

Family structure and children's unmet health-care needs

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Abstract

This study assessed children's unmet health-care needs within different family types (two-parent biological/adoptive, two-parent stepfamily, and single-mother family type) using data from the 2011/2012 National Survey of Children's Health. Findings indicate that 10.4% of children in single-mother family types had unmet health-care needs compared to 8.7% of children from a two-parent stepfamily and 5.3% for those from two-parent biological/adoptive families. Further analyses revealed racial/ethnic disparities with Black children from two parent-biological/adoptive families being 1.54 (95% confidence interval 1.13, 2.05) times more likely to have unmet health-care needs, while Hispanic children were less likely to have unmet health-care needs relative to their white counterparts. Children from lower income two-parent families had a higher likelihood of unmet health-care needs. The noncontinuous insurance coverage was a risk factor for increasing unmet health-care needs across all three different family types. These findings show major differences in unmet health-care needs among children living in different family structure types. It is recommended that interventions for increasing access to care need to be tailored differently across various family types in order to achieve continuous and sufficient health-care services for our children.

Keywords

Access to health services, children health care, family structure, National Survey of Children's Health, unmet health-care needs

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Introduction

Family structure refers to the individuals that comprise a family and are present in the household (Edwards, 1987). The three most prevalent family structures are nuclear family (two-parent biological or adopted children), blended family (stepfamily), and single-parent family (Amato, 2005). Over time, the traditional family structures evolved based on factors such as divorce, teenage pregnancy, single mothers or fathers, same-sex marriage, and increased interest in adoption (Bumpass, 1990).

Family structure can have a profound impact on children's experiences and life course (Bramlett and Blumberg, 2007; Manning and Lamb, 2003). A significant amount of research evidence shows that family structure is a strong indicator in determining children's educational attainment, their likelihood of becoming a single parent, and their overall well-being (Manning and Lamb, 2003; Wojtkiewicz, 1993). Specifically, prior research suggests that children living in families of single mothers have a higher likelihood of experiencing adverse health effects compared to children in two-parent families (Montgomery et al., 1996). Similarly, Manning and Lamb (2003) found that adolescents living in two-biological parent families are more likely to fare better than children living with other type of family structures such as single-mother, cohabiting stepfather, and married stepfather families. Although research has been conducted on children's well-being indicators and family structure, overall limited research exists on US children with unmet health-care needs across various family structures (Blackwell, 2010).

An unmet need related to health care is a concept commonly used in health services research to describe the extent to which existing health problems go unaddressed as a result of lack of health insurance, limited availability of providers, or other problems (Kataoka et al., 2002; Newacheck et al., 2000). Children are dependent on their parents to obtain access to health care and family structure may influence their parents' ability to meet these needs (Heck and Parker, 2002). Newacheck et al. (2000) found that children with no parent present or one parent were more likely to have unmet medical, dental, vision, and medication needs compared to children with both parents present. Further, Heck and Parker (2002) found that children of single mothers were more likely to have unmet health-care needs and more likely to have no usual source of health care compared to children of two-parent families. While these studies assessed the effects of family structure on unmet medical, dental, and vision needs of children, neither of them differentiated between biological/adoptive-parent families and stepfamilies.

Research is needed to expand our understanding of how different factors (e.g. social, parental health status) within the context of family structure may influence the health-care needs of children. Such research may help identify those in need of intervention programs that can be more effective and less costly when provided earlier in life rather than later. Further, as family structures continue to evolve, monitoring children's health-care needs within these different family types is essential for developing and implementing effective health-care policies and programs.

The purpose of the current study was to assess the influence of a common set of factors such as sociodemographic, health insurance coverage, and maternal health on children's unmet health-care needs across different types of family structures. We hypothesized that there would be differences in the influence of these factors on children's unmet health-care needs among the two-parent biological/adoptive families, two-parent stepfamilies, and single-mother family types. We addressed these research objectives using data from the 2011/2012 National Survey of Children's Health (NSCH).

Methods

Sample

In this study, which was exempt from Institutional Review Board review, secondary data analysis was conducted using the 2011/2012 NSCH. This survey was funded by the National Center for Health Statistics at the Centers for Disease Control to gain insight on the well-being of children within families and their communities. It provides a snapshot of children's health status and access to care (DHHS: Health Resources and Services Administration, 2012). The participants were selected from a subset of telephone numbers from the National Immunization Survey sample. The data were collected through random telephone interviewing which began in February 2011 and ended in June 2012, with 95,677 interviews fully or partially completed by the parent/guardian of children aged 0–17 years (DHHS: Health Resources and Services Administration, 2012).

Of the 95,677 records, which represents a weighted sample size of around 72 million children 0–17 years old in the United States, our study sample included data collected from 87,963 participants, with <1% of data missing for all of our variables except income level which was 8%. Further, children who were part of other family types (less than 2%) were excluded from the final analytic sample due to small sample sizes.

Measures

The outcome variable, whether a child had unmet health-care needs was constructed based on previous research (dichotomous variable yes/no; Toomey et al., 2013). A child was considered to have an unmet health-care need if in the prior year he/she required health care and care was delayed or not received. Specifically, we used the survey question “During the past 12 months, was there any time when [child name] needed health care but it was delayed or not received?.” Follow-up questions on a child's specific unmet needs were collected from survey participants via questions that pertained to medical, dental, vision, and mental health care.

Family structure was used as a stratification variable and it consisted of three groups, namely, two-parent biological/adoptive, two-parent stepfamily, and single-mother families. Due to limited data, other types of family structures (e.g. grandparent as a primary parent figure in a household) were dropped from our analysis.

Several factors were used to describe children living in different family structures. These included children's age (<6 years old, 6–11 years old, and 12–17 years old), sex (male or female), race/ethnicity (self-assessed as White/non-Hispanic, Black/non-Hispanic, Hispanic, other), their mother's mental/physical health status (one or both not excellent/very good or both excellent/very good), poverty status ($\leq 100\%$, 100–199%, 200–400%, and $>400\%$ federal poverty level (FPL)), and continuous insurance coverage (yes or no). These variables were included in the analyses based on previous research that shows their importance in influencing children's unmet health-care needs (Bramlett and Blumberg, 2007).

Data analysis

Descriptive statistics were performed to assess children's characteristics and those of their families across the three different family structures. Bivariate analyses using the χ^2 test were performed to examine associations between unmet health-care needs among children and several sample characteristics based on family structure. In multivariable analyses, three logistic regression

models were built, one for each type of family structure to assess the influence of children's characteristics and their families on unmet health-care needs. Odds ratios (OR) and their 95% confidence intervals (CI) were computed. These analyses allowed us not only to describe children and their unmet health-care needs based on their families but also determine factors associated with an increased likelihood of unmet health-care needs within the context of family structure. Collinearity diagnostics were performed to ensure that the independent variables were not correlated. All analyses were weighted to account for the complex survey design of NSCH. STATA 14 was used in analyzing the data for this study (StataCorp., 2015).

Results

Sample characteristics by family structure

Table 1 presents sociodemographic characteristics of children and their unmet health-care needs by family structure. There were 66,287 children who lived in two-parent biological/adoptive families, 6563 lived in a two-parent stepfamilies and 15,113 children who resided in a single-mother family household. Among two-parent biological/adoptive families, only 7.6% were Black, non-Hispanic children, while in single-mother families, 34.6% were White and 30.2% were Black non-Hispanic. Stepfamilies had the lowest percentage (10%) of children younger than 6 years old, and the largest group (50.7%) of children 12–17 years old. In two-parent biological families, 14% of the children lived at <100% FPL whereas 45% of single-mother families reported children living at <100% FPL. In two-parent biological/adoptive families, 90% reported continuous insurance coverage for their child compared to two-parent stepfamilies and single-mother families at 86%. In two-parent biological/adoptive families, 37.8% of mother's mental/physical health was not excellent/very good and this was much higher (59.7%) among single mothers.

In two-parent biological/adoptive families, only 5.3% reported their child as having unmet health-care needs compared to two-parent stepfamilies at 8.7% and single-mother families at 10.4%. Further assessment of families with children experiencing unmet health-care needs revealed that the highest proportion of these unmet needs was attributed to unmet medical care needs (50.7% for two-parent biological/adoptive families, 52.2% for two-parent stepfamilies, and 49.3% for single-mother families) followed by unmet dental care needs (40.6% two-parent biological/adoptive families, 38.8% for two-parent stepfamilies, and 37.9% for single-mother families).

Bivariate analyses of unmet health-care needs and children's characteristics by family structure

Table 2 presents bivariate associations between unmet health-care needs and several socio-demographic characteristics as well as maternal health status within each family structure. In two-parent biological/adoptive and single-mother families, a significantly higher number of unmet health-care needs was reported for Black children compared to other racial/ethnic groups, and older children (at least 6 years old). A significantly higher percentage of male children had unmet health-care needs among two-parent biological/adoptive families. Overall, in two-parent biological/adoptive households and stepfamilies, children living below 200% FPL were significantly more likely to have unmet health-care needs. Further, in each family structure, those who did not have continuous insurance coverage reported a significantly higher percentage of children with unmet health-care needs (approximately 19% for two-parent biological/adopted families, 29% for

Table 1. Distribution of sample characteristics by family structure.

	Two-parent biological/adoptive <i>n</i> = 66,287 Unweighted <i>n</i> (weighted %)*	Two-parent stepfamily <i>n</i> = 6563 Unweighted <i>n</i> (weighted %)*	Single-mother family <i>n</i> = 15,113 Unweighted <i>n</i> (weighted %)*
Race and ethnicity			
White, non-Hispanic	46,578 (58.1)	4111 (54.7)	6892 (34.6)
Black, non-Hispanic	3401 (7.6)	714 (14.6)	3521 (30.2)
Hispanic	8211 (23.6)	918 (21.2)	2637 (25.9)
Other	7017 (10.7)	708 (9.5)	1807 (9.3)
Age			
<6 years	18,851 (31.1)	654 (10.6)	3975 (25.6)
6–11 years	25,134 (38.4)	2351 (38.6)	5565 (39.2)
12–17 years	22,302 (30.5)	3558 (50.7)	5573 (35.2)
Sex			
Male	34,072 (50.9)	3378 (53.1)	7608 (49.8)
Female	32,139 (49.1)	3175 (46.9)	7496 (50.2)
FPL			
<100% FPL	5519 (14.6)	1120 (21.6)	5021 (44.9)
100–199% FPL	8989 (19.9)	1423 (25.7)	3626 (26.5)
200–400% FPL	19,791 (30.9)	1978 (32.8)	3109 (19.4)
>400% FPL	26,361 (34.5)	1581 (19.7)	1997 (9.2)
Continuous insurance coverage			
Yes	61,245 (90.0)	5790 (86.4)	13,220 (86.1)
No	4775 (10.0)	739 (13.6)	1783 (13.8)
Mother’s mental/physical health status			
One or both not excellent/very good	22,603 (37.8)	3035 (47.9)	8413 (59.7)
Both excellent/very good	43,386 (62.2)	3501 (52.0)	6642 (40.3)
Unmet health-care needs			
Yes	3051 (5.3)	555 (8.7)	1492 (10.4)
No	63,177 (94.6)	5995 (91.3)	13,596 (89.6)
Unmet medical health-care needs			
Yes	1587 (50.7)	273 (52.2)	723 (49.3)
No	1458 (49.3)	279 (47.8)	764 (50.7)
Unmet dental health-care needs			
Yes	1103 (40.6)	236 (38.8)	592 (37.9)
No	1942 (59.4)	316 (61.2)	895 (62.1)
Unmet vision health-care needs			
Yes	385 (12.4)	75 (19.6)	212 (14.6)
No	2660 (87.6)	477 (80.4)	1275 (85.4)
Unmet mental health-care needs			
Yes	339 (9.6)	95 (15.3)	247 (16.5)
No	2706 (90.4)	457 (84.6)	1240 (83.5)

FPL: Federal poverty level.

*The analyses were weighted to account for the complex design of National Survey of Children’s Health.

Table 2. Weighted bivariate associations between unmet health-care needs and children's characteristics across different family structures.

	Two-parent biological/ adoptive unmet health- care needs of children			Two-parent stepfamily unmet health-care needs of children			Single-mother family unmet health- care needs of children		
	No	Yes	p Value	No	Yes	p Value	No	Yes	p Value
	%	%		%	%		%	%	
Race and ethnicity			<.001			.156			.055
White, non-Hispanic	95.3	4.7		92.6	7.4		88.7	11.3	
Black, non-Hispanic	91.3	8.7		90.6	9.4		89.7	10.3	
Hispanic	93.8	6.2		89.5	10.5		91.6	8.4	
Other	95.4	4.6		87.1	12.8		86.8	13.2	
Age			.002			.093			<.001
<6 years	95.6	4.4		95.4	4.6		92.1	7.9	
6–11 years	94.8	5.2		90.5	9.5		90.9	9.1	
12–17 years	93.7	6.3		90.9	9.0		86.3	13.6	
Sex			.038			.433			.472
Male	94.2	5.7		91.9	8.1		89.2	10.7	
Female	95.1	4.8		90.7	9.2		89.9	10.1	
Federal poverty level (FPL)			<.001			<.001			.072
≥100% FPL	91.9	8.1		87.9	12.1		89.4	10.6	
100–199% FPL	90.8	9.2		86.7	13.3		87.5	12.4	
200–400% FPL	94.8	5.2		92.3	7.7		89.6	10.4	
>400% FPL	97.5	2.5		97.4	2.6		92.7	7.3	
Continuous insurance coverage			<.001			<.001			<.001
Yes	96.2	3.8		94.5	5.5		93.1	6.8	
No	81.1	18.8		71.1	28.9		67.6	32.4	
Mother's mental/physical health status			<.001			.002			<.001
One or both not excellent/very good	91.6	8.4		88.7	11.3		87.7	12.2	
Both excellent/very good	96.5	3.4		93.6	6.4		92.5	7.5	

FPL: Federal poverty level.

two-parent stepfamilies, and 32% for single-mother families). Further, children with a mother whose health status (either mental or physical or both) was not excellent/very good were more likely to experience unmet health-care needs across all three family types.

Multivariable analyses of unmet health-care needs among children living in different family structures

Logistic regression analysis (findings displayed in Table 3) revealed that Black children from two-parent biological/adoptive families were 1.54 (95% CI 1.13, 2.05) times more likely to have unmet health-care needs than White children. However, Hispanic children in two-parent biological/adoptive and single-mother families were .73 (95% CI .55, .62) and .61 (95% CI .427, .871) times less likely, respectively, to have unmet health-care needs than their white counterparts. Older children (12–17 years of age) from two-parent biological/adoptive families had a higher likelihood

Table 3. Logistic regression weighted analysis of unmet health-care needs among children living in different family structures.

	Two-parent biological/ adoptive	Two-parent stepfamily	Single-mother family
	Unmet health-care needs of children		
	OR (95% CI)	OR (95% CI)	OR (95% CI)
Race/ethnicity			
White non-Hispanic	Reference	Reference	Reference
Black non-Hispanic	1.54 (1.13–2.05)	1.09 (.64–1.86)	.89 (.68–1.17)
Hispanic	.73 (.55–.96)	1.07 (.59–1.96)	.61 (.43–.87)
Other	.86 (.67–1.12)	1.98 (1.15–3.44)	1.24 (.87–1.75)
Age			
<6 years	.89 (0.72–1.10)	.42 (.24–.75)	.85 (.63–1.16)
6–11 years	Reference	Reference	Reference
12–17 years	1.32 (1.07–1.63)	1.04 (.68–1.58)	1.65 (1.27–2.14)
Sex			
Female	.83 (.69–.98)	1.35 (.92–1.98)	.92 (.74–1.16)
Male	Reference	Reference	Reference
Federal Poverty Level (FPL)			
<100% FPL	2.06 (1.50–2.83)	3.24 (1.86–5.64)	1.12 (.71–1.77)
100–199% FPL	2.40 (1.87–3.08)	3.83 (2.23–6.56)	1.32 (.84–2.08)
200–400% FPL	1.71 (1.36–2.13)	2.36 (1.41–3.96)	1.18 (.74–1.87)
>400% FPL	Reference	Reference	Reference
Continuous insurance coverage			
No	4.71 (3.80–5.82)	6.03 (3.89–9.35)	6.71 (5.21–8.66)
Yes	Reference	Reference	Reference
Mother’s mental/physical health status			
BOTH excellent/very good	2.10 (.02–.02)	1.31 (.87–1.96)	1.69 (1.32–2.18)
One or both not excellent/very good	Reference	Reference	Reference

FPL: Federal poverty level; OR: odds ratio; CI: confidence interval.

(OR: 1.3, 95% CI 1.07, 1.63) of having unmet health-care needs than those between 6 and 11 years old, while in single-mother families, they were 1.6 (95% CI 1.27, 2.13) times more likely to have unmet health-care needs than those between 6 and 11 years of age. In stepfamilies, however, children <6 years of age were 58% (95% CI .24, .75) less likely to have unmet health-care needs than those between 6 and 11 years of age. In two-parent biological/adoptive families, female children were .83 (95% CI .69, .99) times less likely to have unmet health-care needs than males.

Overall, children living in households (biological/adopted and stepfamily) classified at lower FPL were more likely to have unmet health-care needs than those living at >400% FPL. Children without continuous insurance coverage and regardless of the family structure were 5–6 times more likely to have unmet health-care needs compared to children who had continuous coverage. Lastly, children living in two-parent biological/adoptive or single-mother families with mothers whose mental/physical health status was not both excellent/very good had a higher likelihood of having unmet health-care needs compared to those with mothers whose mental/physical health were excellent.

Discussion

This study builds on previous research and extends current knowledge on children's unmet health-care needs within the context of diverse family structures. Overall, we found a relatively higher prevalence rate of unmet health-care needs for children of single mothers compared to other family types. These results are in agreement with prior research demonstrating that two-parent families have more favorable outcomes (Gorman and Braverman, 2008; Toomey et al., 2013). The health-care system tends to favor dual-parent families in regard to access and utilization of health care for children (Gorman and Braverman, 2008). This could be due to private health insurance, which has been associated with improved access to health care and higher parental incomes. This, in turn, may allow parents to cover an array of medical services (Gorman and Braverman, 2008). All of these, however, may be more difficult to be fulfilled by single-mother family types resulting in potential unmet health-care needs for their children. Further, we found that unmet vision and mental health-care needs were particularly high among children in two-parent stepfamilies and single-mother families. Although dual-parent families may have more favorable outcomes as shown previously, two-parent stepfamilies may face financial barriers or have larger families that could result in a decreased likelihood of accessing specialized care such as vision and mental health-care services.

Assessing variations in the influence of a common set of risk factors on unmet health-care needs in children across different family structure types revealed patterns that could not have been detected in a two-parent or single-mother family framework. Specifically, we found evidence of racial disparities in unmet health-care needs of children within two-parent households. These findings are consistent with prior research, particularly studies using data collected from the 2003 and 2007 NSCH surveys, which show that Black children are more likely to experience unmet health-care needs compared to White children (Flores and Lin, 2013). However, we found that Hispanic children in two-parent biological/adoptive families and single-mother families were less likely to report unmet health-care needs than their white counterparts. Hispanic children may be less likely to seek medical care or specialized care (such as mental, dental, or vision) due to lack of insurance or consistent insurance leading to lower rates of reported unmet health-care needs, especially in a single-mother family type. However, more research is needed on unmet health-care needs within the Hispanic population of children.

The present study also found that lack of continuous insurance coverage increased the likelihood of children's unmet health-care needs across all three family structures. This is supported by prior research, which has found that many children with gaps in coverage had unmet health-care needs (Halterman et al., 2008; Kogan et al., 2010). However, our study did find that lack of continuous insurance affected to a lesser extent children from two-parent biological/adoptive families in regard to having unmet health-care needs compared to children from other family types. A possible explanation is that the frequency and duration of the lack of insurance coverage for children may vary significantly across these three family structures and hence affecting them in different magnitudes (Olson et al., 2005). Another potential reason could be that children of two-parent families may be more likely to have two working parents eligible for health insurance through their employer as well as having more financial resources to cover their children's health-care needs compared to single mothers (Damico and Garfield, 2016; Fields, 2003).

Similar to prior research, our study found that children from low-income families were at the highest risk for unmet health-care needs followed by children from near-poor families (Newacheck et al., 2000). This, however, was not true for single-mother families where income status did not

influence children's health-care needs. These findings may imply that various federal and state level initiatives, including Medicaid, State Children Health Insurance Program, and safety net health programs are successful in helping to reduce unmet health-care needs for children from poor or near-poor single-mother family types (Szilagyi et al., 2004).

In logistic regression analyses, poor maternal health was associated with children's unmet health-care needs for two-parent biological/adoptive families and single-mother ones. Poor maternal health plays a significant role in a child's well-being as it has been linked to adverse health outcomes among children in previous studies (Kitsantas et al., 2013). Mothers with poor mental/physical health may have lower incomes, not many resources available for raising children and possibly limited access to health-care services, all of which can influence their children's health-care needs. More research is needed on this topic to fully understand how maternal health-care needs influence those of their children. This could lead to the development of programs that integrate the delivery of care for both mothers and their children.

As with other national studies of children's health, limitations of this study include the cross-sectional nature of the data which do not allow for inferring causality. Further, the study did not include other family types such as children living with fathers only, living with neither parent, nor whether grandparents were co-residing among others. Other unmeasured factors related to unmet health-care needs were not accounted for in this study. Lastly, the measurement of unmet health-care needs was based on the parent's perception of their child's unmet need. This type of measurement could be problematic as it is subject to recognition, reporting and recall bias (Newacheck et al., 2000).

This study shows that there are differences in the prevalence of unmet health-care needs of children and the factors that influence them across various family structures. This is of primary concern, indicating that children from different types of families do not have equal opportunities in accessing health-care services. As the diversity of family structures continues to grow, future research studies need to keep monitoring children's health-care needs in the context of family type in order to identify potential barriers to health-care access and quality of services. To alleviate children's unmet health-care needs, policy changes should consider focusing on health-care access and engagement in care for nontraditional families of lower income levels. For example, changes in the health-care system that can increase the number of nurse practitioners and their roles in primary health care while at the same time fostering the adoption of telehealth technology as part of a holistic approach could increase health-care access and availability for children and their families. For single-mother families, community health workers with good knowledge of the health-care system could provide guidance to families about resources in accessing health-care services. Further, the integration of different levels of delivery services that take into consideration the needs of different types of families may lead to successful prevention and intervention efforts that can fulfill the medical needs of children. Overall, removing financial and nonfinancial barriers (e.g. conveniently located health services which are available in the family's preferred language, etc.) for families and their children may decrease the prevalence of unmet health-care needs (Conrey et al., 2012; Newacheck et al., 2000).

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