



FRAGILE FAMILIES RESEARCH BRIEF

May 2005 • Number 32

The *Fragile Families and Child Wellbeing Study* changed its name to *The Future of Families and Child Wellbeing Study (FFCWS)*. Due to the issue date of this document, FFCWS will be referenced by its former name. Any further reference to FFCWS should kindly observe this name change.

Children's Elevated Risk of Asthma in Unmarried Families

Introduction and Background

A large body of research shows that children who live with two married, biological parents fare better than children who live with only one biological parent. This finding has been replicated among children in different age groups and across a variety of domains, including health, economic, emotional, and social wellbeing outcomes. Yet important questions remain about the mechanisms through which differences in family structure lead to differences in child outcomes. Do stable marriages increase parents' investments in their children? Or, are divorce and single parenthood simply proxies for other characteristics of the family that reduce child wellbeing?

Pediatric asthma is a good test case for exploring the association between family structure and child outcomes. Asthma rates have been increasing during the past decade, especially among very young children, and rates are higher for children in single-parent families compared with children in married-parent families. Also, asthma is strongly correlated with socioeconomic status and is highly sensitive to parental management. Parents who have the time, resources, and knowledge to closely monitor their children, to avoid asthma 'triggers,' and to respond to asthma-attack warning signs can often prevent asthma from becoming a serious problem and avoid the need for emergency treatment. Furthermore, because many asthma triggers are found in indoor settings (e.g., dust mites, pet dander, cockroaches), having parents who live together may reduce the number of household environments in which children spend time and thereby reduce children's exposure to asthma triggers.

This brief examines the association between family structure and pediatric asthma. It begins by documenting family structure differences in asthma rates among very young children in the Fragile Families Study. Next, it uses regression analysis to examine the extent to which socio-economic and demographic characteristics and health insurance coverage account for family structure differences in asthma diagnoses and management. Finally, it examines the association between family structure, parental health and health behavior, and asthma.

Data and Methods

The brief uses data from the baseline and one-year follow-up interviews of the Fragile Families and Child Wellbeing Study [see box]. To measure asthma, we use two questions that ask (1) whether the child has been diagnosed with asthma by a doctor or medical professional, and (2) whether the child has ever received emergency treatment for asthma. These questions are asked of mothers at the one-year follow-up interview.

Families are classified according to whether the parents were married, cohabiting (but not married), or living

Table 1. Diagnosis and Treatment of Asthma by Family Structure at Birth

	Parents' relationship status at time of birth:		
	Married	Unmarried cohabiting	Unmarried living apart
Child health at age 1			
Asthma diagnosis (%)	7.6	12.4**	18.2** xx
Asthma emergency treatment (%)	3.5	7.1**	11.1** xx
N	924	1336	1487

Source: Fragile Families and Child Wellbeing Study

Notes: Statistically significant differences compared with the married group are indicated by ** $p < .01$. Significant differences between the cohabiting and living apart groups are indicated by xx $p < .01$.

Table 2. Predictors of Children's Asthma Diagnosis and Emergency Treatment by Age 1

	Parents' relationship status at time of birth:	
	Unmarried cohabiting	Unmarried living apart
Asthma diagnoses		
Model 1 - Controls only	1.74**	2.61**
Model 2 - Demographic, socioeconomic, health insurance	1.07	1.48*
Model 3 - Maternal health and health behaviors	1.61**	2.36**
Model 4 - Father involvement	1.71**	2.40**
Model 5 - Full model	1.04	1.33
Asthma emergency treatment		
Model 1 - Controls only	2.19**	3.30**
Model 2 - Demographic, socioeconomic, health insurance	1.22	1.65*
Model 3 - Maternal health and health behaviors	2.00**	2.97**
Model 4 - Father involvement	2.18**	3.27**
Model 5 - Full model	1.20	1.61*

Source: Fragile Families and Child Wellbeing Study

Notes: Odds ratios appear in table. All models controls for baby's gender, baby's age at the time of the follow-up interview, and city of residence. Model 2 controls for demographic, socioeconomic, and health insurance characteristics. Model 3 controls for maternal health and health behaviors. Model 4 controls for father involvement. Model 5 includes the full set of covariates. ** p<0.01; * p<0.05 (two tailed).

apart at the time of the child's birth. The living apart category includes parents who were romantically involved, were just friends, and parents who had little or no contact with one another.

Family demographic characteristics include mother's race, whether she gave birth as a teenager, and number of children in the household. Socioeconomic characteristics include mother's education, whether the mother is a homeowner, logged household income, and whether the child was covered by private health insurance or Medicaid.

Maternal health and health behaviors include drinking alcohol during pregnancy, smoking cigarettes, being in fair or poor health, being depressed one year after birth, and breastfeeding. Father-involvement is measured by two scales: one captures the extent of involvement and the other measures the quality of the father-child relationship.

Results

Table 1 reports the association between children's family structure at birth and mothers' reports of whether or not the child has asthma. As expected, children born to married parents have the lowest rates of asthma at one year (8 percent), followed by children born to cohabiting parents (12 percent) and then by children born to

non-co-resident unmarried parents (18 percent). Asthma emergencies are less common than asthma diagnoses, but the two indicators follow a similar pattern. The rates of asthma diagnoses in these data are extremely high for such young children. However, the estimates are consistent with previous research which shows that asthma is positively correlated with urban residence, poverty and minority status. The Fragile Families sample is entirely urban, and the over-sampling of unmarried parents in the study yields a sample that is disproportionately low income and minority.

Table 2 shows the results of the regression models. According to model 1, which controls only for child's gender, age, and city of residence, the odds of having an asthma diagnosis are 1.7 times as great for children born to cohabiting parents (as compared to married parents) and 2.6 times as great for children born to non-cohabiting parents (as compared to married parents). After taking demographic and socioeconomic characteristics and health insurance into account (Model 2), the contrast between married and cohabiting parents declines dramatically and is no longer statistically significant. The contrast between married and non-co-resident parents remains significant but also declines dramatically from 2.6 to 1.5. These results suggest that differences in race, class, and health insurance can account for a substantial part of the asthma difference between children living with married and unmarried parents.

The next two models show results when taking account of parents' health and behavior (but not demographic and socioeconomic characteristics or health insurance). Children whose mothers are in poor health are more likely to be diagnosed with asthma than other children, but differences in mothers' health do not account for family structure differences. Similarly, the quality of father involvement is related to having an asthma diagnosis but differences in father involvement do not account for differences by family structure. In the full model (model 5),

there are no remaining differences in asthma diagnosis across family structure.

The pattern for emergency treatment is similar to the pattern for asthma diagnosis although the family structure difference in emergency treatment is larger than it was for asthma diagnosis. The odds of emergency treatment are over 2 times as great among children of cohabiting parents (as compared to married parents) and over 3 times as great among children of non-co-resident parents. Taking account of demographic and socioeconomic characteristics dramatically reduces the odds of emergency treatment, from 2.2 to 1.2 for children of cohabiting parents and from 3.3 to 1.7 for children of non-co-resident parents. As before, mothers' health and fathers' involvement are associated with children's health but these variables do not help to explain family structure disparities in asthma emergencies. In the full model (model 5), non-co-resident unmarried parents still have higher odds of asthma emergencies than married parent families.

More fine-grained analyses (not shown) found that children with private health insurance were much less likely to receive emergency treatment for asthma compared with children on Medicaid, and that difference across family structures in insurance helped account for family structure disparities in asthma. This could indicate that private insurance provides better quality and access to primary and preventive care than Medicaid, making emergency room visits less likely. Alternatively, children on Medicaid may be sicker, and may require more emergency treatment even with the same quality and access to primary care.

Conclusion and Policy Implications

Children born to two married, biological parents are less likely to be diagnosed with asthma and less likely to experience an asthma-related emergency than children born into other family configurations. However, nearly all of the family structure disparity stems from differences in socioeconomic and demographic characteristics and health insurance coverage, rather than family structure differences per se. Married parents have higher incomes, more education, are more likely to have private health insurance, and are more likely than other parents

to be white. All of these characteristics are correlated to more positive child outcomes including lower asthma rates. Under similar socioeconomic conditions, children of cohabiting parents have rates of asthma diagnosis and emergencies that are very close to those of children of married parents. Children of non-co-resident parents, however, are at a higher risk of requiring emergency treatment for asthma, even after taking demographic and socioeconomic characteristics, health insurance, parental health, and parenting behavior into account.

Parental health and parenting behaviors play a relatively small role in explaining family structure differences in children's asthma. The fact that mothers' health and father involvement do not account for much of the family structure differences is perhaps surprising, especially for asthma emergencies. Given the large role that parents play in managing their children's asthma, we would have expected maternal health behavior and father involvement to be more important in accounting for variation across family structures in asthma-related emergencies and this to be a potential avenue for public policy initiatives. However and importantly, direct measures of parental management of children's asthma (such as vacuuming and having preventive medicine) were not collected. Differences across family structures in asthma management practices may be important unmeasured characteristics.

The results suggest that differences in children's health insurance coverage across family types are associated with disparities in asthma rates and emergencies. Therefore policies to improve the quality of children's health care coverage through public or private (e.g., via mother's increased employment) methods may reduce family structure disparities in asthma. And, while the mechanisms through which the higher rates of asthma are occurring in non-co-resident families are uncertain, unmeasured variation across family structures in housing quality or housing instability may play a role. If so, policies designed to improve the quality, maintenance, and stability of public housing could also serve to reduce asthma rates among low-income children and perhaps diminish the differential asthma rates across family structures.

Recent Working Papers

To see a complete list of Working Papers authored by the Center for Research on Child Wellbeing faculty and research associates, go to our website, crew.princeton.edu/papers.html

FRAGILE FAMILIES RESEARCH BRIEF

Center for Research on Child Wellbeing

Wallace Hall, 2nd Fl. • Princeton University • Princeton, NJ 08544

Presorted
First-Class Mail
U.S. Postage
Paid
Princeton, NJ
Permit No. 299

Inside...

This research brief uses data from the Fragile Families and Child Wellbeing Study to examine the underlying structural and behavioral mechanisms of children's elevated asthma risk.

The Fragile Families and Child Wellbeing Study is following a birth cohort of nearly 5,000 children, including 3,712 children born to unmarried parents and 1,186 children born to married parents. The data are nationally representative of births in cities with populations of 200,000 or more. For more information about the study, visit the Web site of The Center for Research on Child Wellbeing, <http://crcw.princeton.edu/fragilefamilies> or email the CRCW at crw@opr.princeton.edu

This research brief was adapted from "Children's Elevated Risk of Asthma in Unmarried Families: Underlying Structural and Behavioral Mechanisms" by Kristen Harknett.

To download a copy of the paper on which this brief was based, visit <http://crcw.princeton.edu>, go to the Fragile Families link, click on Publications, then click on Working Papers Series.

The Fragile Families Research Brief is funded in part by a grant from the Annie E. Casey Foundation.