Clinicians’ Perceptions of Screening for Food Insecurity in Suburban Pediatric Practice

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BACKGROUND: National organizations recommend pediatricians screen for food insecurity (FI). Although there has been growing research in urban practices, little research has addressed FI screening in suburban practices. We evaluated the feasibility, acceptability, and impact of screening in suburban practices.

METHODS: We conducted a mixed methods study that implemented FI screening in 6 suburban pediatric primary care practices. We included all children presenting for either a 2-, 15-, or 36-month well-child visit (N = 5645). Families who screened positive were eligible to be referred to our community partner that worked to connect families to the Supplemental Nutrition Assistance Program. We conducted focus groups with clinicians to determine their perceptions of screening and suggestions for improvement.

RESULTS: Of the 5645 children eligible, 4371 (77.4%) were screened, of which 122 (2.8%) screened positive for FI (range: 0.9%–5.9% across practices). Of the 122 food-insecure families, only 1 received new Supplemental Nutrition Assistance Program benefits. In focus groups, 3 themes emerged: (1) Time and workflow were not barriers to screening, but concerns about embarrassing families and being unable to provide adequate resources were; (2) Clinicians reported that parents felt the screening showed caring, which reinforced clinicians’ continued screening; (3) Clinicians suggested implementing screening before the visit.

CONCLUSIONS: We found it is feasible and acceptable for clinicians to screen for FI in suburban practices, but the referral method used in this study was ineffective in assisting families in obtaining benefits. Better approaches to connect families to local resources may be needed to maximize the effectiveness of screening in suburban settings.

WHAT’S KNOWN ON THIS SUBJECT: National organizations recommend all pediatricians screen for and address food insecurity. A growing body of research concerns screening in urban practices, but little research has been done on screening in suburban practices, where approximately half of all US pediatricians practice.

WHAT THIS STUDY ADDS: We found it was feasible and acceptable for clinicians to screen for food insecurity in suburban pediatric practices. The referral approach used in this study was ineffective, and better approaches to connecting families to local food resources may be needed.

Dr Palakshappa conceptualized and designed the study, conducted data collection and the initial analyses, and drafted the initial manuscript; Dr Vasan and Ms Seifu assisted in data collection and analyses and critically reviewed and revised the manuscript; Drs Khan, Feudtner, and Fiks contributed in conceptualizing and designing the study, assisted in the analyses, and critically reviewed and revised the manuscript; and all authors approved the final manuscript as submitted and agree to be accountable for all aspects of the work.

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Food insecurity (FI) is the lack of consistent access to enough food for an active and healthy life.\textsuperscript{1,2} More than 16% of US households with children were food insecure in 2015.\textsuperscript{2} Although FI declined from 2014 to 2015, FI rates have remained elevated since the 2007 recession.\textsuperscript{2} FI has been associated with detrimental outcomes in children.\textsuperscript{3–6} Children living in food-insecure households are more likely to have poor health, chronic medical conditions, and psychosocial and behavioral problems.\textsuperscript{3–7} To mitigate these outcomes, the American Academy of Pediatrics (AAP) recommends that all pediatricians screen for and address FI.\textsuperscript{8}

Increasing research has developed an evidence base for addressing FI in urban practices.\textsuperscript{9–13} but less research is available on how best to address FI in other practice settings, particularly in suburban communities. Over the last decade, poverty has increased by 66% in suburban communities, which is double the rate in cities, and poverty increases the likelihood of FI.\textsuperscript{1,14–16} Although the issue of suburban poverty has gained increased recognition, research has not been directed at evaluating the implementation of FI screening in suburban practices on the basis of clinicians’ perspectives.

To fill this gap in the literature, we conducted this study to evaluate the feasibility, clinician acceptability, and impact of FI screening in suburban pediatric primary care practices.

**METHODS**

**Study Design and Setting**

We conducted a prospective, mixed methods study with 4 groups of clinicians at 6 suburban practices that incorporated electronic health record (EHR) data and clinician focus groups. This study was conducted within the Children’s Hospital of Philadelphia (CHOP) Pediatric Research Consortium, a primary care practice–based research network.\textsuperscript{17} Six suburban pediatric practices that were selected for the diversity of their patient populations and settings in the counties surrounding Philadelphia participated. These practices did not have on-site social workers or nutrition assistance programs available. These were the first sites approached; all used the EpicCare EHR (Verona, WI).

**Intervention**

Before the start of the study, a study team member met with each practice to discuss the study procedures. The intervention consisted of implementing an FI screen in the EHR. Families who screened positive were eligible for referral to our community partner for assistance with applying for the Supplemental Nutrition Assistance Program (SNAP). The AAP-recommended, 2-item FI screen was embedded in the 2-, 15-, and 36-month well-child visit documentation templates in the EHR.\textsuperscript{8} These questions, asked by the pediatrician or nurse practitioner during the visit, were included as part of the diet and nutrition history for all children presenting for these visits between July 2015 and February 2016. Clinicians (pediatricians, nurse practitioners, and nurses) at these sites were not screening for FI before this study. The well-child visits in which the screening was implemented were chosen because households with young children are more likely to be food insecure.\textsuperscript{2,4} Through a stakeholder-engaged process with clinicians, we were also advised to avoid FI screening at visits with existing screens (eg, the Ages and Stages Questionnaire-II) or procedures (eg, vaccinations).

All families who screened positive were eligible to be referred to a community partner, the Benefits Data Trust (BDT) (www.bdtrust.org). BDT is a nonprofit that provides telephone assistance to individuals to apply for SNAP assistance. A benefits specialist contacts individuals, reviews eligibility criteria over the phone, and then applies online for government benefits. Because of the distance between practices, the lack of on-site social work, and the need to minimally impact clinician workflow, we chose to work with a partner who was able to provide services by phone. The clinician asked all families who screened positive if they were interested in receiving additional resources and confirmed their contact information at the time of their visits. The study team then contacted interested families from a CHOP phone line, discussed the referral process, and obtained verbal consent to have their contact information shared with BDT. BDT then contacted families within 1 to 2 weeks of screening to assist in applying for SNAP.

**Outcome Measures**

**Feasibility**

We obtained the number of children eligible to be screened, the number screened, and the results of the screen through data extraction from the EHR by using a previously published approach.\textsuperscript{18} FI was determined by parental response to the 2-item screen, with an affirmative response to either question being considered a positive screen.\textsuperscript{8,19} This validated questionnaire has 97% sensitivity and 83% specificity.\textsuperscript{19}

**Clinician Acceptability**

We conducted focus groups with clinicians at participating sites. All clinicians were eligible to participate in 1 of 4 focus groups, which occurred between 3 and 4 months after practices began screening. Focus groups occurred in-person and consisted of open-ended questions regarding providers’ perceptions of screening, interactions with families, and suggestions for improving the process. Clinicians provided written
consent. Focus groups were digitally recorded and transcribed.

Impact

Program impact was measured by the number of families who consented to referral and the number of families who were connected to our community partner. We also collected data on the number of families who applied for and received SNAP assistance.

Covariates

We determined the population density of the surrounding community, the number of clinicians, and the number of patients seen in the last year to characterize the sites, but these variables were not included in analyses. For all children screened, we obtained sex, age, race (white, African American, Asian, or other/unknown), and ethnicity (Hispanic or non-Hispanic) from the EHR. We also assessed health insurance type (private, public, or self-pay), clinic site, and whether >25% of patients seen at the site received public insurance (yes or no). Because many food-insecure families face competing demands (choosing between paying for a child’s medication or food), we assessed the children’s medical conditions.\(^2\) We included a if a child had the diagnosis of asthma (yes or no) and data regarding complex chronic conditions (CCCs) in childhood on the basis of International Classification of Diseases, Ninth Revision codes.\(^2\) Because of the small number of participants in individual CCC categories, we analyzed whether each child had any CCC (yes or no).

Statistical Analysis

Qualitative Analysis

Focus groups were coded inductively by using a modified grounded theory approach.\(^2\) We developed a coding scheme and dictionary by using the first focus group, and the constant comparative method was used throughout to refine the focus group guide. Two team members independently coded each transcript and assigned codes to specific comments on the basis of the coding scheme. We iteratively reviewed codes, identified emerging themes, and resolved any discrepancies through consensus. Analyses of raw narrative data were facilitated through the use of QSR International’s NVivo 10 software (Burlington, MA). The CHOP Institutional Review Board approved this study.

Results

Setting and Population Characteristics

The 6 sites varied in their distance from the city (mean: 18.8 miles; range: 7–35 miles), the number of patients seen, and the population density of the surrounding community (Table 1). The majority of practices had at least 20% of their patient population insured by public insurance (range: 12%–51%).

Feasibility

Of the 5645 children eligible, 4371 (77.4%) were screened. Screening rates ranged from 68.4% to 90.1% across practices and from 14.2% to 93.6% across clinicians (median 78.4%). Of the 4371 screened, 48.8% were female, 58.0% white, and 14.0% African American. The majority of children (66.1%) were privately insured. Public insurance was received by 32.6%. Of the 4371 screened, 122 (2.8%) screened positive for FI.

In bivariate analysis, children who screened positive were more likely to be younger, African American or Hispanic, have asthma, and receive public insurance (Table 2). We found a significant difference in the percentage of households that screened positive between clinics (range: 0.9%–5.9%; \(P < .001\)). Clinics with more than 25% of the patient population receiving public insurance were more likely to have children screen positive (5.1% vs 1.7%, \(P < .001\)). In multivariable analysis, African American race (odds ratio [OR]: 1.9; 95% confidence interval [CI]: 1.3–2.7), other/unknown race (OR: 1.5; 95% CI: 1.1–1.9), public insurance (OR: 4.3; 95% CI: 1.7–10.8), self-pay (OR: 2.5; 95% CI: 1.2–5.3), and more than 25% of the patient population receiving public insurance (OR: 1.4; 95% CI: 1.1–1.8) were significantly associated with FI (Table 3).

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### Table 1 Characteristics of Suburban Practice Sites

<table>
<thead>
<tr>
<th>Practice</th>
<th>Distance From City Center, Miles</th>
<th>Population Density(^a)</th>
<th>Clinicians, N</th>
<th>No. Patients in the Practice</th>
<th>Patients With Public Insurance, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>35</td>
<td>619</td>
<td>6</td>
<td>5430</td>
<td>36</td>
</tr>
<tr>
<td>2</td>
<td>26</td>
<td>1477</td>
<td>10</td>
<td>7046</td>
<td>20</td>
</tr>
<tr>
<td>3</td>
<td>23</td>
<td>1187</td>
<td>7</td>
<td>7526</td>
<td>12</td>
</tr>
<tr>
<td>4</td>
<td>7</td>
<td>8489</td>
<td>14(^b)</td>
<td>6472</td>
<td>51</td>
</tr>
<tr>
<td>5</td>
<td>10</td>
<td>3123</td>
<td>14(^b)</td>
<td>4433</td>
<td>19</td>
</tr>
<tr>
<td>6</td>
<td>12</td>
<td>1547</td>
<td>14(^b)</td>
<td>4420</td>
<td>20</td>
</tr>
</tbody>
</table>

\(^a\) Population density per square mile of land area for the surrounding city from the 2010 US Census.

\(^b\) Rotate between sites.
Eighteen (11 pediatricians, 3 nurse practitioners, and 4 nurses) of 37 eligible clinicians participated in 4 focus groups. Fifteen were female, and participants had been practicing for a median of 15.5 years. Three themes emerged from all focus groups (Table 4).

**Time and Workflow Were Not Barriers to Screening, but Concerns About Embarrassing Families and Being Able to Provide Adequate Resources Were Barriers**

All clinicians agreed that screening was quick. One clinician described feeling concerned about integrating additional questions but did so with minimal disruption, saying, “At first it was like, ‘oh my, another question.’ But truly, it wasn’t that much additional time.”

The primary barriers reported were personal discomfort and concern about families reacting negatively. Reflecting a sentiment shared in all focus groups, 1 provider noted, “It’s a really personal question. You’re asking about money… it’s awkward.” Some clinicians noted that prefacing the screen with a statement that “these are questions we ask everyone” or “a lot of families are struggling with food” partially alleviated this discomfort and improved interactions with families.

Another barrier identified was clinicians’ concern about being unable to provide adequate resources. One provider noted, “I get a lot of working class [families] that don’t qualify for food stamps that are struggling and worried about their food.” Clinicians described feeling compelled to address FI in these families but simultaneously feeling unable to offer them adequate resources. Clinicians across all of the sites felt that their practices would benefit from information about local resources, for example food pantries, so they could feel empowered to help families who did not qualify for government benefits or were food insecure despite receiving benefits.

**Clinicians Reported That Parents Felt the Screening Showed Caring, Which Reinforced Clinicians’ Continued Screening**

Clinicians reported that although some families who screened positive initially seemed embarrassed or apprehensive, the majority ultimately felt thankful to have been asked and grateful for the resources the practice offered. Echoing sentiments expressed in all focus groups, 1 provider said, “There’s some relief from parents, like, ‘Finally someone is going to help.’” Some clinicians reported positive reactions from families who screened negative because these families felt it showed the practice cared about the broader social issues affecting families.

**Clinicians Suggested Implementing Screening Before the Visit**

In all focus groups, clinicians suggested that it would be preferable to have families complete the screening before beginning their visits (for example, electronically in the waiting room). Clinicians felt that this could reduce stigma associated with answering “yes” to the questions. They also felt that screening before the visit would allow clinicians to have resources

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**TABLE 2 Characteristics of Children Screened for FI**

<table>
<thead>
<tr>
<th></th>
<th>Food Secure, N (%)</th>
<th>Food Insecure, N (%)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total population</td>
<td>4249 (97.2)</td>
<td>122 (2.8)</td>
<td></td>
</tr>
<tr>
<td>Age, mo</td>
<td>Mean (SD)</td>
<td>19.6 (14.9)</td>
<td>.08</td>
</tr>
<tr>
<td>Sex</td>
<td>Male</td>
<td>2165 (96.8)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>2084 (97.7)</td>
<td></td>
</tr>
<tr>
<td>Race</td>
<td>White</td>
<td>2495 (98.4)</td>
<td>.001a</td>
</tr>
<tr>
<td></td>
<td>African American</td>
<td>571 (93.2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Asian</td>
<td>182 (98.9)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other/unknown</td>
<td>1001 (96.3)</td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>No</td>
<td>4050 (97.4)</td>
<td>.01a</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>186 (93.9)</td>
<td></td>
</tr>
<tr>
<td>Asthma</td>
<td>No</td>
<td>3938 (97.4)</td>
<td>.01a</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>311 (94.8)</td>
<td></td>
</tr>
<tr>
<td>Any CCC</td>
<td>No</td>
<td>3761 (97.3)</td>
<td>.40</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>488 (96.6)</td>
<td></td>
</tr>
<tr>
<td>Insurance</td>
<td>Public</td>
<td>1336 (93.7)</td>
<td>.001a</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>2857 (99.0)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Self-pay</td>
<td>56 (96.6)</td>
<td></td>
</tr>
<tr>
<td>Practice</td>
<td>1</td>
<td>675 (95.7)</td>
<td>.001a</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>840 (97.6)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>1207 (99.1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>655 (94.1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>444 (97.8)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>428 (97.9)</td>
<td></td>
</tr>
<tr>
<td>Practice &gt;25% public</td>
<td>No</td>
<td>2819 (98.3)</td>
<td>.001a</td>
</tr>
<tr>
<td>insurance</td>
<td>Yes</td>
<td>1330 (94.9)</td>
<td></td>
</tr>
</tbody>
</table>

CCC, complex chronic conditions in childhood.

* Significant value < .05.
Representative quotes

"Time and Workflow Were Not Barriers to Screening, but Concerns About Embarrassing Families and Being Able to Provide Adequate Resources Were Barriers"

"A Significant value < .05.

Ref, reference.

"Practice >25% public insurance

Hispanic

No

Ref

—

—

Yes

1.4

0.6–3.1

.39

Asthma

No

Ref

—

—

Yes

2.0

1.0–3.9

.05

Any CCC

No

Ref

—

—

Yes

1.0

0.7–1.6

.84

Insurance

Private

Ref

—

—

Self-pay

4.3

1.7–10.8

<.01a

Practice >25% public insurance

No

Ref

—

—

Yes

1.4

1.1–1.8

.02a

Ref, reference.

* Significant value < .05.


t prepared ahead of the visit and focus their time on helping families who screened positive.

Impact

Of the 122 families who screened positive, 58 families (48%) reported to their clinicians that they were not interested in referral to our community partner (Fig 1). In focus groups, clinicians reported that the primary reasons parents declined referral were that they were either currently receiving SNAP assistance or they had previously reviewed eligibility criteria and knew they would not qualify. Of the 64 families who were eligible to be contacted, 17 were unable to be reached, 10 declined, 5 were non–English speakers, and 32 consented. Of the 32 who consented, 9 parents spoke to our community partner, and 1 of them received new SNAP benefits.

TABLE 4 Clinicians’ Perceptions of Screening for FI in Suburban Practices

<table>
<thead>
<tr>
<th>Time and Workflow Were Not Barriers to Screening, but Concerns About Embarrassing Families and Being Able to Provide Adequate Resources Were Barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Representative quotes</td>
</tr>
<tr>
<td>“Couple of minutes, if that”</td>
</tr>
<tr>
<td>“At first, it was like, ‘oh, my gosh, another question.’ But then truly, once you got into the workflow, it wasn’t that much additional [time]”</td>
</tr>
<tr>
<td>“Oh, I think it works fine with flow. I think people are still like, ‘Oh, I don’t know if I want to ask this question. Am I going to embarrass them?’”</td>
</tr>
<tr>
<td>“It’s a really personal question. You’re asking somebody about money. I mean, I think that’s probably why it’s just awkward, no matter what”</td>
</tr>
<tr>
<td>“I get mixed reactions when I ask. I get a lot of working class [families] that don’t qualify for the food stamps that are struggling, and they’re worried about their food”</td>
</tr>
<tr>
<td>“And I think when we talk about it a little more, and about the prevalence of [food insecurity], then [families] seem more receptive to it, whereas I think, at least just point blank, reading the initial question, there’s sometimes, like, a moment of hesitation when they think how they want to respond to the [questions], like, do they want to say ‘yes’ and then get into it or [not]?”</td>
</tr>
</tbody>
</table>

Clinicians Reported Parents Felt the Screening Showed Caring, Which Reinforced Clinicians’ Continued Screening

| Representative quotes               |
| “I mean, that one person is having problems. So, that’s a good thing [to screen]. And I just don’t think it takes much time out of my visit anyway for me to ask. So, to me, it’s worth it” |
| “I do think it kind of sends a message to the patients that you care about this social issue” |
| “There’s some relief from parents, too, like, ‘Finally someone is going to help me’… they’re finally relieved that they’re getting help” |

Clinicians Suggested Implementing Screening Before the Visit

| Representative quotes               |
| “[It would be better if] it was something that getting screened for before we even set foot in the room… If they screen negative, great. If they screen positive, then we would get a flag or something for that…” |
| “I mean, that’s what we have found with our adolescent screeners, that asking it electronically, they seem to be very forthcoming, and they answer a lot of questions that we wonder whether, if you had said to them, ‘Are you smoking pot?’ they [may have said] ‘No, I’m not smoking pot.’ On the screener, they seem to be pretty honest. So, I don’t know whether that is the way to do it, less confrontationally and less time on the provider part” |
| “We definitely have seen the hemming and hawing when you ask the questions. [Screening before the visit] then you sort of [have] a heads up before you even walk in on the visit” |

TABLE 3 Multivariable Analysis of Child and Clinic Characteristics Associated With FI

| Age | 1.0 | 95% CI 1.0–1.0 | .13 |
| Sex | 1.3 | 0.7–2.7 | .42 |
| Race | White | Ref | — | — |
| African American | 1.9 | 1.3–2.7 | <.001a |
| Asian | 0.6 | 0.3–1.2 | .45 |
| Other/unknown | 1.5 | 1.1–1.9 | <.01a |
| Hispanic | No | Ref | — | — |
| Yes | 1.4 | 0.6–3.1 | .39 |
| Asthma | No | Ref | — | — |
| Yes | 2.0 | 1.0–3.9 | .05 |
| Any CCC | No | Ref | — | — |
| Yes | 1.0 | 0.7–1.6 | .84 |
| Insurance | Private | Ref | — | — |
| Self-pay | 4.3 | 1.7–10.8 | <.01a |
| Practice >25% public insurance | No | Ref | — | — |
| Yes | 1.4 | 1.1–1.8 | .02a |
DISCUSSION

With the AAP recommendation that all pediatricians screen for FI,6 this study and the accompanying article describing parents’ experiences23 provide new data about the feasibility, acceptability, and impact of screening in suburban practices. We found that it was feasible and acceptable to screen for FI in suburban practices. However, the referral approach used in this study was ineffective in assisting families in obtaining new benefits.

We found that integrating the screen in the EHR was an effective method to facilitate screening and resulted in >75% of eligible families being screened.2425 The FI screen is already built into the Epic Foundation System,26 and health care systems or national organizations, such as the AAP, could work with EHR companies to include the screening tool as a default in well-child templates or during previst screeners to more systematically address FI. In previous studies, clinicians have reported concerns about having time to conduct screening,2728 but after implementing screening, clinicians in our study felt that it took relatively little time. Of the families screened, 3% screened positive, but this ranged from 1.0% to 6.0% across practices. Although FI rates were lower than those observed in urban settings,911 these results indicate the feasibility of identifying FI in suburban practices. Highlighting the potential benefit, 2 of the practices had as many as 1 in 20 screen positive.

Although the majority of clinicians achieved high rates of screening, they reported concerns about

embarrassing families and providing adequate resources as barriers. Many clinicians reported feeling uncomfortable asking about food or financial resources, which may explain why some clinicians screened <25% of families. Previous studies have used in-person or video trainings to improve clinicians’ comfort and knowledge about social determinants of health.91329 Although a study team member met with clinicians before the start of the study, clinicians did not receive any formal training. To improve clinician comfort, increased training during residency or through quality-improvement programs may be helpful.2830 As screening programs become more commonplace and include a greater proportion of visits,914 clinicians may become more comfortable discussing families’ unmet food needs.

To warrant practices screening, effective methods to connect families to resources and address FI are needed. The referral method used in this study was ineffective, and there are several possibilities as to why the approach tested may have been unsuccessful. Many families reported either already receiving SNAP assistance or not being eligible, according to clinicians and noted in subsequent interviews with parents.23 Previous research has found that the SNAP benefit allotment may be inadequate to cover a healthy diet, so some families receiving SNAP assistance may remain food insecure.31 Given the rise in near-poor individuals in the suburbs,3233 many families may be food insecure but not income eligible for SNAP.

Although the referral process studied was ineffective, these findings have important implications for future programs in suburban practices. First, to address the needs of families

FIGURE 1
Results of referral process for nutrition assistance.
who do not qualify for benefits, referral to local resources with less stringent eligibility requirements may be helpful and is welcomed by parents. Second, to simplify the referral process, which required repeated contact with parents in the current study, practices might assemble lists of local resources that could be provided at the visit or directly transmit referrals. Having information at the initial point of care or providing food resources at the office may better address families’ needs by avoiding follow-up calls, making families more comfortable accepting resources, and increasing awareness of local resources. This awareness is important because suburban families are often unaware of the resources available to them. Third, pediatrician advocacy may be needed to raise awareness about gaps in local resources, especially for communities that have fewer resources for low-income families.

Despite the relatively low percentage of positive screens in some practices and the need to increase impact, clinicians reported overwhelmingly positive interactions with families and felt that screening was worthwhile. Clinicians felt that even families who screened negative were appreciative, which is consistent with findings in other settings. As in studies in urban settings, all practices chose to continue to screen at the end of the study.

For suburban practices considering screening, clinicians suggested screening before the visit, such as in the waiting room. Similarly to studies in urban settings, we had lower-than-expected rates of FI. We identified 3% of families as food insecure, whereas countywide estimates are 9% to 10%. This might reflect selection bias, with food-insecure families being less likely to present for well-child care or social desirability bias, with families not reporting FI. Studies in urban settings have shown that families are more likely to report unmet social needs when screened electronically rather than face to face, and using written or electronic screens before the visit may more effectively identify FI in suburban settings.

Our study has several limitations. First, although the practices included in this study varied in location and the diversity of their patient populations, all practices were located in the suburbs of the same metropolitan area and were part of the same primary care network, which might limit the generalizability of the results. Second, a significant number of families who expressed interest in receiving resources were unable to be reached. It is possible that these families would have been eligible for SNAP, but the inability to reach these families likely reflects real-world difficulties in connecting them to services. Third, the community partner used only had the infrastructure to assist in applying for SNAP and not the Supplemental Nutrition Program for Women, Infants, and Children (WIC), so it is possible that families could have been eligible to receive WIC benefits. However, birth hospitals in our area routinely connect eligible families to WIC. Fourth, to reduce clinician burden, we did not collect data regarding families’ participation in public assistance programs at the time of screening. It is possible that many of the families who screened negative were enrolled in SNAP, which may explain why only 3% of families were identified as food insecure. Fifth, this study focused on young children. Because older children are less protected from the effects of household FI, future research should focus on these age groups.

CONCLUSIONS
With a call from national organizations to address families’ unmet social needs in all practices, this study of 6 suburban pediatric practices that screened >4000 children found that it was feasible and acceptable for clinicians to screen for FI. Clinicians felt it added minimal time, and most clinicians reported positive experiences with families. Nonetheless, the referral method used in this study was ineffective in assisting families in obtaining benefits. Other approaches to connect families to local resources may be needed to maximize the effectiveness of FI screening in suburban settings.

ACKNOWLEDGMENTS
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ABBREVIATIONS
AAP: American Academy of Pediatrics
BDT: Benefits Data Trust
CCC: complex chronic conditions
CHOP: Children’s Hospital of Philadelphia
CI: confidence interval
EHR: electronic health record
FI: food insecurity
OR: odds ratio
SNAP: Supplemental Nutrition Assistance Program
WIC: Supplemental Nutrition Program for Women, Infants, and Children
REFERENCES


26. American Academy of Pediatrics; Food Research & Action Center. Addressing...


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