The Hunger Vital Sign: A Reappraisal of the Social Determinants of Health and a Call to Action
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A 2-month-old male infant is carried into the emergency department by his visibly panicked father. He reports that the child has been listless and irritable for the past day and is now limp after experiencing convulsions at home. While in the emergency department (ED) he has a generalized tonic-clonic seizure that fails to respond to a weight appropriate dosage of IV lorazepam. Further history reveals that the family recently ran out of food stamps and has been unable to afford formula. The family has resorted to diluting the child's formula by adding additional water in order to make it last longer. The child is subsequently intubated, started on a hypertonic saline drip, and admitted to the pediatric intensive care unit.

This case vignette has become a classic because it powerfully illustrates the collision between emergency care and a patient's social context. Research has long shown that social environments affect human health outcomes. In children, specifically, poverty has been directly linked to increased hospitalizations and delay in cognitive, academic, and psychosocial development. Newer studies have confirmed this phenomenon and have further elucidated mechanisms by which poverty impedes global cognitive function. The considerable evidence linking poverty to adverse physical and cognitive health outcomes is especially important in the current health care landscape. Emergency department (ED) visits continue to rise since expanded health care coverage under the Affordable Care Act. Despite early efforts to increase the number of primary care providers in the United States, ED providers will continue to have to bear the burden of newly insured patients especially from socially disadvantaged backgrounds without the benefit of a medical home. In the ED setting, it can be easy to ignore the context with which the patient has presented for care. Further, it is even easier to attribute a patient's current unfortunate presenting symptoms to a personal character flaw or to a series of poorly though-out decisions. In pediatric cases, blame may be projected onto the parent for bringing a relatively healthy child into a busy ED for primary care. We argue that an integral part of the emergency provider's role is to contextualize patient care in order to understand behaviors such as medication non-compliance, frequent use of the ED, and missed outpatient appointments.

Food insecurity (FI) is defined as the inability for a household to obtain adequate food because of constrained resources at some time during the year. In 2013, 14.3% of households in the United States were food-insecure, with 5.6% with very low food security. FI has been shown to be a major social determinant of health and one that may provide the crucial context with which to understand our most disadvantaged patients presenting to the ED. Evidence has shown that ED patients with high rates of hunger make deliberate choices between purchasing food and medications. Children from food-insecure households experience adverse health and development.

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The Hunger Vital Sign was developed as a quick screen to identify young children at risk for FI in the clinical setting in order to target the appropriate resources to those most vulnerable. The study that validated The Hunger Vital Sign collected data from over 30,000 caregivers interviewed in hospital-based settings between 1998 and 2005 across multiple health care centers. Caregivers with children younger than 36 months in primary care clinics and emergency departments were surveyed. This screening tool was compared against the gold standard 18-item US Household Food Security Scale (HFSS) used by the Current Population Survey to monitor national food-security status annually. The tool identified families with young children at risk for food insecurity if they answered at least one of the following two statements as 'often true' or 'sometimes true':

"Within the past 12 months we worried whether our food would run out before we got money to buy more"

"Within the past 12 months the food we bought just didn't last and we didn't have money to get more"

The results showed a 97% sensitivity and 83% specificity of the screening tool compared with the HFSS.

Screening questions regarding domestic violence, depression, and at-risk alcohol use have been utilized in emergency department triage in the past. We advocate for the implementation of the Hunger Vital Sign into the screening process in an effort to quickly identify households with young children at the highest risk for morbidity related to FI. The tool may be particularly useful when incorporated into the electronic medical record so that it becomes integrated into the child's medical history. This information can then be easily accessed and used by other patient advocacy workers to coordinate and target specific resources to families in need. Finally, utilization of The Hunger Vital Sign and other potential screening tools may be an area for collaborative and interdisciplinary research. With further validation through multi-site studies, recommendations may be made to include such screening tools to the American Academy of Pediatrics anticipatory care guidelines.

We became aware of The Hunger Vital Sign from a currently ongoing advocacy campaign orchestrated by the American Academy of Pediatrics Section on Medical Students, Residents, and Fellowship Trainees (SOMSRFT). The name of their anti-poverty campaign is called "FACE Poverty" with four areas of focus that include: 1) Food security, 2) Access to health care, 3) Community, and 4) Education. This campaign urges trainees to become involved in addressing childhood poverty at the clinic, community, and legislative levels. The AAP Committee on Pediatric Emergency Medicine and Section on Emergency Medicine hopes to become engaged in this campaign by urging our own members to access the resources available on the Face Poverty Campaign website (http://www2.aap.org/sections/ypn/r/advocacy/FACEPoverty.html). We hope our involvement in this campaign drives ED providers to apply social science principles to the care of our most vulnerable patients with the ultimate goal to achieve both improved and equitable health outcomes.
References

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