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## A Multidisciplinary Team Experience with Food Insecurity & Failure to Thrive

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## Introduction

Providers caring for young children must continuously monitor children's growth, development, and well-being. Children's health is intimately tied to a host of factors, including their socioeconomic status. For instance, we have a multidisciplinary clinic (the Grow Clinic) at St. Christopher's Hospital for Children in Philadelphia where we evaluate and treat children with failure to thrive (FTT). We have found that parents have difficulty providing a structured eating environment at meals if they cannot afford a high chair, booster seat, or kitchen table. This can significantly impact the amount of food a child consumes. Research has also shown the importance of addressing not only the medical but also the psychosocial needs of our patients.<sup>1,2</sup> Providers are recognizing the importance of addressing the patients' psychosocial as well as medical needs in order to improve their overall health and well-being.<sup>3,4</sup> Many offices screen for psychosocial issues, have a social worker or even have relationships with lawyers to advocate for patient/families (e.g., Medical Legal Partnership). In addition, there is growing interest among psychologists to offer mental and behavioral health services in integrated primary care settings.<sup>5</sup>

While access to food is difficult for many families in the best of economic times, food access has become more challenging for many families in these recent hard economic times. Most people have experienced what is commonly known as hunger or "the uneasy or painful sensation caused by a lack of food."<sup>6</sup> Many of us experience this sensation on a daily basis before a meal or if we skip a meal. However, the more recent definition of hunger reflects economic and social aspects of the home and family. This definition states that hunger is an "involuntary, and recurrent, chronic or prolonged physiological state" due to inadequate access to food.<sup>7,8</sup> This definition of hunger includes families with more persistent resource-constrained hunger and has broader implications for individuals than the transient feeling of hunger. The US Department of Agriculture (USDA) conducts yearly screening for effects of social and economic factors on families and screens for food insecurity (FI) to measure the deprivation of basic food needs by families over a period of time. FI is defined as limited or uncertain access to nutritious, safe foods necessary to lead a healthy life. Families who experience FI have a decreased variety of foods and irregular intake of food.<sup>9-11</sup> The USDA introduced language in 2006 to describe ranges of the severity of FI based on recommendations that a clear distinction be made between FI and hunger.<sup>12</sup> The new labels of FI are "low food insecurity" and "very low food insecurity." Low food security indicates reports of reduced quality, variety, or desirability of diet but little or no reduced food intake. Very low

food security indicates multiple episodes of disrupted eating patterns and reduced intake of food.<sup>12</sup>

Although FI has been linked to greater rates of adult obesity due to the poor quality of food and disordered eating associated with FI,<sup>13,14</sup> it is also likely that FI may contribute to FTT in children. FTT is a condition where children fail to gain an appropriate amount of weight.<sup>15,16</sup> FTT is a multifactorial disease whose primary pathway is inadequate caloric intake. FTT, like FI, has significant long-term consequences for children and adults. The prevalence of FI and FTT are both on the rise, and child providers must not only be aware of each of these issues but also develop a plan for addressing them. This article will provide an overview of FI and FTT in children and describe the multidisciplinary Grow Clinic's approach to treating FTT and attempts to address FI.

### **Epidemiology**

Food insecurity has been increasingly recognized throughout the country. According to the 2010 American Community Survey statistics, 21.6% of children in the US live below the federal poverty line,<sup>17</sup> with 14.5% of families and 20.2% of households with children having FI, according to the USDA.<sup>12</sup> In Pennsylvania, 17.1% of children live in poverty, and an average of 11.8% have FI over the last 3 years.<sup>18</sup> This is a little better than the national rates. However, in Philadelphia, the numbers are astounding. Philadelphia is recognized as the poorest major city in the country,<sup>19</sup> with 26.7% of families living below the federal poverty line. In addition, more than a third of Philadelphia children live in poverty.<sup>19</sup> This is a huge issue for any provider in Philadelphia. US District 1 includes many of the poorest sections of Philadelphia and is the location for St. Christopher's Hospital for Children. Almost half (49.1%) of people in this district had FI in 2010,<sup>20</sup> an increase of nearly 15% in the last year alone. If a provider works with patients from this district, then it will be an issue that impacts them on a daily basis. The reason for such concern is that FI is associated with negative consequences for all ages.

FTT, while not as common as FI, is also of major concern to child providers. FTT was first described in 1897 and has had many medical diseases associated with it.<sup>15,21,22</sup> The classic description divided FTT into organic and nonorganic types<sup>15</sup> based on whether there is a recognizable medical etiology, although the multifactorial basis of FTT has rendered this distinction less useful in recent years. The prevalence of FTT depends on the population. As many as 3% to 10% of outpatient populations have been described with FTT,<sup>21,22</sup> and that number is as high as 30% in some emergency departments.<sup>21,22</sup> FTT typically occurs in children less than 18

months of age,<sup>15,21,22</sup> where it exerts its most problematic effects on the developing brain.

### **Cause and Effects**

Failure to thrive is caused by multiple factors that result in inadequate caloric intake or insufficient usable calories.<sup>15</sup> FTT is defined based on the failure to gain adequate weight but can also affect linear growth (height) or head circumference when it is more pronounced or severe.<sup>15,16</sup> FTT can cause long-term short stature, can affect the immune system, and is associated with a variety of behavioral disorders.<sup>16</sup> The FTT effects of greatest concern are on the developing brain and central nervous system. Studies on FTT have shown significant effects on cognitive and psychomotor development. These effects can be persistent and may cause lifelong disability.<sup>23</sup>

While the extent to which FI may cause FTT is unclear, FI may contribute both directly through inadequate caloric or nutrient intake and indirectly through increased family stress, parental depression, and a chaotic family environment.<sup>24</sup> Children residing in FI households, for example, tend to have poorer quality diets that are characterized by greater consumption of white bread, processed meat, and chips and lower consumption of vegetables. These families also consume fewer micronutrients as FI may lead families to limit the quality of food that they give to their children.<sup>25,26</sup> Food insecure adults also tend to eat fewer fruits and vegetables and have more disordered eating patterns<sup>27</sup> and as such may be poor role models for their children's development of healthy eating habits.

FI is associated with negative consequences for all ages. FI may place children at risk even prior to birth, as mothers with FI are more likely to have children with birth defects such as cleft palate and spina bifida<sup>26,28</sup> and to have children of low birth weight,<sup>29</sup> while pregnant mothers with FI are themselves at risk for obesity, which may further increase the newborn's risk for birth complications.<sup>30</sup>

Infants and toddlers with FI have more frequent illnesses<sup>31</sup> and hospitalization,<sup>32,34</sup> and poorer development<sup>26,35,36</sup> compared to their food secure peers. School-aged children with FI have more emotional and behavioral problems, as well as lower academic performance and poor health.<sup>37-39</sup> Many of these children are afraid of being labeled as "poor" when the family has FI.<sup>40</sup> Teenagers with FI also have more emotional and behavioral problems, as well as worry and anxiety about their family's food supply.<sup>37,40</sup> They have elevated rates of aggression, depression, and

suicide attempts<sup>41</sup> and are more likely to use mental health services compared to their peers.<sup>31</sup>

Adults with FI also have more mental health concerns such as anxiety and depression.<sup>42</sup> Thirty percent of mothers with FI were found to have significant depression or anxiety versus only 16.9% of food secure mothers in one study.<sup>43</sup> In our own clinic population, FI is significantly correlated with parental depressive symptoms ( $r=.40$ ,  $p<.001$ ,  $n=339$ ) on the Center for Epidemiological Studies Depression Scale<sup>44</sup> administered at intake. Parental depressive symptoms may mediate the relation between FI and child adjustment, as depressed parents tend to have greater difficulty with parenting.<sup>45</sup> Similarly, parenting stress may also mediate the relation between FI and child behavior problems.<sup>46</sup> Parental depression may affect parents' energy level, parenting skills, and ability to adhere to treatment recommendations.<sup>47,48</sup> Given that some children with FTT have characteristics of disordered eating, such as excessive liquid intake, extreme pickiness, and/or texture issues that may require close supervision and the ability to effectively manage oppositional behavior while eating, parental depression may contribute to the onset or maintenance of FTT.

### **Grow Clinic Model**

The Grow Clinic is located at St. Christopher's Hospital in Philadelphia and was started in 2005 based on the multidisciplinary nature of FTT, the fact that these children have poorer growth in weight, height, and head circumference, and recognition that earlier intervention leads to potentially better long-term outcomes.<sup>16</sup> The clinic is based on the model developed in Boston and includes a psychologist, social worker, dietitian, and pediatrician. The team evaluates and treats children with FTT and tries to partner with the patient and family to help improve adherence to recommendations and, consequently, growth velocity to get the child back to an appropriate weight.

The multidisciplinary team conducts a comprehensive evaluation of each child/family. Each team member sees the patient/family and administers several screening questionnaires. These include the following: the 3-day food diary to assess quantity and variety of food; an eating behavior inventory to assess mealtime structure, parent and child mealtime behavior, and food refusal; the Child Behavior Checklist<sup>49</sup> to assess children's emotional and behavioral adjustment and to screen for expressive language development; a 6-question food insecurity screen from the USDA; and the Center for Epidemiological Depression Studies Depression Scale.<sup>44</sup> After the team completes its evaluation and the forms

are completed, each patient is discussed in a team meeting. This meeting gives the team an opportunity to assess the family's medical and psychosocial needs, including FI, and to then prioritize the recommendations based on these needs.

Reviewing a case will highlight the multidisciplinary team nature of the Grow Clinic and how such treatment can help patients and their families overcome FTT and FI.

### **Case Study**

AB was a 22-month-old male who was brought in by his mother for evaluation of FTT. AB resided with his parents, who were unmarried high school graduates, and with his grandmother and 9-year-old sister. His father, reportedly, was not concerned about AB's weight, and both he and AB's maternal grandmother did not support AB's mother in the changes that she had attempted to make before coming to the Grow Clinic. AB's family received Temporary Assistance for Needy Families (TANF), food stamps from the Supplemental Nutrition Assistance Program (SNAP), and some food from the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). He was born at 28 weeks gestation with intrauterine growth retardation (IUGR) and had gastroesophageal reflux (GER). He had always been small (<5%) but presented to us after his weight velocity significantly decelerated at around 12 months of age. AB presented with weight and height at 0% and weight/height at 2% and had minimal weight gain from 11 to 19 months of age, at which point he was referred to our clinic. He had global delays, including language (e.g., he said ~10 words) and gross motor skills (e.g., cruising but not walking), signs of dysphagia (e.g., difficulty swallowing), grazing on food and liquids throughout the day, feeding difficulties (e.g., mealtime tantrums causing emesis, poor mealtime structure, and food refusal), and a history of excessive liquid intake. He was receiving early intervention services for speech and feeding therapy at home for several months once a week at the time of intake. His mother screened positive for both depression and food insecurity.

AB did not show any signs of malnutrition and had an unremarkable physical examination. His mother's strengths in feeding AB included maintaining a regular schedule for meals and snacks and offering very little juice or water, which can limit food intake if excessive. The team was very concerned, however, about AB's poor meal and snack structure (e.g., mother would follow AB around their home with food trying to get him to eat; high chair use had stopped because AB would scream when placed in it; AB "grazed" on low-calorie snacks such as cheese curls throughout the day; and TV, a possible distracter, was on at meals), modest solid

food intake (his main sustenance appeared to be 20 to 30 ounces of formula a day), dysphagia, developmental delays, mother's high depression screen, and FI. She endorsed items indicating that "the food I bought just did not last, and I did not have any money to get more," that "I could not afford to eat balanced meals," that "I cut the size of meals or skipped meals because there was not enough money for food," and that the parents ate "less than you felt you should because there was not enough food" sometimes in the past year. Her score of 4 on the 6-question US Household Food Security Survey indicated low food security. The recommendations discussed and written out for AB's mother at the end of the initial visit were: 1) give a high-calorie milk product (Boost) to increase caloric intake; 2) give solids before liquids at meal/snack times to help increase solid food intake; 3) offer 3 meals and only 3 snack times each day (i.e., stop grazing); 4) continue to limit juice and water, which AB's mother had recently started to do; 5) continue Early Intervention services for AB's dysphagia and global delays; and 6) use food access resources (food banks), which were provided after it was confirmed AB's mother was enrolled in WIC and had SNAP benefits for food. It was also recommended that AB's mother get counseling for her depressive symptoms, but she felt too overwhelmed and busy between her homemaking responsibilities to do so at the time. However, the team encouraged her to try to find time for herself, including socializing with friends.

At a follow-up visit 1 month later, AB continued to have poor weight gain, with continued GER, poor structure (<3 meals/day), and worse feeding behaviors and high oral intake of juice and water following a viral illness 2 weeks prior to the visit. The team continued to be concerned about the mother's depression and noted that AB had poor social interactions with his mother and the team members. On a positive note, his mother reported that his father and grandmother were now concerned about his weight and were no longer undermining her efforts to make changes. In addition, AB's father was providing regular breaks for AB's mother to have some time to herself, which she found helpful. AB's mother did report having poor sleep, and the team discussed and gave a handout on sleep hygiene. The team continued the same recommendations but also talked to AB's mother about consistently ignoring AB's increasing tantrums, both in general and at mealtimes. The team also referred AB to Genetics and back to Early Intervention for further evaluation.

For the next 15 months, AB made slow progress in gaining weight. The team continued to discuss techniques with AB's mother to help her manage his behavior, recommended enrolling him in speech therapy, and

continued to encourage her to get counseling to address her depression as well as to attend the clinic support group, which she did once. These discussions continued for a number of visits with some improvement in AB's behaviors. Following the evaluations by Genetics and Early Intervention, AB was formally diagnosed with autism and subsequently enrolled in an appropriate day treatment program to further help manage his behavioral issues and enhance his development. When AB would begin to eat better, however, he tended to get sick, at which point his mother felt "bad" for him and would inadvertently reinforce his tantrums by immediately releasing him from mealtime if he did not initially eat. A feeding observation done at a home visit indicated that AB, who was not using a high chair or booster seat, left his child-size table very soon after being seated. By this time, AB was making good progress eating at the day treatment program, further leading the team to infer that inconsistency in the feeding structure at home was interfering with his food intake at home. AB's mother agreed to start meeting with a psychology graduate student in our clinic outside of her regular Grow Clinic visits with the whole team to further work on improving AB's behavior at meals. During these sessions, AB's mother expressed that she had difficulty setting limits and ignoring AB's tantrums as she felt bad for him because of his autism. AB's mother began to make progress in more consistently using a booster seat, from which AB could not readily leave the table, and in ignoring AB's tantrums both at mealtimes and in general.

At subsequent visits, AB made excellent weight gain as he ate more food at home, albeit of limited variety (e.g., pasta and bananas), and increased his milk intake while gradually decreasing his high-calorie supplement drink (e.g., Boost). At the last visit, which was 26 months post-intake, he exhibited better behavior, improved oral intake, and excellent weight gain. His mother's depressive symptoms were also improved. She did receive increased support from family as AB's father would take AB when he got home, and she may have benefited from the support of our psychology student in working on AB's behavior, as well as that of the clinic team, early intervention personnel, and staff from AB's day treatment program. Family food security also was better, except for a recent incident in which the family lost all of the food in their refrigerator following a post-hurricane electrical outage. They were able to use the resource list we had provided to get extra food. In addition to ensuring that AB's mother had current information about food banks, we also referred her to a new program at our hospital called Farm to Families. This program allows families to obtain produce at a reduced cost and teaches them novel ways of preparing the food. AB's weight at his last visit was at the 16<sup>th</sup> percentile



and his BMI was at the 50 percentile. We graduated him from the program since he had excellent growth and his family had made significant structural changes related to his eating.

This case highlights the multifactorial etiology of FTT and how FI can impact the ability of a family to function effectively. AB's mother generally appeared to have enough food for AB and for her family, but her limited financial resources and tendency to worry appeared to contribute to her poor sleep, depression, and frequent sense of being overwhelmed. Her resulting fatigue, in turn, probably made it difficult for her to make changes in AB's feeding patterns. While most cases of FTT do not involve a child with autism, children with autism or other developmental disorders may be at increased risk for FTT.<sup>50</sup> Nonetheless, in our experience the presence of parental distress, need to establish good mealtime structure, and difficulty in managing challenging mealtime behaviors are common to cases of FTT, regardless of whether the child has autism. The presence of a developmental disorder often necessitates multiple agencies working together to address AB's eating; in such cases, it is critical that the agencies work together and follow a consistent treatment plan, as was done in this case by our clinic social worker. This case also demonstrates many ways that providers, practices, or medical teams can advocate and effectively care for children and their families. Although the exact relationship of FI on FTT is unknown, it is clear that FI and FTT are both associated with poorer physical and mental health. Addressing FI and FTT in the family will help reduce stress, will improve diet and health, and could prevent longer-term morbidity.<sup>16</sup> Based on our experiences, there are many ways the Grow Team feels providers can address FI and FTT.

### **Recommendations to Address FI and FTT**

The most important thing for providers to do to address FI is to begin screening for it, as FI may greatly impact child and family outcomes and influence health and well being.<sup>3,4</sup> Poverty has been shown to be the central determinant of FI,<sup>24</sup> and families who have "transient FI" may be at even greater risk of developmental problems than those with persistent FI.<sup>51</sup> This could be particularly important with the increase in FI during an economic downturn. Mothers have also been shown to compromise their own health and well being to feed their children.<sup>52</sup> As such, health providers should make efforts to identify families with FI as soon as possible to best prevent the negative impact of FI on children's development and their families' health. The positive FI screen for our patient enabled us to provide AB's family with food resources in addition to WIC and SNAP benefits; this made it more likely that his mother could

provide food for AB and the rest of the family and be in a better state of mind to comply with our recommendations.

The 6-question US Household Food Security Survey Module<sup>53</sup> is an effective way to screen for FI in a physician's office. Such screening works particularly well in our multidisciplinary Grow Clinic where we are set up to screen and treat children with FTT and families with FI and other socioeconomic factors that affect children's health and well being. However, it may be difficult for many offices to screen for FI. Since health care professionals have limited time with patients, even a brief 1- and 2-item screen for FI has been shown to have good sensitivity and specificity in identifying families with FI.<sup>54,55</sup> This 2-item questionnaire is now being used to screen for FI in our outpatient clinic. Our hospital-based practice had recognized the importance of screening for FI for a few years but lacked someone to do the screening. We recently collaborated with the National Center for Medical Legal Partnership (MLP).<sup>56</sup> The MLP aims to improve the health and well being of children and their families by partnering with physicians in their offices. A questionnaire is given to every family, and a lawyer is present in the clinic to address positive responses. This collaboration has enabled our practice to consistently screen for and address FI and other socioeconomic issues in our patients. Development of collaborations with organizations like the MLP will further enable practices to effectively screen for FI using any of the forms mentioned above.

In addition to screening for FI, families should also be screened for other factors that can impact FI and FTT. Since FI may cause parental depression<sup>45</sup> and increase nonadherence to treatment recommendations, we screen for parental depressive symptoms in the Grow Clinic and assist in making referrals for further evaluation and treatment. We use the CESD since it is both quick to administer and well validated, but other measures such as the Beck Depression Inventory<sup>57</sup> can be used. Families also may need assistance with other issues such as housing or obtaining items that most of us take for granted, such as a highchair. In these cases, we try to help the family obtain one through a local charity. The MLP also enables us to screen families for issues around housing, health insurance, and heating that can be addressed more effectively by the provider, social worker, or MLP lawyer, if needed.

Providers should screen not only for socioeconomic issues, but child healthcare providers must also monitor children's growth parameters on the Centers for Disease Control (CDC) or World Health Organization (WHO) growth charts to identify children with FTT. It is understood that earlier interventions for children with FTT are more likely to improve

growth and long-term morbidity,<sup>16,21</sup> and it follows that the same is true for FI. Only by screening will we be able to start addressing these important issues more effectively.

For a family who has FI, their access to food affects their ability to provide extra calories for their child and to comply with our recommendations. The easiest way to help these families in the United States is to enroll them in government programs set up to help low-income families. These programs are funded by the US government and have specific enrollment criteria. The Supplemental Nutrition Program for Women, Infants, and Children, which is more commonly known as the WIC Program, and the Supplemental Nutrition Assistance Program, commonly called the SNAP program or food stamps, are the best ways to provide a consistent nutritious food supply for our families. The WIC program aims to safeguard the health of low-income pregnant women, breastfeeding mothers, and mothers of children less than 5 years old by providing nutritious foods to supplement diets, nutritional education, and support for families.<sup>58</sup> Participation in the WIC program is associated with decreased FI.<sup>59</sup> The SNAP program provides assistance for low-income families to put food on their tables,<sup>60</sup> and participation in this program has been shown to reduce the negative effects of FI on children's health and the number of hospitalizations.<sup>34</sup> However, the enrollment process can be difficult, particularly for families who have low literacy or who are immigrants, since immigrant families were found to be 2.45 times more likely to have FI.<sup>32</sup> Assisting their enrollment is a very effective way to help families with FI. Our clinic social worker and MLP staff are able to assist families who screen positive for any of these issues.

Another way to help families with FI who have school-aged children is the National School Lunch Program (NSLP). This program was started by President Truman in 1948 and provides reduced price or free lunches and snacks for eligible children up to 18 years old.<sup>61</sup> Participating schools provide nutritious food and snacks to eligible children based on their families' income. This is felt to be a successful program, but some children may not participate in the program because they do not know about the program or they may be embarrassed about their family's socioeconomic status. In order to improve participation in the Philadelphia School District's program, the City of Philadelphia created a Universal Feeding Program in order to help streamline the counting and distribution of meals served to impoverished children in the city.<sup>62</sup> The Philadelphia School District determines if a high percentage of impoverished students attends each school. If enough children are identified at the school, then the entire school receives free meals. This innovative method has reduced the cost

of providing meals, removed the stigma of applying for the meals for the children at those schools, and increased participation in the NSLP. Innovative programs like this could be used in other large cities. The City of Philadelphia has also worked with the USDA to create a program called the Summer Food Service Program to improve nutrition gaps in the summertime by serving breakfast and lunches at community organizations like local recreation centers, camps, and parks throughout the city.<sup>63</sup> This is another way to fill the nutrition gap of needy families. The NSLP is an excellent way to ensure that children and families with FI get proper meals. Innovative strategies like the Universal Feeding Program and Summer Food Service Program should increase food access for eligible children and families.

Many of our families, however, already receive WIC and SNAP benefits and are still struggling to provide food for their family. There are many ways to help these families as well. There are emergency food resources in every community. In Philadelphia, Philabundance<sup>64</sup> is the largest distributor of food to needy families in the region. In addition, the SHARE warehouse<sup>65</sup> is an organization engaged in food distribution, education, and advocacy. Our clinic has compiled a list of these resources with food pantries and local soup kitchens to provide for our families. This has become particularly important given the recent economic downturn, in which more families have FI, and given that we are identifying more families with FI since we started screening in our outpatient clinic. Local food distribution programs can bridge the gap from what the WIC and SNAP programs provide to what the many struggling families, who may not qualify for WIC or SNAP benefits, need to provide regular meals for their family.

In addition to providing resources for emergency food, we have tried to improve access to fresh produce. The cost of fresh fruits and vegetables has excessively increased relative to food costs in general. As a result, our community is located in what has been called a “food desert,” where there is poor access to fresh healthy foods.<sup>66</sup> Carbohydrate-dense but nutrient-poor foods like juice or French fries are much cheaper to purchase. We have partnered with St. Christopher’s Foundation for Children to begin a program called Farm to Families at our hospital.<sup>67</sup> This program aims to improve access to healthy food and make it more affordable for families in North Philadelphia neighborhoods. Families can purchase discounted weekly boxes of fresh fruits and vegetables with their SNAP benefits or cash. A unique aspect of this program begun at our hospital is that physicians and providers can write a prescription for the

boxes of food. The fact that their provider recommends the program to the family and provides them with a prescription that also gives them an additional \$5 off their order has been well received by many families. Since many families do not cook with fresh food much, a dietitian is also present at each distribution day to educate families about cooking and storage of fresh foods. Weekly recipes are also distributed to families for the foods in the boxes. As participation has grown, we have moved from biweekly to weekly distribution and expect enrollment to expand. We have also worked with our Department of Public Health to start another program called Healthy Carts.<sup>68</sup> This program uses a mobile food cart to sell fruits and vegetables in low-income neighborhoods such as ours. Vendors receive business training, licensing fee waivers, and marketing assistance before beginning operation. We have located the vendor in our hospital lobby where the stand is highly visible to staff and families. Staff and families use the cart to purchase fresh produce for snacks or use in their home. This has been a very successful initiative in the few months since we started. We are exploring ways for providers to use prescriptions for the food cart and reaching out to departments to develop other ways to expand and sustain the program.

Once it is determined that a child or family has FI or FTT, it is important for the provider to address the issue with the family. For children with FTT, an accurate history and complete physical examination are the critical components of determining the etiology. The common pathway is inadequate calories, but the key to an effective treatment plan is making specific recommendations about children's diet and mealtime structure. For example, the amount of juice or water a child consumes is important. Juice is filled with sugar, which is associated with extremes in weight in toddlers,<sup>69,70</sup> and provides no benefit to the child who eats some fruits and vegetables. We have found that just adding a high-calorie drink (e.g., Pediasure) is a stop-gap measure that usually does not result in improved weight gain without also limiting the amount of juice and water a child consumes. Recommendations should specifically address the medical needs, the need to cut back on juice and water, as well as ways to provide more calories for the child.

Families of children with FTT, as described above, often have many psychosocial issues that may hamper efforts to improve weight gain. Due to the long-term effects of FTT on the developing child and the need to manage the medical needs of these children, monitor their weight closely, and help change their feeding behaviors or their families' behaviors around feeding, families of children with FTT may benefit from frequent follow up. The Grow Clinic follows children at 1- to 3-month intervals

based on the number and severity of issues around food, family, and feeding. The social worker has also run monthly parent support groups for our families. Such topics as how to manage behavioral problems, how to introduce new foods, and how to deal with a picky eater are popular with the parents. Community organizations have also been invited to give workshops at these meetings. A unique aspect of our team is the ability to perform home visits to families in more severely involved or complicated cases. These visits always provide insights that were not fully appreciated, even with our multidisciplinary approach. The Grow Clinic has also developed criteria for providers to use at our hospital and the community to refer for evaluation of problem cases.

Many people in our hospital community were moved by the huge increases in FI in our region. For individuals or organizations interested in helping to address hunger, FI, and FTT in their community, there are many opportunities to help. First, you can organize a food drive to collect food for the local food distributors like Philabundance. Food drives for organizations like Philabundance are a critical way for them to get some types of food to distribute. The nursing Magnet Committee at the hospital has used its organization throughout the hospital to sponsor semiannual food drives. Second, meals can be distributed. Our hospital, St. Christopher's Hospital for Children, had its second annual Thanksgiving turkey dinner drive this fall. The staff and faculty volunteered to collect money and distribute the turkeys and dinner supplies and gave money to provide Thanksgiving meals for over 250 families in each of the past 2 years. The amount of support for both of these initiatives has been humbling. People very much wanted to help families in need in our community, and these events mobilized the hospital's efforts in a productive way. These efforts gave many families food, but more importantly also helped reduce the stigma of FI at our institution.

These drives have been successful, but it could be argued that these initiatives only address the acute hunger needs of a community. Although they are essential components to help reduce the burden of hunger, it is very important to advocate for successful programs like WIC and SNAP on a local and national level. These programs have the greatest reach of any of the programs we have mentioned and may do the greatest good. Providers should also consider advocating at the state or national levels for these programs. This may seem like an arduous process, but many local organizations make this process easier using prewritten letters linked online to your state and national representatives. Once people are educated about FI and its effects, they may be more willing to advocate for the cause.

Finally, there are many ways that hospitals can deal with FI in their community. FI has been very well documented throughout the US in recent years, and there is sentiment that large organizations or an agency should take the lead in reducing FI.<sup>71</sup> Hospitals are situated to address some of the effects of hunger by treating any patient who comes through their doors. These include emergency department visits but also access to sick and well care clinics at the hospital. The effects of hunger are often seen during these visits. However, hospitals are uniquely positioned to take other steps to reduce or eliminate hunger in their communities. Project Bread was started in Massachusetts and provides a blueprint to encourage hospitals and organizations to get involved in addressing hunger and FI.<sup>72</sup> Hospitals have a unique opportunity to educate. Hospitals can reduce the stigma of food insecurity by educating all of the staff and faculty. We did this during our food drives by engaging the faculty and staff in a hospital-wide event. People donated money or volunteered to collect and distribute the food, but in doing so they also learned a tremendous amount about FI. We reduced the stigma of FI, and the events helped us mobilize other efforts to reduce the effects of FI in our community. Hospitals should also find ways to educate their trainees about FI and develop ways to help affected families. These efforts will likely have effects far beyond the hospital, as trainees take the knowledge and skills about FI into the broader community.

In addition to educating people, hospitals need to find ways to screen for FI in families using the 2-item FI questionnaire or begin a program like the MLP. Then, hospitals can provide emergency food resources or enroll families to receive WIC or SNAP benefits if needed. These efforts will go a long way to reducing resource- constrained hunger or FI. The initiatives that have been started at St. Christopher's Hospital for Children are proving successful. Screening and providing resources to families has helped our practice become more of a medical home—or truly being more patient-centered. These are important issues in primary care today. In addition, we have also started the Farm to Families and Food Cart programs to improve access to affordable, fresh, healthy foods for our families. These initiatives have been embraced by faculty and staff, as well as the hospital CEO. There are ongoing discussions about how we can expand these initiatives at the hospital. Finally, the City of Philadelphia is collaborating with community organizations like the Center for Hunger-Free Communities<sup>73</sup> to develop and promote this hunger-free hospital concept citywide. It is understood that developing infrastructure at the state level to help families with FI has proven beneficial for vulnerable families, particularly those whose income is above the federal poverty

line.<sup>74</sup> We hope we can take some of the initial successes and use them throughout the region. Each hospital and community has a different structure and forces driving its mission, but there is plenty of room for creativity and initiatives to develop a unique strategy for your hospital and community.

### **Summary**

FI is becoming more prevalent in the US in recent years. It has significant short- and longer-term effects on the child and family and should be screened for in providers' offices. FI undermines children and their families' ability to function, and it may contribute to overall family dysfunction. Also, FI may be associated with FTT, although more research is needed to better define the relationship between FI and FTT. Families should be screened for FI and then provided resources to reduce the burden of FI as needed. For children with FTT, a thorough evaluation should be done; treatment with close follow up is imperative. A multidisciplinary team approach has also proven beneficial for children with FI and FTT. There are many ways for individuals and communities to help reduce the effects of FI on both individuals and their communities. Finally, hospitals are uniquely positioned to address FI and FTT in a multitude of ways that could significantly reduce or eliminate FI from their community.



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