# New research proposes using local data in resolving malnutrition

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Kwashiorkor, one of the most extreme forms of malnutrition, is estimated to affect more than a hundred thousand children annually. The condition can make a starving child look healthy to the untrained eye, which makes it difficult to study and track. As a result, it has largely been overlooked by the scientific community. Researchers have recently attempted to increase its recognition by conducting a global study of more than 1.7 million children, but a new study published in the *Food and Nutrition Bulletin* reveals that kwashiorkor may be a local phenomenon that is underestimated by national statistics.

Out today, the study concludes that analyzing data on a large, global scale carries dangerous risks:

1. Health crises like kwashiorkor in particular villages may go undetected
2. The real effects of health interventions may be underestimated
3. Badly targeted interventions may lead to poor coverage, efficacy, and cost-efficiency
4. Researchers may miss useful insights into the root causes of a disease like kwashiorkor.

Nutrition researchers from Tufts University, Harvard University, and St. Johns Research Institute conducted a comprehensive survey of a geographic area including more than 1,300 children aged one to five years in the Democratic Republic of the Congo (DRC). A previous study conducted globally had suggested that 33 percent of malnutrition cases in

the DRC were of the kwashiorkor variety but that this was higher in some provinces than others. Hoping to better understand this dynamic, the researchers comprehensively surveyed 19 neighboring villages to understand the prevalence of the disease at the local level.

Their results found that rates of kwashiorkor varied from 0 to 14.9 percent in these villages, the latter number indicating extreme nutritional stress within specific communities. The difference between different areas, which appeared statistically identical, was extreme: one group, or "cluster," of five adjacent villages had no cases of kwashiorkor, while in a neighboring cluster of five villages, 9.5% of children had the condition. By interviewing health service staff members in the region and reviewing the nutritional history of the children, the researchers were able to confirm that these numbers reflect a long-term pattern.

"Understanding that this clustering effect exists, at least in some regions, provides an opportunity to increase the effectiveness of treatment through better targeting in those regions and to explore potential risk factors for kwashiorkor," write the researchers.

  **More information:** "Lost in Aggregation: The Geographic Distribution of Kwashiorkor in Eastern Democratic Republic of the Congo," *Food and Nutrition Bulletin*, 2018.

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