%).

CONCLUSIONS

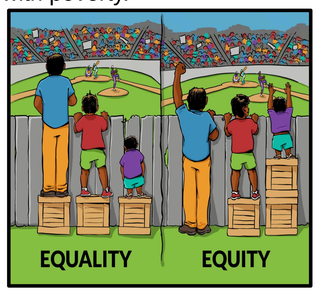
- The effect of the medical home did not vary by poverty status.
- For all study outcomes, there was no statistically significant difference in the effect of the medical home for children living in poverty and children not living in poverty
- Results were consistent when analyzing deep poverty (<50% of FPL)

LIMITATIONS

- The NSCH consists entirely of caregiver-reported data; there is potential for misunderstanding when interpreting questions. Our independent and dependent outcome measures are subject to recall bias, with measures of health care intended to capture events over a 12-month period.
- The cross-sectional nature of the NSCH precludes causal inference.
- We did not examine the sub-components of the medical home to assess which were most strongly associated with child health outcomes.

DISCUSSION

- Associations between the medical home and a range of health care outcomes were of the same magnitude for children living in poverty and children not living in poverty.
- Among children, the medical home improves individual health but is not sufficient to overcome inequities associated with poverty.



- Further work is needed to understand which mechanisms of poverty the medical home may not be able to overcome and enhance the efficacy of the medical home for addressing the health care needs and social determinants of health of children living in poverty.
- While the medical home may demonstrate effectiveness, broader social trends indicate a need for more systemic efforts to yield greater efficacy among vulnerable populations such as children living in poverty.

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