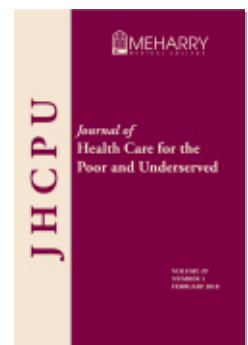




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Successes, Challenges, and Considerations for Integrating Referral into Food Insecurity Screening in Pediatric Settings

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Abstract: Food insecurity, lack of access to enough food for an active and healthy life, is associated with poor child health. Three pediatric clinics implemented a two-question food insecurity screening of 7,284 families with children younger than five years. Over one thousand (1,133, 15.6%) reported food insecurity and 630 (55.6%) were referred to a benefits access organization for connection to public benefits and community resources. This study evaluated the efficacy of screening and referral through process evaluation, key informant interviews, and focus groups with 19 caregivers and 11 clinic staff. Using grounded theory, transcript themes were coded into facilitators and barriers of screening and referral. Facilitators included trust between caregivers and staff, choice of screening methods, and assistance navigating benefits application. Barriers included complex administration of referral, privacy and stigma concerns, and caregivers' current benefit enrollment or ineligibility. Results demonstrate importance of integrated screening and referral consent processes, strong communication, and convenient outreach for families.

Key words: Food insecurity, social determinants of health, pediatric practice, social needs screening.

Food insecurity, or lack of access to enough food for an active and healthy life, adversely affects the health and well-being of children. The American Academy of Pediatrics recommended that all children be screened for household food insecurity and receive referral for appropriate services and resources.^{1,2} In 2015, 16.6% of house-

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holds with children in the U.S. were food insecure.³ Children living in food-insecure homes are at a higher risk for developmental delay, hospitalization, and poor academic performance compared with children in food secure homes.⁴⁻⁶ Given the serious child health implications of food insecurity and related financial hardships, the pediatric care community is ideally situated to address effects on patients and families.⁷⁻¹⁵ Few studies have assessed effectiveness and impact of integrated food insecurity screening and referral processes in pediatric settings. We present results from an evaluation of a recent implementation of a food insecurity screening and referral program at three pediatric primary care clinics associated with Children's Hospital of Philadelphia (CHOP).

Methods

Population and intervention setting. The three participating CHOP clinics have 124,000 visits per year; over half of patients are living at or below poverty, and 75% qualify for Medicaid. Prior to this study, physicians screened families for food insecurity using the provider interface of the patient's Electronic Medical Record (EMR) at the three-year well-child visit, without connection to a referral agency. In November 2014, this intervention and evaluation study expanded this screening to include a referral process to connect families to Benefits Data Trust (BDT), to perform benefits eligibility screening, application assistance, and referrals to community resources. The screening process also incorporated a self-administered paper food insecurity screening, in English and Spanish, for caregivers of all children under five years presenting for a well-child visit. After technical and training delays, the screening expanded to include additional EMR screens at two-month and 15-month well-visits from September 2015 through December 2015. Both screening methods were used at each site.

Study procedures. If families screened positive for food insecurity, the CHOP research team followed up by phone to obtain consent to share contact information with BDT using a secured platform. Once BDT received contact information, trained Benefits Outreach Specialists conducted outreach via phone, screened families for public benefits eligibility and provided application assistance for eligible families. BDT also provided interested caregivers a referral to a partner agency that provided free financial counseling, and to community-based resources (such as food banks or food pantries) if they were found to be ineligible for public benefits or to supplement those benefits (Figure 1).

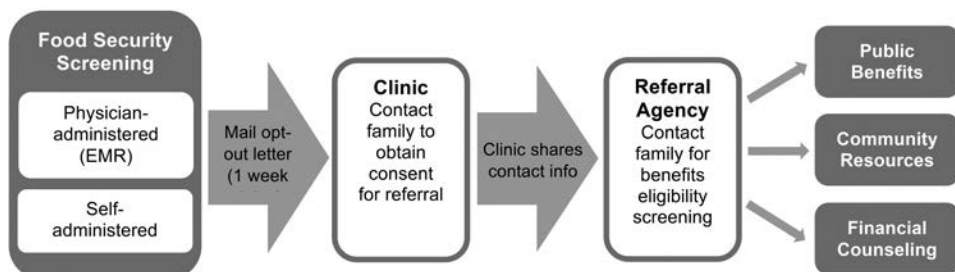


Figure 1. Diagram of screening and referral process.

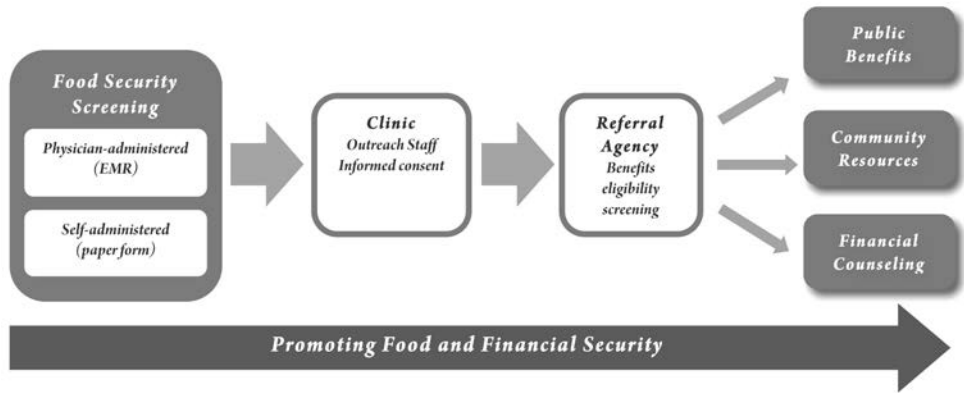


Figure 2. Diagram of screening and referral process.

From October to December 2015, a separate evaluation team carried out key informant interviews with clinical and professional staff at CHOP and focus groups with caregivers that participated. A CHOP research staff member identified 15 key informants involved in screening and referral; 11 consented to participate. One author conducted semi-structured 20–45 minute interviews with staff members from each clinic, including three physicians, four administrative and clinical staff, three social workers, and a research staff member who obtained consent and connected families with BDT. Two authors conducted three semi-structured 90-minute focus groups with 19 caregivers. Focus group recruitment letters were mailed to 373 caregivers who consented to share contact information with BDT. The research team successfully reached 50 caregivers by phone; 31 consented to participate and 19 attended the focus groups. We used purposive sampling to ensure that one focus group included seven caregivers who consented to be contacted by BDT but whom BDT was unable to reach, and two focus groups included a total of 12 caregivers who successfully connected with BDT. Focus groups assessed caregivers' perspectives regarding screening and referral. The Institutional Review Board (IRB) at CHOP approved this study.

Measures. All caregivers were screened for food insecurity using a two-item household food insecurity screener developed by Hager et al., which has demonstrated high sensitivity and specificity.¹⁶ In this measure, caregivers are asked how often the following statements were true for their household in the past year: 1) “We worried whether our food would run out before we got money to buy more” and 2) “The food we bought just didn’t last and we didn’t have money to buy more.”

In addition, CHOP tracked numbers screened, screening method (EMR, paper screen), and results, number of outreach calls, and consent to share contact information with BDT. BDT tracked numbers of participants reached, benefit eligibility, applications, and referrals to community resources.

Analysis. We tabulated participation rates, and performed chi-square tests to assess differences across screening modalities. For qualitative data, we entered audio-recorded, transcribed interviews and focus groups into ATLAS.ti Version 7, a program for man-

agement and analysis of qualitative data.¹⁷ We used grounded theory^{18,19} to categorize emergent themes regarding facilitators and barriers.

Results

Screening and referral outcomes. Of 7,284 families screened through self-administered paper screening and provider-administered EMR screening methods, 1,133 (15.6%) reported food insecurity (Figure 3). Among 1,584 caregivers screened via paper survey, 45.5% reported food insecurity, whereas among the 5,700 caregivers screened by physicians through the EMR, 7.2% reported food insecurity (Table 1). Just over half of food-insecure caregivers (630, 55.6%) could be reached by CHOP after three phone calls and consented to having their information shared with BDT.

Among caregivers who consented to be contacted by BDT, 235 families (37.3%) were reached within three phone calls and accepted benefits screening. Of these, 103 (41.0%) were eligible for benefits; the rest were ineligible for or already enrolled in all benefits of the BDT screening questionnaire. Of the 103 eligible unenrolled caregivers, 43 (47.4%) successfully completed 85 applications for various benefits, of which 27 were known to be approved, seven denied, and 51 unknown outcome. Among 19

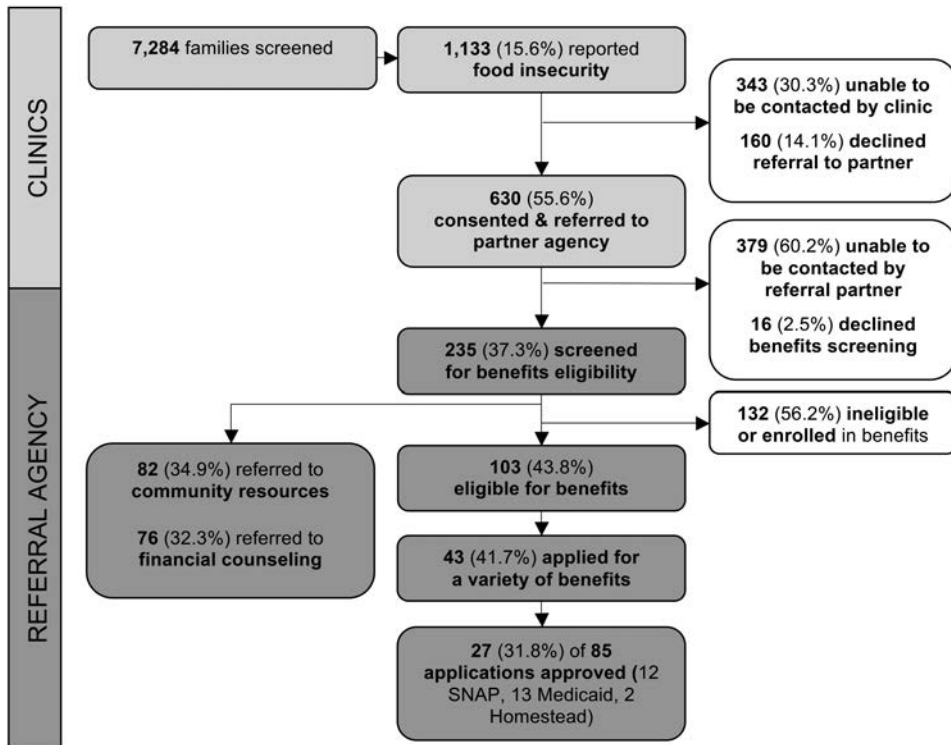


Figure 3. Screening and referral outcomes.

Table 1.**FOOD INSECURITY SCREENING RATES**

	Families Screened N	Families Reporting Food Insecurity N (%)	Reached for Consent ^a N (%)	Consented to Referral ^b N (%)
Self-administered paper screening	1,584	720 (45.5%)	520 (72.2%)	404 (56.1%)
Physician-administered EMR screening	5,700	413 (7.2%)	270 (65.4%)	226 (54.7%)
Total	7,284	1,133 (15.6%)	790 (69.7%)	630 (55.6%)

Notes

^aCaregivers whom clinic staff were able to reach after three phone calls.

^bCaregivers who consented to have their contact information shared with referral agency.

people applying to the Supplemental Nutrition Assistance Program (SNAP), 12 (63%) successfully enrolled.

Qualitative evaluation results. Demographic characteristics of focus group caregivers and hospital staff are included in Table 2. Below we describe perspectives of CHOP staff members and caregivers, who described three facilitators and four barriers in processes of screening and referral (Box 1).

Facilitators to screening and referral. Three factors in facilitating screening and referral processes included trust and care between caregivers and staff, choice of screening method, and assistance in navigating resources.

Trust and care between caregivers and staff. Parents reported that trusting relationships with their children's doctors helped them feel comfortable answering the screening. Caregivers described that when providers acknowledged challenges parents faced and expressed concern for the family's well-being, they were more willing to disclose information. Providers described presenting the screening in a way that might reduce stigma. Physicians described normalizing the screening by emphasizing that questions were asked of all families. Staff administering the paper screening described anticipating and discussing privacy concerns. In the referral process, parents reported that CHOP and BDT staff were helpful and courteous. Caregivers also described the importance of being treated as a "human being" and sensing the "smile through the phone" by the referral agency.

Choice of screening methods. Caregivers were evenly divided on preference for paper or physician screening. Some providers also reported that they suspected families would be more likely to answer honestly on the self-administered paper screening, because it limited interaction between families and staff.

Assisting caregivers in navigating government benefit application centers. For parents who applied for benefits with the assistance of BDT, one of the most helpful features was

Table 2.**INTERVIEW AND FOCUS GROUP PARTICIPANT CHARACTERISTICS**

	N	Mean (Range)
Caregivers (N=19)		
Gender		
Female	18	
Male	1	
Race/Ethnicity		
Black/African-American	17	
Asian	1	
Other	1	
Age		30 (22–38)
Health Care Staff (N=11)		
Gender		
Female	9	
Male	2	
Race/Ethnicity		
Black/African-American	4	
White	5	
Hispanic/Latino	1	
Other	1	
Age		43 (22–63)

avoiding the county assistance offices where public benefits enrollment typically occurs. Many parents described these offices as unhelpful, disrespectful, and dehumanizing.

Barriers to screening and referral. There were four major reported barriers related to these facilitators: complex administration of screening and referral, stigma and privacy concerns, poor communication of referral, and current enrollment or ineligibility for benefits.

Complex administration of screening and referral. Although EMR screening was faster and considered lower burden than paper screening, physicians reported that follow-up conversation following a positive screen could be difficult in the time constraints of well-child visits. Administrative staff members described high administrative burden of paper screening. Another barrier was the IRB requirement of a separate consenting process to share contact information with BDT after families reported food insecurity. This delayed communication, as the protocol required a week-long wait between sending an opt-out letter and consenting by phone. It required two phone calls: one from CHOP to consent and a second from BDT to screen for benefits eligibility. Many families were subsequently lost to follow-up. Caregivers unable to connect with BDT identified challenges such as frequently changing phone numbers, lapses in phone

Box 1.

SELECTED PARTICIPANT QUOTATIONS FOR QUALITATIVE THEMES RELATED TO FACILITATORS AND BARRIERS TO SCREENING AND REFERRAL

Facilitators	Select quotation
Trust and care between caregivers and staff	“My kids’ primary doctor is kind of cool, you know? You sit down and you really talk to her, maybe she can understand and help you.”— <i>Caregiver</i>
Choice of screening methods	“I think there needs to be some self-administered ways to screen for it, and then some also provider[-administered methods]. Because I didn’t get a lot of positive [screens for food insecurity]. And I had to feel there probably were a lot of positives, and people didn’t [feel comfortable answering.]”— <i>Physician</i>
Assisting caregivers in navigating government benefit application centers	“[The government application center caseworkers] treat you like animals . . . If it wasn’t for [the referral agency outreach worker] calling me and telling me everything I had to do . . . I wouldn’t have went back [to apply].”— <i>Caregiver</i>
Barriers	Select quotation
Complex administration of screening and referral	“Especially [for] parents that money is not always upfront, I may not have a phone all the time, or we might not be able to get to a phone. Like, if we’re working parents, you can’t always drop what you’re doing and answer the phone.”— <i>Caregiver</i>
Stigma and privacy concerns	“If we felt like we would get the help without that shame at the end of it, then it would feel less like something you wouldn’t want to do.”— <i>Caregiver</i> “That’s why I said I was skeptical about the [screening and referral] program first of all . . . You can be the topnotch mother of the year, but you made one error and they quickly snatch your child.”— <i>Caregiver</i>
Poor communication about referral process	“[We need to be] making sure we’re being responsible about how [the referral] is presented . . . I mean you want people to have faith in the [clinic], but if [a resource] doesn’t exist at this point we can’t create it.”— <i>Social worker</i>
Families already enrolled in or ineligible for benefits	“I am at the end of the phone call like, okay now what? You said everything [I might be eligible for], and I already said I have it . . . I’m sitting there, [telling them], that’s not going to help me because it’s going to tell me the same thing I’m doing.”— <i>Caregiver</i>

access because of inability to pay, time constraints, and avoiding answering phone calls from unfamiliar numbers.

Stigma and privacy concerns. Providers' delivery of screening questions and ensuing conversation affected caregiver experiences. Caregivers described concerns that admitting food insecurity would signal that they were unfit parents, and described feeling shame about difficulties affording food. Caregivers also described being afraid to admit food hardship because physicians are mandatory reporters of child mistreatment and/or neglect. Providers described recognizing this fear as they tried to put parents at ease. Providers also described sensing concerns related to immigration status that made parents reluctant to fill out a form that was not specifically for the child.

Poor communication. Several physicians and social workers described difficulty understanding the referral process and unfamiliarity with BDT. This hindered their ability to explain it to their patients.

Families already enrolled in or ineligible for benefits. Most caregivers described already either being enrolled in SNAP and other public assistance programs, or knowing they were ineligible because of income or citizenship status. Some who did not connect with BDT reported they did not pursue referral because they did not believe it would be relevant. The majority of focus group participants who connected with BDT reported they were not referred to other resources, although the few caregivers who did described them as helpful. Administrative and clinical staff recognized these limitations, as many of the families told them they were already enrolled in nutrition assistance programs.

Discussion

Results show mixed effectiveness of the food insecurity screening and referral process. One success was the substantial number of families (7,284) screened through provider- and self-administered methods. Caregivers screened via paper screener reported food insecurity at over six times the rate of caregivers screened verbally by their child's physician (45.5% compared with 7.2% respectively). Although this study was not designed to evaluate differences between screening modalities, this finding warrants further investigation. Potential factors include families experiencing greater need choosing to complete paper screening, and under-reporting among families screened by physicians resulting from perceived stigma or fears of child welfare involvement.

Several factors contributed to successful screening processes, including variety of methods customized to the layout and flow of each clinic. The EMR screener, which provided a quick, clear script for physicians to assess food insecurity, facilitated consistent screening. However, focus group feedback and low percentage of positive screens in physician-administered screening suggest that caregivers may not reveal food insecurity in that setting, potentially leading to underestimation. During screening and referral, parents reported that staff who addressed their concerns about confidentiality and potential child welfare involvement were helpful. Given the sensitive nature of benefits screening and financial counseling, it is important to explain how information will be used and protected and introduce more private screening methods, such as tablet devices. The concerns parents described about child protective services indicate that

providers must communicate in ways that generate trust and clearly articulate the goal of offering supports.

Another important challenge to screening and referral is that many food-insecure families are already enrolled in or ineligible for food assistance and other public benefits. Among families contacted by BDT, a majority of families (56%) were unable to apply for any offered benefits because they were already enrolled or ineligible, and over three quarters (79%) of families were already enrolled in SNAP despite screening positive for food insecurity. This reflects findings that SNAP participation is usually an indication of household food insecurity,^{20,21} and corroborates evidence that the SNAP allotment does not reflect the true cost of a healthful diet.^{22,23} Families also reported that even when they received assistance from BDT, barriers in the public systems that administer benefits, including verification requirements, wait times, and perceived mistreatment, hindered their enrollment. Providing immediate referral to community resources, such as food banks, pantries, and low- or no-cost produce programs, may offer more support to families for whom benefits are insufficient.

This study is limited in its generalizability by the localized implementation. The research team was unable to include parents who could not be reached for follow-up or who declined consent to share contact information with BDT, limiting understanding of why families might refuse or be unable to participate in referral.

Conclusion. This evaluation demonstrates the importance of considering the unique contexts of health care settings and the population being served. Given that a significant number of food-insecure families will already be enrolled in the benefits to which they are entitled, pediatricians and other health care providers should be familiar with any available local supplemental food programs and advocate for improvements to nutrition assistance benefits and other supports that promote child well-being.

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