

## Socioeconomic Differentials in Child Stunting Are Consistently Larger in Urban Than in Rural Areas

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**B**oth the absolute numbers of urban poor and the contribution of urban poverty to overall poverty levels are increasing. The magnitude of this problem, however, is not well documented, and data are generally lacking to convince policymakers of the urgency of turning their attention to escalating rates of urbanization and the potential consequences this may have for urban poverty and malnutrition. Most program and policy decisions about resource allocation continue to rely on simple comparisons of urban-rural averages, which mask the enormous differentials that exist among socioeconomic groups in urban areas.

### *Purpose of This Paper*

This paper argues that although socioeconomic differentials in malnutrition do exist in urban and in rural areas, they are of significantly larger magnitude in urban areas. Data from the Demographic and Health Surveys (DHS) were used to test this hypothesis as well as the hypotheses that intra-urban differentials are larger than overall urban-rural differences and that the prevalence of stunting among the urban poor is often as high as among the rural poor.

To our knowledge, this is the first study to directly compare the magnitude of such differentials in the prevalence of childhood stunting between urban and rural areas.

### *Methodology*

The most recently available data from the DHS (Rounds 2 and 3) were used to examine the study hypotheses. Data sets were used from Bangladesh and Pakistan for Asia; Tanzania, Ghana, Senegal, and Zambia for Africa; and Brazil, Colombia, Dominican Republic, Peru, and Guatemala for Latin America. The two main criteria for selection were that (1) the data set contains information on child anthropometry, and (2) both the urban and rural samples include at least 500 children 0–36 months of age.

The first step was to create a socioeconomic index (based on household assets, housing quality, and

availability of services) for each country and each area (urban and rural). The purpose of the index was to categorize households into socioeconomic status (SES) quintiles and to compare the difference in the prevalence of stunting between the lowest and highest socioeconomic groups. The index was constructed separately for each country and for urban and rural areas within each country, because the characteristics that define wealth were expected to be different from one country to the other, as well as between the urban and rural areas of a country.

Logistic regression analysis was used to calculate odds ratios (ORs) for differences between socioeconomic groups within a given area, in order to determine the magnitude of differences in stunting prevalence between the highest and the lowest SES groups within urban and within rural areas, respectively. ORs for differences between urban and rural areas were also computed.

### *Results*

The prevalence of stunting was consistently higher in rural areas compared to urban areas for all countries and regions. The odds of a child being stunted if he or she lived in a rural area were between 1.3 and 3.3 times greater than for a child living in an urban area.

When looking at differences by socioeconomic group within rural and urban areas, respectively, all

ORs were statistically significant, except for the within-rural differences in Ghana and Senegal. These findings confirm that children from lower socioeconomic strata are at greater risk of being stunted than children

from higher socioeconomic groups. The magnitude of the ORs for socioeconomic differences in rural areas ranged from 1.4 in Senegal to 7.5 in Brazil, with a median of 1.8. There was some tendency, although not entirely consistent, for higher rural ORs in Latin America than in Africa and Asia (the four highest ORs were in Latin America). In urban areas, the median OR

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for socioeconomic differentials was more than twice as large as the median OR in rural areas (4 versus 1.8) and the values ranged from 2.4 in urban Zambia to 10.2 in urban areas of the Dominican Republic. Again, the magnitude of the ORs in urban areas tended to be larger in Latin America than in Africa and Asia, but the pattern was not totally consistent. For each country except Brazil, the within-urban ORs were larger than the within-rural ORs. Estimates of the coefficients of the interaction term between area and SES revealed that for all but three countries, the within-urban ORs were statistically significantly greater than the within-rural ORs.

### **Discussion**

Our analysis clearly shows that across the developing world, there are large socioeconomic differentials in stunting among children 0–36 months old, these differentials are commonly greater in urban than in rural areas, and most disadvantaged urban children have rates of stunting that are, on average, only slightly lower than the most disadvantaged rural children. These conclusions are drawn from large, nationally representative data sets from 11 countries in three continents. Data collection procedures were similar in all cases, and an identical analytic methodology was applied.

This study showed that children living in urban areas might be up to 10 times more at risk of being stunted if they are from poor households compared to children from households of higher socioeconomic status. The fact that there are consistently such strong socioeconomic gradients in urban areas of developing countries implies that reliance on global average statistics to allocate resources between rural and urban

areas could be dangerously misleading. We have previously shown that the “average” urban child is consistently less likely to suffer from stunting than the “average” rural child, yet in virtually every case studied in the present analysis, there was a distinct group of highly vulnerable urban children that should be high on the list of national priorities for nutrition-oriented interventions. We were unable to determine from these data whether intra-city or inter-city differences are likely to account for most of the overall within-urban sector differences observed. Previous research, however, suggests that even within neighborhoods of the same city, there is a great deal of variation in attained nutritional status. Targeting the nutritionally vulnerable in urban areas, therefore, may require imaginative and far-reaching programs to respond to the growing numbers of urban poor and undernourished.

### **Policy Implications**

This research is part of a growing body of research on the conditions in which poor urban dwellers live and of the deleterious effects of these conditions on health. This research demonstrates the dire need for program and policy attention to ameliorate the nutrition situation of populations living in poor urban areas. Health and nutrition interventions, in conjunction with poverty reduction measures, are priorities for the urban poor as much as they are for the rural poor. We believe that with evidence such as this, developing countries cannot afford to ignore the situation in which poor urban populations live.

**Keywords:** urban nutrition, socioeconomic status, stunting, Latin America, Africa, Asia

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