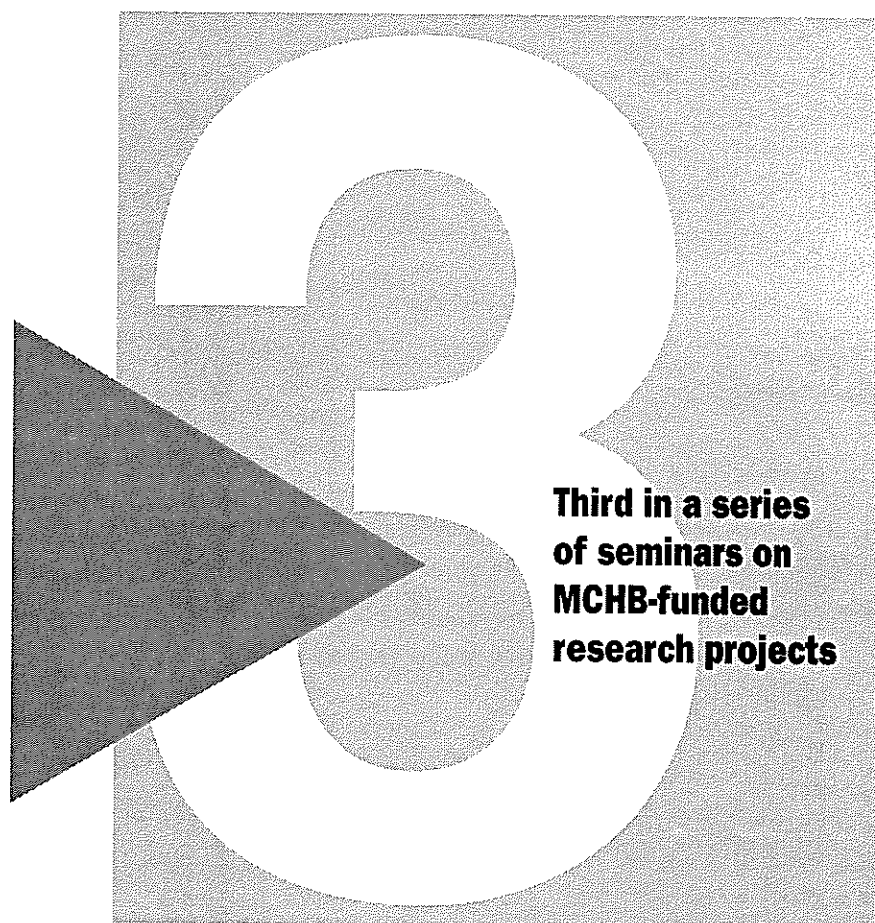


## Research Roundtable #3 Summary



# The Health and Nutritional Status of U.S. Hispanic Children

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### Reaction

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**The next Research Roundtable will feature findings from a project to develop a method of simultaneous screening for hearing, speech, and language. Future topics of research roundtables will be early intervention: child development and family adaptation; and adolescent mothering and preschool behavior problems.**

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# The Health and Nutritional Status of U.S. Hispanic Children

### Introduction

Gontran Lamberty, Dr.P.H., director of Research, Division of Systems, Education, and Science, Maternal and Child Health Bureau (MCHB), began the meeting with a short description of the Research Roundtable series. Sponsored by the Maternal and Child Health Bureau, the series is intended to disseminate the results of MCHB-funded research to policymakers, researchers, and practitioners in the public and private sectors. The results of these projects influence future service, research, and policy development. The Research Roundtable sessions provide an opportunity for researchers to discuss their findings with policymakers, MCH program directors, service providers, and other health professionals.

Fernando Mendoza, M.D., M.P.H., director of the Stanford Center for Chicano Research at Stanford University and Reynaldo Martorell, Ph.D., professor in the Division of Nutritional Sciences at Cornell University, were scheduled to make a joint presentation on their analysis of data from the Hispanic Health and Nutrition Examination Survey (HHANES). Due to inclement weather, however, Dr. Martorell was unable to attend. David Paige, M.D., M.P.H., professor in the Maternal and Child Health Department at Johns Hopkins School of Hygiene and Public Health served as reactor.

### Presentation

Dr. Mendoza began with an overview of why research on Hispanic children is of critical importance: First, Hispanic populations are the most rapidly growing minority population in the United States. Second, Hispanics have higher poverty rates than the non-Hispanic white population—28.1 percent of Mexican Americans, 40 percent of mainland Puerto Ricans, and 17 percent of Cuban Americans are below the poverty level. Third, Hispanics have a high proportion of female-headed households. The number of female-headed households is 15 percent for Cuban Americans and Mexican Americans and 30 percent for Puerto Ricans compared to 11 percent for the total U.S. population. Fourth, Hispanics in the United States are a very young population; almost 40 percent of all Hispanics in this country are under 19 years old while nearly 50 percent of all Mexican Americans and Puerto Ricans under 19 years old live in poverty.

When they examined the health status of Hispanic children, Drs. Mendoza and Martorell took into account four factors that contribute to the health profile of Hispanic populations: (1) The environment where they live; (2) behaviors unique to Hispanic children and families that make them either more or less at risk for poor health outcomes; (3) culture and how that culture becomes modified or “Americanized”; and (4) access to health care.

It is important to remember that all Hispanics cannot be grouped together. Mexican Americans, Cuban Americans, and Puerto Ricans differ from each other in each of the four factors described above. The genetic profile of the three groups is different, which consequently affects their risk for

certain conditions and diseases. There are also cultural variations, even within subsets of the Hispanic population. For example, new immigrants who have not been acculturated into U.S. society may have an entirely different perspective on health and health care. Some measures of acculturation into U.S. society are language preference, cultural identification, length of residency, and occupation.

### *Health Status Measures*

One measure of health status is low birthweight. The prevalence of low birthweight among Hispanics and non-Hispanic whites is fairly similar. However, this kind of comparison—without regard to subpopulation—masks important differences within the Hispanic community. For example, in women under the age of 20 years, both Mexican Americans and Puerto Ricans have very high poverty rates, yet Puerto Ricans have a much higher rate of low birthweight than either Mexican Americans or Cuban Americans. In addition, despite the fact that more than one-third of nonacculturated Spanish-speaking Mexican Americans get no prenatal care, they have a very low prevalence of low birthweight.

Other measures of health status include rates of prematurity and infant mortality. Again, there are significant differences between subgroups, with Puerto Ricans having the highest rates of infant mortality.

### *Chronic Conditions*

Among subsets of the Hispanic population, rates of reported chronic conditions vary. Mainland Puerto Ricans have significantly higher reported rates than do Mexican Americans or Cuban Americans. Puerto Ricans have a slightly higher rate of chronic disease than the U.S. population, and 50 percent of all cases of chronic illness in this subset were due to asthma or respiratory conditions. Because Puerto Ricans were sampled only from the New York City area, it is difficult to distinguish the role environment plays in the high asthma rates. Since Puerto Ricans living in Puerto Rico show high rates as well, a genetic factor may be involved.

Another finding relates to the high rates of obesity in Mexican Americans and Puerto Ricans. Particularly among Mexican Americans, high rates of obesity do not seem to be associated with elevated systolic or diastolic blood pressure or with higher rates of cardiovascular disease. In other words, traditional models linking obesity to cardiovascular disease are based on nonminority samples and may not hold true for Mexican Americans or other subsets of the Hispanic population.

Other findings involved rates of treatment. For medical conditions, such as anemia in children 5 to 11 years of age and asthma, the rates of treatment are quite high. For neurodevelopmental and behavioral problems, however, as well as for mental retardation, rates of treatment are significantly lower. The reason for the discrepancy is unclear: It may be a result of scarce resources in many Hispanic families or it may be that medical conditions are more likely to be diagnosed by a physician and therefore treated. Whatever the cause, the data suggest that among Hispanic populations, neurodevelopmental issues may not be getting the attention needed. One of the major factors that

contributes to poor health in the Hispanic population is poverty; one of the crucial steps to overcoming poverty is obtaining an education. Untreated neurological and mental conditions in Hispanic children harm their chances of succeeding in school.

Regarding the nutritional status of Mexican Americans, data show that efforts to reduce iron deficiency in children under five years of age have been very successful. Rates of iron deficiency in 15- to 19-year-old females have not declined significantly. Collaborative work with nutritionist Susan Murphy at the University of California at Berkeley showed that Mexican Americans generally do not get the recommended daily allowance of fruits and vegetables. In addition, adolescents do not get enough meat, milk, or breads.

The HHANES survey provided data on blood lead levels. Not surprisingly, much of the Puerto Rican population (sampled exclusively in New York City) had high lead levels. One in five Puerto Rican children and one in 15 Mexican-American children had lead in their system. In the future, it will be important to identify sources of lead and of other environmental toxins that may cause developmental problems. Dr. Mendoza is currently conducting a study on pesticides.

### *Perception of Health*

One important aspect of the survey's assessment was perception of health. After giving a physical exam and taking medical histories, physicians were asked to rate their patient's health. The physicians cited only 1 percent of children as being in "poor" health. Even among children with chronic illness, only one in 10 were listed as being in poor health. When mothers were asked to rate their child's health, the proportion of children listed in poor health was much higher. Among the non-Hispanic white population in the United States, 5 percent of mothers describe their children as being in poor health. In the African-American community, 10 to 12 percent of mothers describe their children as being in poor health. In the Hispanic community, rates are two, three, and even four times as high. Among Spanish-speaking mothers, one in five describe their children as being in poor health. Among Spanish-speaking adolescents, one in three define themselves as being in poor health.

The data were also examined for factors that might influence perception of the child as being in poor health. Examples of factors considered were age, poverty, education, marriage, acculturation, chronic illness, depression, and the health of the mother. The best predictors were the mother's perception of her own health and also her acculturation level. In another study, the investigators examined adolescents' perception of the locus of control. The study found that for most Hispanic nonacculturated adolescents, the locus of control was perceived as external. In other words, many Hispanic adolescents believe they are in poor health and feel they can do nothing about it. The presence of this psychological barrier is an important issue.

### *Access to Care*

The HHANES study yielded interesting data on health care coverage. One-third of Mexican Americans have no coverage. Puerto Ricans and Cuban Americans have higher rates of coverage. Of the two-thirds of Mexican Americans with health care coverage, most have private insurance. Across Hispanic populations, the most important barrier to health care was cost, not language nor transportation.

Disease prevention in Hispanic populations would be a good focus for future studies. For example, there is little research on the kinds of techniques or practices used by Hispanic families that may be a very positive factor in improving the health of Hispanic children.

## **Reaction**

### *Limitations of HHANES*

After commending Dr. Mendoza on his fine contribution to the literature on this topic over the years, Dr. Paige presented some limitations of the HHANES data. Although Dr. Mendoza indicated that the HHANES is not designed as a representative survey, some individuals who are using the data may fail to take into account this important factor. HHANES includes in its universe only 76 percent of the population. Another problem is noncoverage bias (parts of the country where Hispanics live but were not identified). There is also the issue of non-response bias. This is threefold: (1) willingness to participate; (2) willingness to be interviewed and/or examined; and (3) item non-response bias. Put together, the non-response biases may reduce the survey universe to 50–60 percent of the population. The end result is that the HHANES survey may be a very accurate representation of specific geographic regions, but inferences to the general population must be drawn carefully.

Like Dr. Mendoza, Dr. Paige reiterated the need to consider the three groups surveyed, i.e., Mexican Americans, Cubans Americans, and Puerto Ricans, as unique populations.

The definition of poverty used in the survey is problematic. Poverty is computed on a national basis with no adjustments for regional, state, or other variations in the cost of living. Economic conditions may vary among populations based on geographic location. This may present a confounding factor when the impact of poverty levels on health status is considered.

Another limitation of the survey concerns disproportionate attrition in the male population. This factor may affect the growth data and further reduces the sampling unit.

A final limitation of the HHANES data is that the entire Hispanic population surveyed may not actually be Hispanic. The only stipulation for inclusion in the HHANES survey is that one family member must be Hispanic and identified as such. It is therefore possible that a small number of non-Hispanics were entered into the sampled population.

### *HHANES Data Interpretation*

When we examine data on asthma, it is important to bear in mind that how one assesses the presence of and the chronicity of asthma is open to discussion and must be carefully reviewed before an inference can be drawn in comparing asthma rates between Hispanics and the general population. In other words, we must be very precise in defining asthma, how questions to determine the presence of asthma are asked, and under what conditions a diagnosis of asthma should be made.

Data on anemia reveal conflicting findings. Based on data of reported cases of anemia, Puerto Ricans appear to have significantly higher rates than Mexican-American children. Among Puerto Ricans, 7.3 percent of six-month to four-year-old children and 2.7 percent of five- to eleven-year-old children are reported by their mothers as having anemia. Among Mexican Americans, 1 percent of six-month to four-year-old children and 2 percent of five- to eleven-year-old children are reported by their mothers as having anemia. Data on reported cases of anemia, however, differ significantly in comparison to biochemical findings. According to data from the biochemical section of the HHANES survey, less than 2 percent of Puerto Rican children have documented iron deficiency anemia. Clearly, the data on reported cases of anemia and biochemical cases need to be reconciled. Also, questions must be raised with respect to the reliability and interpretability of the mothers' reports.

Findings regarding the significance of obesity or possible lack thereof are of special interest, particularly with regard to Mexican Americans. In another report, Dr. Mendoza showed that within the Hispanic population as a whole, maturity is delayed. This finding may have great significance for the whole notion of interpretation of growth, particularly the growth of Hispanic populations when compared to overall MCH growth patterns.

In the past, studies seemed to indicate that Mexican-American children showed poor growth on the basis of poverty. Dr. Mendoza examined the Mexican-American growth pattern in comparison to middle and upper-middle class Mexico City children—who are presumably of similar genetic background—and found the growth patterns of the two groups to be comparable. The issue of delayed growth and comparative growth with regard to the population of Mexican children from Mexico City must be examined in any study of delayed growth within the Mexican-American population.

Another finding concerns low birthweight. First generation Mexican Americans have less prenatal care, yet fare better in terms of incidence of low birthweight. This finding has implications for prenatal care. One factor that needs to be examined is obesity and body fat distribution within the Mexican-American population.

### **Discussion**

Dr. Mendoza commented that the issue of obesity was one of interest and concern to him. Another issue is the discrepancy between the physician's perception of an adolescent's health and the adolescent's perception of his or her own health. This has implications for health care access. If we move to a system of universal health care, what will happen when people think they are in poor

health? Are they going to overutilize or underutilize the system? Will the health care provider be able to meet their needs? The issue of perceived need versus real need is pertinent to all U.S. populations.

Dr. Mendoza agreed with Dr. Paige that the HHANES data does have limitations but pointed out that it is the first time a clear picture of the differences within subsets of the Hispanic population has been shown.

Dr. Mendoza mentioned that the HANES III will oversample Mexican Americans and African Americans but will not oversample Puerto Ricans or Cuban Americans. Group-specific analysis for Puerto Ricans and Cuban Americans will not be possible because the sample size will be small.

A participant asked about the effect of obesity on African Americans, in light of the earlier discussion about possible positive effects among Mexican Americans in relation to low birthweight. Although statistics for obesity are similar between the Mexican-American and African-American populations, obesity does not seem to be associated with health benefits among African Americans.

Dr. Mendoza suggested there may be genetic factors which we do not yet understand. Dr. Paige stated that studies are now being conducted which seem to indicate that high body mass index, not simply obesity seems to be associated with lower rates of low birthweight. Mexican Americans and African Americans differ in their patterns of fat placement and fat mobilization. We do not yet fully understand these differences or their impact. Also, we must differentiate between gestational-induced low birthweight and interuterine growth retardation. There may be a differential benefit and/or risk associated with obesity for these issues.

Finally, future work in the area of Hispanic health should avoid deficit models, and take into account the many factors such as family, community, and culture that aid individuals coping with poverty. In other words, it is not enough to know the incidence of anemia or whether a child suffers from a chronic illness. One must know how that child is going to function given their condition.

A copy of the final report from the first phase of this project,  
*The Health and Nutritional Status of U.S. Hispanic Children*, can be obtained from  
the National Technical Information Service:

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Springfield, VA 22161  
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