Food Insecurity and Child Maltreatment: A Quality Improvement Project
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ABSTRACT
Food insecurity affects both children and adults in 8% of households in the United States and 12.8% of households in Rhode Island, negatively impacting childhood health and development. Children with a history of child abuse or neglect are at higher risk for food insecurity than other pediatric populations. Patients evaluated at a child protection clinic – which completes evaluations for all forms of suspected child maltreatment – were screened for food insecurity using a validated two-item questionnaire. Data were collected over a four-month period, with three quality improvement cycles. A quality improvement cycle is a planned sequence of systematic and documented activities aimed at improving a process. Prior to the implementation of this protocol, children in the clinic were not screened for food insecurity. With the initiation of food insecurity screening, 8% of all households eligible for screening were found to be food insecure. Pediatric providers should identify food insecurity in their patients, including in subspecialty care clinics, to optimize care for pediatric patients and their families. When food insecurity is identified, referral to resources and support services is important.

BACKGROUND
The condition of unpredictable or decreased access to adequate food or nutrition is known as food insecurity. Food insecurity – and, in its most severe form, hunger – is very common in children in the United States. In 2016, 12.9 million children were living in food-insecure households and 6.5 million children lived in households in which one or more child was food insecure. Of US households with children, 16.5% were food insecure (with adults also experiencing food insecurity). Both children and adults experienced food insecurity in 8% of US households.1 In 2016, 12.8% of R.I. households were food insecure and 6.1% of households reported hunger (very low food insecurity).1 The prevalence of food insecurity for children living in Rhode Island has not been measured. However, 20% of children live at or below the poverty line in Rhode Island and 27% of children received Supplemental Nutrition Assistance Program (SNAP) Benefits in Rhode Island.2

The presence of food insecurity is associated with poverty, employment, and household demographics (the size of a family, the presence of a single parent, parental divorce, and immigrant status).1,5 Adverse childhood experiences, including parental incarceration, parental mental illness, parental substance abuse, parental death or separation, household violence, and child abuse or neglect, increase the odds of food insecurity in households.6,7 Moreover, the association between child maltreatment and food insecurity extends into adulthood; adults with a childhood history of child maltreatment – specifically child sexual abuse – also have increased odds of experiencing food insecurity.8 In qualitative studies, food insecurity in adolescents has been noted to be associated with high-risk behaviors, including commercial sexual exploitation of minors (CSEC), which is a form of child sexual abuse.9

Additionally, short- and long-term negative health outcomes associated with food insecurity in childhood include poorer overall health, iron deficiency, developmental problems, behavioral problems, and mental health diagnoses.1,6,7,9,12-17 For these reasons, the American Academy of Pediatrics (AAP) recommends that pediatricians screen children for food insecurity, using a two-question validated screening tool.5,7

Our child protection clinic evaluates and treats children and adolescents, when there are concerns for any form of child maltreatment. Literature reveals that child abuse and neglect are factors associated with food insecurity. Therefore, the objectives of this study were to: 1) measure the implementation of a food insecurity screening protocol in an outpatient clinical setting and 2) assess food insecurity in our patient population. Through more frequent screening for food insecurity of patients who present to medical attention for allegations of abuse and neglect, we hope to improve quality of care for food insecure households in Rhode Island by offering support services.

METHODS
Rhode Island Hospital Institutional Review Board approval was obtained. All attending physicians (3) and fellow physicians (2) who provide regular outpatient care at the child protection clinic were eligible for participation in implementing screening for food insecurity. This project encompassed four
months, with the average cycle duration of four weeks. A quality improvement cycle is a planned sequence of systematic and documented activities aimed at improving a process.

The food insecurity protocol utilized an iterative plan-do-study-act (PDSA) quality improvement model. Eligible households were those with children less than 18 years old, for children evaluated in the outpatient setting at the child protection clinic, and caregivers who spoke either English or Spanish. Children were not eligible if they were placed in foster care or group homes. For households with more than one patient being evaluated, only one food insecurity screen was administered. The screening tool, a validated two-part questionnaire (Figure 1), was administered to caregivers of the patients. The tool was administered in English and in Spanish. A positive response was identified with a positive [yes] answer to either question.

For patients whose households were found to be food insecure based on the screening tool, their caregivers were provided with written information (in English or in Spanish) about resources available. When the part-time clinic social worker was present, caregivers were also referred to meet with the social worker for resource referrals and support services.

A physician self-reporting tool was utilized to track information about whether a patient was screened for food insecurity, whether the patient was food insecure, and whether resource provision and referral occurred. This tool also collected de-identified data regarding the demographic and medical characteristics about the patients who were screened for food insecurity. Data were collected over a four-month period, using separate cycles in order to implement quality improvement changes. Data were collected via Research Electronic Data Capture (REDCap), a secure data collection web application.

RESULTS

A total of 5 child abuse pediatricians participated, 3 were attendings and 2 were fellows. Provider 1 screened 4 out of 11 patients (36%), provider 2 screened 7 out of 12 patients (58%), and provider 3 screened 9 out of 13 patients (69%). Providers 4 and 5 did not fill out forms regarding whether they screened eligible households.

First quality improvement cycle: Prior to implementation of the food insecurity screening program, providers saw 52 patients eligible for a food insecurity screening questionnaire. None of these patients were screened for food insecurity.

Second quality improvement cycle: The food insecurity screening protocol was initiated in clinic. During this period, patients from 37 households eligible for food insecurity screening were evaluated at the child protection clinic. Some households contained one child and others contained more than one child. Of these eligible households, 10 (29.7% of eligible households) were screened for food insecurity. Of those screened, 3 households screened positive for food insecurity. 8.1% of households eligible to be screened were food insecure and 30% of those households screened were food insecure. Of food insecure households, 2 (66.7%) were provided with both written resources and a referral to the social worker.

Third quality improvement cycle: Patients from 25 households were eligible for food insecurity screening. Of this group, 11 (44% of eligible households) were screened for food insecurity. Two households who were screened for food insecurity (18%), were found to be food insecure. All of the food insecure households were given written resources. One of the households was referred to the clinical social worker.

Of all eligible households during the three cycles, 46.7% were screened for food insecurity. The caregiver most often screened was the mother (62%), followed by the father (19%) and grandparent (14%). The majority of patients screened were white (68%) and presenting for concern of sexual abuse (51%) followed by diagnoses of other maltreatment (20%), and physical abuse (17%).

Of all the households that were eligible for screening, a total of 5 were positive for food insecurity (8%). The majority of identified food insecure households were provided written resources (80%) and/or referred to a clinical social worker (60%). Of food insecure households, 40% were Caucasian, 20% were mixed race, and 40% had race identified as unknown by the provider. 60% were Hispanic and 40% were non-Hispanic. The majority of food insecure patients were at the child protection clinic for evaluation of sexual abuse (60%) or sexual assault (20%). All patients who were food insecure were insured.

DISCUSSION

Prior quantitative data has demonstrated that food insecurity is common in U.S. households where there are children, including those in Rhode Island. In particularly vulnerable populations, including children and adolescents with a history of child abuse and neglect, food insecurity may be more prevalent than in the general population. The need for improvement in screening for food insecurity was identified during the three cycles of quality improvement at the child protection clinic. When providers screened eligible households, 8% (5 households) of eligible households were positive for food insecurity and the majority were given written resources and referred to a clinical social worker.

Due to the low rate of screening for food insecurity identified within the clinic, multiple process changes were
implemented after the second quality improvement cycle. Providers were reminded to administer the screening tool via email and during staff meetings. Additionally, resources about food insecurity were placed in a more central location in the clinic for both providers to utilize during patient visits and for caregivers to take. Resources provided were in English and Spanish and included information about SNAP benefits, Women, Infants, and Children Food and Nutrition Services (WIC), the Rhode Island Food Bank, and Rhode Island Coalition for the Homeless “Street Sheets,” which provide information about emergency shelters, pantries, and other emergency services. When the part-time clinic social worker was present, caregivers were also referred to meet with the social worker for resource referrals and support services. [Table 1]

Table 1. Resources for food insecurity in Rhode Island

| WIC       | http://www.health.ri.gov/programs/wic/1-800-942-7434 |
| SNAP      | http://www.dhs.ri.gov/Programs/SNAPEligibility.php1-855-697-4347 |
| Rhode Island 211 | http://www.uwri.org/get-help-2-1-1/211 |

In the current study, when physicians screened households for food insecurity, 8% of all eligible households and were identified as food insecure. Considering prior research has found that households with children are at increased risk for food insecurity, all pediatricians should screen for food insecurity during medical visits. Additionally, providers who care for pediatric patients who are at increased risk, such as those with histories of child maltreatment, low socioeconomic status, and immigrant status should integrate screening in their practice. The type of maltreatment associated with food insecurity deserves further research.

Notably, families who were in process of applying for legal residency or citizenship declined food insecurity resources. When individual caregivers were asked about this refusal, they identified a belief that citizenship or legal status would be affected by utilization of welfare services. Providers should be aware of this perceived barrier to resource utilization and the possible vulnerability undocumented households have, with regards to food insecurity. Undocumented households may be less likely to report food insecurity due to concern about deportation. Furthermore, households who have legal status in the US but are awaiting legal citizenship may also under-report food insecurity [or access resources less frequently] because of concerns about the effect on their residency applications.

There are several limitations to the current study. We implemented the screening in a single pediatric subspecialty clinic over a short period of time, thus limiting the generalizability of our findings. In addition, data collection was limited by barriers to implementation of this screening protocol, such as limited physician participation. It is likely that reporting bias affected these data, as caregivers may have been reluctant to disclose economic vulnerability. Finally, these data do not differentiate between households with food insecurity affecting just adult caregivers versus adults and children, together.

It is important to identify and address food insecurity in the primary care and pediatric subspecialty setting. Once identified, families should be referred to SNAP, WIC, 211, the Rhode Island Coalition for the Homeless (for information about emergency food shelters and other services), the Rhode Island Community Food Bank, or other community agencies for food and emergency service provision.

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References


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