

# ORIGINAL REPORTS: BIOMEDICAL RESEARCH FROM RCMI

## A PROFILE OF CHRONIC MENTAL AND PHYSICAL CONDITIONS AMONG AFRICAN-AMERICAN AND LATINO CHILDREN IN URBAN PUBLIC HOUSING

**Objective:** This study provides a profile of chronic mental and physical conditions among African-American and Latino children in urban public housing communities in Los Angeles, California.

**Methods:** The study focused on 187 African-American and Latino households with children, 65% of a random sample of 287 households in three urban public housing communities.

**Results:** The findings suggest that minority children residing in public housing are one of the more severely health-compromised groups among under-served communities. Children of Latino and African-American families in our sample are two to four times more likely to suffer from chronic physical and mental conditions than the general population. The top five childhood chronic conditions reported by parents for one or more children in their households were asthma (32%), eye/vision problems (24%), dental problems (16%), Attention Deficit Hyperactivity Disorder (17%), and depression (8%).

**Conclusion:** This study documents significant health disparities in this population and strongly suggests the need for future investigations in similar settings nationwide. (*Ethn Dis.* 2005;15[suppl 5]:S5-3-S5-9)

**Key Words:** ADHD, Depression, Asthma, Hearing, Vision, Minority, Public Housing

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### INTRODUCTION

Low-income minority children suffer from substantial disparities in physical and mental health. Compared with their counterparts from higher-income households, these children have higher rates of chronic illnesses such as heart disease, respiratory disease, hearing and visual impairments, psychiatric disorders, and oral health problems.<sup>1-7</sup> Low socioeconomic status is also associated with unmet medical needs and lack of a regular source of care among children.<sup>8</sup> Despite evidence of health disparities in the general population of low-income minority children, data are lacking on the chronic conditions of children in urban public housing communities.

Public housing communities represent residential "safety nets," similar to the purpose of urban public hospitals, in that they provide shelter to low-income families that may otherwise be homeless. Three million residents occupy the 1.2 million subsidized public housing units in the United States; of these units, 47% include at least one child (one child 16%, two children 15%, and three or more children 16%).<sup>9</sup> According to US Census Bureau data, minority children are over-represented in public housing, with African-American and Latino residents occupying 68% of public housing facilities.<sup>10</sup>

Unfortunately, research on children in public housing has been limited, leaving much that is unknown about

their characteristics, circumstances, and physical and mental conditions.<sup>11</sup> Parents in public housing may be among the most disadvantaged of low-income families, and their children may experience considerable health risks. Limited available data show that children who live in public housing are at slightly greater risk of experiencing academic and behavioral problems than other low-income children.<sup>11</sup> However, no current information exists on the physical and mental health conditions of this particularly vulnerable population of 1.9 million children. One study<sup>12</sup> found a higher prevalence of respiratory illness in children in public housing versus older row housing in the late 1970s.

From a health policy standpoint, research on the health conditions of these children may provide needed guidance for health-related interventions. Once demographic and health information is available on these children, interventions can focus on their specific health needs and administered through one entity. Further, data on these children will add to the body of knowledge on populations that use urban public safety net hospitals because they may provide more accurate estimates of health conditions than those derived from clinic-based samples. The Federal Interagency Forum on Child and Family Statistics published a special section of their America's Children 2002 report describing the need for broader indicators to adequately monitor the social environment and well-

being of youth.<sup>10</sup> The report asserted that “growing up in distressed neighborhoods has an effect on child well-being over and above that of individual or family background characteristics.”<sup>13</sup> Therefore, the purposes of this study were to provide a physical and mental health profile of African-American and Latino children  $\leq 18$  years of age in public housing communities in Los Angeles county and to compare indicators of child health conditions and access to care among African-American and Latino households supporting children.

### METHODS

Data for this study were derived from the Services Access in Urban Public Housing (SAUPH) study. The SAUPH study was a multilingual, face-to-face, interviewer-administered, population-based survey conducted in urban public housing communities. The primary objective of the SAUPH was to capture information concerning the determinants of access to preventive services, healthcare services, and health-related social services from a representative, multiethnic sample of urban public housing residents residing in geographically defined communities within Los Angeles County.

Eligibility for this study was limited to residents of households within one of three Los Angeles County public housing communities. Eligibility was further restricted to those who were  $\geq 18$  years of age, who reported themselves to be either the head of the household or the primary decision maker for medical services for the household, and who spoke either English or Spanish. Households that were unoccupied at the time of survey were ineligible for inclusion.

Households were the sampling unit for this study. The sampling frame consisted of the listing of all households contained within three geographically

well-defined public housing communities managed under the administrative authority of the Los Angeles County Community Development Commission. These housing communities differed demographically and were located in different sections of Los Angeles County. One housing community site (total population 1812 residents) was located in South Los Angeles County (North Long Beach) and was predominantly African American (65%). A second site (total population 1378 residents) was located in East Los Angeles and was predominantly Latino (90%). The third housing community site (total population 798 residents) was located in Western Los Angeles County (Lomita) with approximately equal representation of African Americans (43%) and Latinos (36%).

Of the 1394 potentially eligible households identified for the three public housing communities, a 30% random sample was selected from each community site ( $N=418$ ). Of the 418 households initially selected for potential inclusion in the study, 27 (6.5%) were ineligible either for not fulfilling the language eligibility criterion (i.e., not speaking either English or Spanish) or for being unoccupied. The study was conducted among the remaining 391 eligible households. Of the remaining 391 eligible households, 287 (73.4%) completed the interview. Reasons for nonparticipation included 23 (5.9%) not contacted or did not show for the interview, and 81 (20.7%) refused to participate. The analysis presented in this article is restricted to 187 African-American and Latino households with children (65% of the total sample).

The survey instrument was reviewed and modified to ensure that the questions would be appropriate for a vulnerable population with limited literacy skills. The English-language version of the questionnaire was subsequently translated into Spanish. Three independent translation strategies were used to accomplish appropriate language trans-

lation. These strategies included a forward translation, independent back-translation, conceptual equivalence rating, consensus review by a committee of four bilingual persons from four Hispanic subgroups (Mexican, Puerto Rican, Cuban and Colombian), and an independent and final retranslation. English- and Spanish-language versions of the survey instrument were further modified based on the information gained from focus groups that were specifically conducted to test the understanding and the validity of the instrument in the population of interest.

Residents of public housing communities were recruited to work as survey interviewers. Ten public housing residents were selected from among 70 applicants who were interviewed to undergo training as community research assistants. Of the 10 selected interviewers, five were Hispanic, four were African American, and one was non-Hispanic White. All of the selected interviewers underwent a four-week training program that used a standard protocol that included sessions in interpersonal communication, face-to-face interviewing, probing techniques, telemarketing, mock survey, and familiarization with the public housing survey. In addition to participating as interviewers, community research assistants provided input on recruitment and marketing strategies. To minimize privacy concerns, interviewers were assigned to conduct interviews in communities other than their home community.

To introduce the survey to the public housing community, town hall meetings were held in the community. Flyers were posted, and a notice was included in the monthly invoices to tenants. A letter of invitation describing the study was mailed to all potential participants. One week after mailing the invitation, telephone calls were made to potential participants who did not respond to the letter of invitation. Calls were made to their home during the

day, evening, and Saturday. A minimum of six calls were made to each potential participant. Door-to-door solicitation was conducted at the homes of potential participants who did not respond to mailed invitation and were not reachable by telephone. In case of no personal contact with the head of the household, a paper door hanger including information about the survey and contact information was posted on their door. Appointments were made for face-to-face interviews to be conducted in either English or Spanish at the local community center or at their home, based upon the participant's preference of language and location. Interviews lasted for ≈90 minutes. After completing the survey, participants signed a receipt and received an incentive of \$20. This study was reviewed and approved by the institutional review board (IRB) of the Charles R. Drew University of Medicine and Science.

**RESULTS**

The mean age of the heads of household was 45 years; the range was 18 to 88 years of age. More than two thirds (68%) of the heads of household reported having at least one child. Twenty-two percent of the heads of household reported having only one child, 17% had two children, and 29% had three or more children. At least one child younger than five years of age resided in 35% of the units. Table 1 compares the characteristics of African-American and Latino heads of household with at least one child. Most African-American heads of household (87%) were single parents compared to 57.0% of Latino heads of household ( $P<.001$ ). African-American and Latino heads of household with children were significantly different in age, gender, education, marital status, satisfaction with medical care received, and self-reported health status. African-American heads of household tended

**Table 1. Characteristics of African-American and Latino heads of households with at least one child (N=187)**

	African American (n=87)	Latino (n=100)
	(%)	(%)
<b>Gender*</b>		
Male	2	13
Female	98	87
<b>Age†</b>		
<30	54	12
30-44	37	54
45-59	7	26
≥60	2	8
<b>Education†</b>		
<9th grade	4	50
9th-11th grade	34	25
High school diploma	37	15
Some college	21	8
College diploma	5	2
<b>Income of head of household</b>		
<\$5,000	14	11
\$5,000-\$9,999	52	56
\$10,000-\$20,000	27	26
>\$20,000	7	7
<b>Marital status†</b>		
Married	7	40
Not married	93	60
<b>Single parent†</b>		
Yes	87	57
No	13	43
<b>Size of household*</b>		
2	25	19
3	26	25
4 or more	48	56
<b>Number of children 0-18 years of age</b>		
1	26	35
2	29	21
3 or more	45	44
<b>Employment status</b>		
Part- or full-time	35	34
Not employed	66	66
<b>Has chronic condition</b>		
Yes	75	88
No	25	12
<b>Satisfaction with medical care*</b>		
Extremely/very satisfied	34	19
Satisfied	41	48
A little/not satisfied	24	33

\*  $P<.05$ .  
 †  $P<.001$ .

to be younger, single parents who had higher educational attainment, reported better health status, and were more satisfied with their medical care when compared with Latino heads of household.

The number of chronic health conditions for African-American and Latino children ranged from one to

seven, with a mean of approximately two. Slightly more than one third (35%) of heads of households with children reported no chronic health condition for their children, whereas less than one third (31%) reported one chronic health condition, and the rest (34%) reported two or more chronic health conditions.

**Table 2. Top five reported health problems for children 0–18 years of age living in African-American and Latino households with at least one child (N=187)\***

Health Problem	African American n (%)	Latino n (%)
Asthma†	38 (44)	19 (19)
Vision	16 (19)	29 (29)
Dental	12 (14)	18 (18)
ADHD	16 (19)	15 (15)
Depression	7 (8)	9 (9)

\* Total number of children in 187 African-American and Latino households was 456 children (mean=2.4 and standard deviation=1.3).

†  $P < .001$ .

The most frequently cited chronic illnesses for children were asthma (32%), eye/vision problems (24%), dental problems (16%), attention deficit hyperactivity disorder (ADHD) (17%), and depression (8%). Comparing the prevalence of the top five chronic health conditions among African-American and Latino households with at least one child, asthma was the only health condition for which we found a significant difference between Latino (19%) and African-American (44%) children ( $P < .001$ ) (Table 2). For households with at least one child with asthma, the odds of having heads of household with lung disease was 3.03 times greater than for household with children without asthma (95% confidence interval [CI] 1.1–8.6,  $P = 0.03$ ). Table 2 also showed that less than one third of Latino heads of household (29%) and less than one fifth of African-American heads of household (19%) with children reported having at least one child with eye/vision problems.

Fifteen percent of Latino and 18.8% of African-American heads of household with children in our sample reported that at least one child in their household had been diagnosed with ADHD. Yet, 8% and 9% of African-American and Latino heads of households with children admitted that at least one child in their household had depression, respectively. Although depression in children did not differ by race/ethnicity, results indicated that households with at least one child with depression had more

odds of having depressed head of household than were households with children without depression (odds ratio [OR] 3.02, 95% CI 1.0–8.7,  $P = .03$ ). Further, households with at least one child with ADHD were at higher odds of having at least one child with depression (OR 6.0, 95% CI 2.1–17.6,  $P = .0001$ ).

Except for age, none of the demographic factors was different between housing units that had at least one child with and without medical conditions. However, in Latino households, insurance status, accessibility to medical care, and satisfaction with medical care received were associated with having a child with a chronic condition. Specifically, Latino heads of household with at least one chronically ill child reported more difficulty obtaining care (mean score  $3.75 \pm 1.3$  vs  $4.3 \pm 1.1$ ,  $P = .02$ ), dissatisfaction with medical care received (mean score  $3.46 \pm 1.2$  vs  $3.0 \pm 0.8$ ,  $P = .035$ ) and more uninsured children ( $P = .03$ ) than were Latino heads of household with a child with no medical condition.

## DISCUSSION

Heads of households in the surveyed public housing communities reported much higher rates of childhood chronic illnesses than those reported for children in the general US population. These findings have important implications for the delivery of health and social

services for children in urban public housing communities, particularly for African Americans and Latinos. Overall, approximately one third of households with children reported at least one child with asthma. National data shows only 8.2% of households in the United States have at least one child with asthma.<sup>14</sup> Urban public housing households are 3.5 and 2.6 times more likely to report asthmatic children in their household than national data on African-American and Latinos households, respectively.<sup>14</sup> Overall, asthma is the most common chronic illness in children, affecting almost five million children nationwide, and it is a significant factor for childhood illness and death.<sup>5</sup> Reviewing the current literature, Flores and colleagues (2002) documented that minority children have disproportionately greater exposure to outdoor and indoor air pollutants, hazardous waste sites, pesticides, lead, and mercury, which may place them at greater risk for sickness and death from asthma, lead poisoning, behavioral and developmental problems, and cancer.<sup>7</sup> Our findings corroborate previous research showing that minority and under-served children are especially vulnerable to asthma.<sup>7,15–17</sup>

Furthermore, consistent with most recent studies, our findings showed a large proportion of asthma in African-American children as compared with Latinos.<sup>18–20</sup> Previous studies have reported not only increased hospitalization for asthma among African-American children compared with Whites but also higher asthma-related mortality.<sup>20,21</sup> The differences in asthma between Latino and African-American children in the present study occurred in a population residing in the same low-income housing environment.

Given the known correlation of poor oral health and lower socioeconomic status, that a large proportion (17%) of children in this study population had dental problems is not surprising. Approximately one fifth of

Latino and 14% of African-American heads of household reported having at least one child in the household with a dental problem. Dental decay is one of the most chronic, yet preventable, infectious diseases among children in the United States; 17% of children ages 2–4 have decay.<sup>22</sup> Low-income children have twice the amount of tooth decay compared to their peers from higher-income families.<sup>22</sup> Approximately 50% of dental decay in low-income children is untreated, which may result in pain, dysfunction, low weight, poor appearance, and distraction from play and learning.<sup>22,23</sup> Minority children, particularly Latinos, experience substantial barriers to dental care, including lack of insurance, a shortage of minority dentists and dentists who accept Medicaid, and cultural and linguistic obstacles.<sup>24</sup>

The finding that approximately one quarter of households had at least one child with eye/vision problems in this study suggests the need for further ophthalmologic evaluation in this setting. Eye/vision problems are one of the most common chronic medical conditions in childhood, as one in every 1000 US children has low vision or is legally blind.<sup>6,25</sup> Little research has examined vision screening rates, the pattern and distribution of ocular conditions, access to vision care, and visual outcomes in multiracial pediatric or adolescent populations.<sup>16,26</sup> This age group is extremely vulnerable to service delivery barriers but may derive the greatest benefit from the available therapies for the major ocular conditions that cause visual deficits in children.<sup>27</sup> The families in our study may have had difficulties accessing vision care for their children because of financial or cultural barriers, transportation problems, and/or delivery system characteristics. As with barriers to dental care, we speculate that because of the many burdens of lower income, minorities may place vision care as a lower priority, compared to surviving day to day.

An unexpected finding in our study was the high percentage of households reported to have at least one child with ADHD (17%), compared with a national household sample (4.9%).<sup>14</sup> Overall, the prevalence of ADHD is 3%–5% in the general population.<sup>28</sup> ADHD is a common comorbidity of a number of psychiatric disorders, and it is associated with significant risk for numerous emotional and social problems.<sup>29</sup> ADHD can persist into adulthood<sup>30</sup> and cause significant difficulties in the home, school, and work environment.<sup>28,30,31</sup> Seventy percent of juvenile offenders and 40% of adult prisoners have ADHD, and 23%–45% of youth with ADHD have juvenile convictions.<sup>32,33</sup> However, prevalence rates of ADHD among minority groups have not been established, and the prevalence rates that do exist rarely report the racial representation of their sample.<sup>29</sup> Strong evidence lends credence to the hypothesis that minority children may be substantially underdiagnosed.<sup>29</sup>

In addition, ample evidence points to undertreatment of ADHD among minority children.<sup>29</sup> Examining the utilization and access to treatment for minority children with mental health needs, particularly ADHD, remains a major research agenda. Substantial gaps exist in our knowledge about the mental health needs and use of services among minority children.<sup>7</sup> One recent study documented that female gender, minority status, and rural residence lowered the probability of ADHD service-use in the general health sector.<sup>34</sup> A few studies documented that children with ADHD from ethnic minority families are more likely than children with ADHD from non-Hispanic White families to have unmet service needs, even after controlling for health insurance status and sociodemographic characteristics.<sup>33,35</sup> Another recent study documents that Latino children are significantly less likely than Whites and African Americans to be hospitalized for mental illness in general

and specific diagnoses.<sup>36</sup> Yet parents of minority children with ADHD are relatively less informed about ADHD<sup>37</sup> than are Whites.

Our findings concerning depression rates (9%) are similar to previous estimates of depression of 7%–14% of children <15 years old. Treatment of childhood depression is essential, because early lifetime onset predicts psychiatric symptoms, poor adaptive functioning, low self-esteem in young adulthood, and is a risk factor for multiple episodes of adult depression.<sup>38,39</sup> Further, our study found a significant association between depression in heads of household and reported depression in children, supporting reports of a familial pattern of depression (DSM-IV). Our findings support previous research that depression and ADHD in children and adolescents may be comorbid.<sup>40</sup> This information suggests that clinicians treating children in public housing need to assess their patients for symptoms of both ADHD and depression.

Several limitations of this study need to be considered. First, the data were self-reported by the parents/caregivers of the children in the study, and are thus subject to potential reporting bias. Although adults are probably a more valid and reliable data source than children, the possibility of misclassification of illness exists because parents may be unaware of the symptoms or meaning of symptoms displayed by their child. Second, interpretation of the findings is limited by our question to parents/caregivers, “Does any child in your household have any of the following medical conditions?” This question results in households functioning as the unit of analysis instead of individual children, which may also create a downward bias in our estimates. Although our analysis was able to provide an estimate of the percentage of children with chronic illnesses in households, more specific percentages on individual children were unavailable.

## CONCLUSIONS

The findings suggest that publicly housed minority children are a particularly vulnerable subgroup in underserved communities. We documented that children of Latino and African American families in public housing suffer from chronic physical and mental conditions at two to four times the rate of the general population. With the exception of asthma, we found no differences between the prevalence of chronic conditions between Latino and African-American families. More longitudinal and retrospective/historical studies are needed to examine both socio-psychological and environmental predictors and correlates of excessive physical and mental conditions among publicly housed children. Methodologically rigorous study designs are needed to help determine whether children in public housing suffer from excessive health problems because of criteria and eligibility for access to inexpensive housing or whether public housing's environment is responsible for unhealthy children. Regardless, an urgent need exists for public health initiatives that are directed at improving not only the current markedly poorer health status of publicly housed children but also the greater prevalence of health risk factors that predict a likely continuation of such differentials into the future.

Isolated studies among public housing residents provide preliminary approaches for new initiatives and interventions for improving health conditions of children residing in public housing communities. Lessons learned from these studies indicate that community-level interventions<sup>41</sup> that include entire families<sup>42</sup> with in-person strategies<sup>43</sup> could be effective. Recent research shows that providing leadership training to selected public housing residents is effective in improving the accessibility and quality of health care services, thus increasing collaboration between community members and

healthcare providers in identifying and resolving problems.<sup>44</sup> In addition, innovative, cost-effective approaches such as telemedicine deserve additional attention. For example, a tele-ophthalmology delivery system for an underserved inner-city population in public housing has been recently recognized as a potential strategy for improving access to vision care.<sup>45</sup>

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