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Food Insecurity Screening in People with Cystic Fibrosis

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Background

Adequate nutrition is a cornerstone in the management of cystic fibrosis (CF). Malabsorption secondary to pancreatic insufficiency and increased energy demands related to lung disease, can increase energy requirements over twofold for a person with CF. Food insecurity (FI) affects approximately 10% of Mainers (1). Per the Cystic Fibrosis Foundation, there may be up to a threefold increase in the prevalence of food insecurity in the CF population (2). To address this issue we implemented FI screening in the adult and pediatric CF programs to identify the prevalence of FI within our population and to offer immediate interventions.

Methods

Each patient was screened using the Hunger Vital Signs™ (HVS), a validated tool embedded into MaineHealth's electronic medical record. Given the unique nutritional needs of the CF population, three CF-specific questions were added to the tool in effort to better identify people experiencing FI.

In order to provide immediate, short-term interventions to those who screened positive, our team partnered with the Good Shepherd Food Bank to offer food bags containing 6-8 pounds of non-perishable food items. Through grant funding, grocery store cards were also provided. Finally, a referral to the Patient Assistance Line (PAL) and a list of local food pantries by county of residence were offered.

Hunger Vital Signs

Question 1: Within the past 12 months, you worried whether your food would run out before you got the money to buy more?

Question 2: Within the past 12 months, the food you bought just didn't last and you didn't have money to get more?

CF Specific Questions

Question 3: Since your last visit did you skip any medications so that you had enough money to buy food?

Question 4: Since your last visit have you had to skip taking any nutrition supplements (Boost, Ensure, Pediasure, etc) recommend by your care team because you could not afford them?

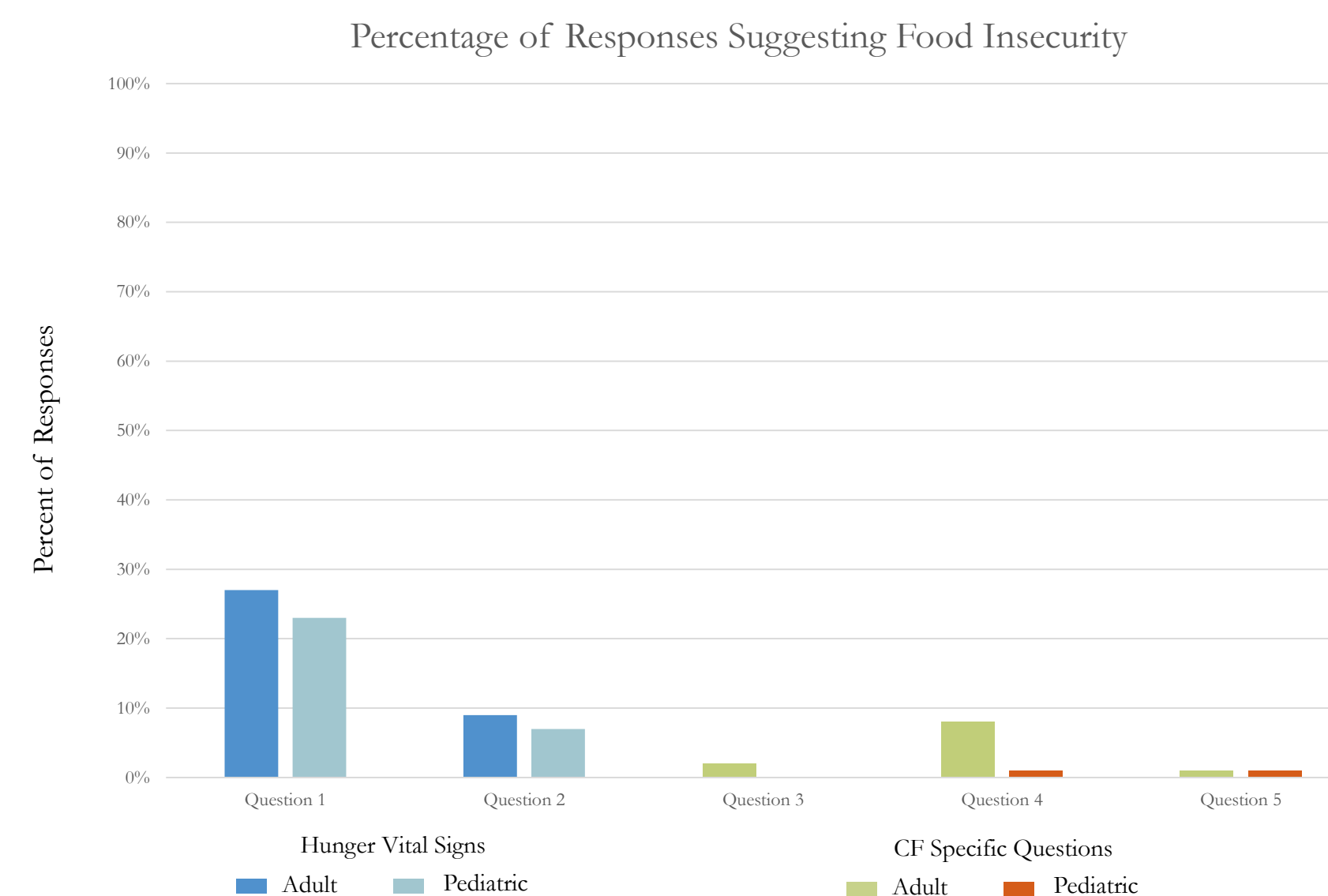
Question 5: Do you have access to a grocery store that has fresh fruits and vegetables within 30 minutes of your home?

Results

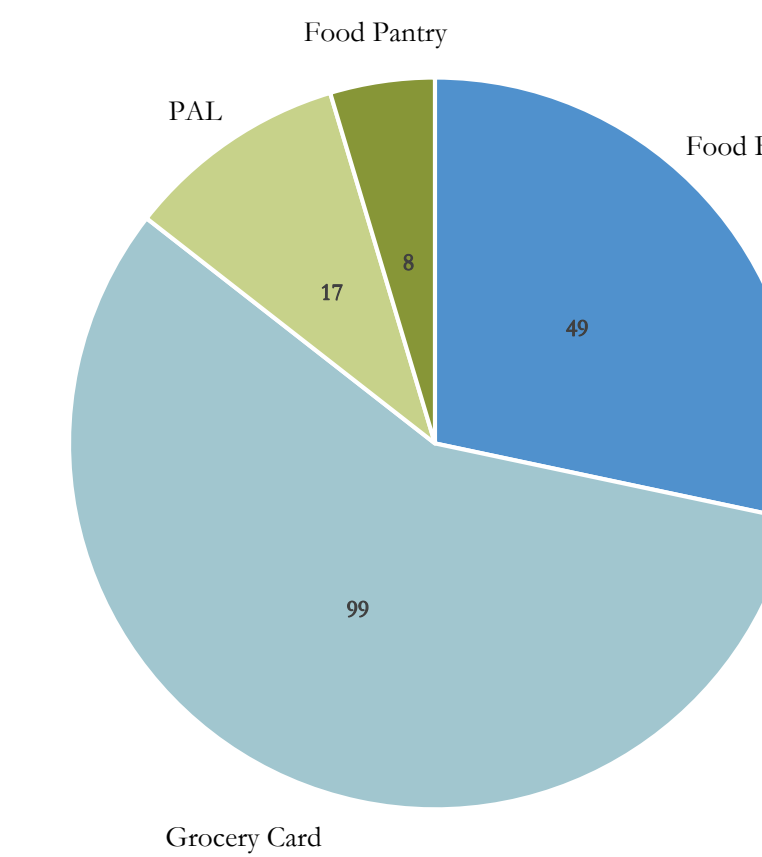
Screening at each clinic visit started in March, 2022 and is currently ongoing. Of 232 and 315 eligible encounters, 203 (87%) and 265 (84%) screenings were completed for children and adults with CF, respectively. Twenty-one (10%) pediatric screenings and 85 (32%) adult screenings were positive for FI. The CF-specific questions identified FI in 2 (1%) children and 8 (3%) adults that the HVS did not identify.

	Pediatric (n=203)	Adult (n=265)
Total positive screens (%)	21 (10)	85 (32)
Total positive patients	13	52
Hunger Vital Signs (% indicating FI)		
Question 1	19 (9)	72 (27)
Question 2	14 (7)	60 (23)
CF Specific Questions (% indication FI)		
Question 3	1 (0)	4 (2)
Question 4	2 (1)	21 (8)
Question 5	2 (1)	2 (1)
Interventions		
Food Bag	16	33
Grocery Card	18	81
PAL Referral	3	14
Pantries	3	5

Food insecurity was identified during 32% and 10% of clinic visits in adults and children with cystic fibrosis



Interventions Provided – Adult and Pediatric Programs Combined



Food Bag: 6-8 pounds (3 days worth) of non-perishable food obtained through the Good Shepherd Food Bank (rice, peanut butter, canned tuna/chicken, dehydrated soup, apple sauce, oatmeal)

Grocery Card: \$25-\$75 gift cards funded through various CF specific grants

Patient Assistance Line: Referral to the MaineHealth PAL which offers assistance with housing, heating, food, etc...

Food Pantry: List of food pantries and other community food resources in the county of residence

Conclusion

In the pediatric program, the FI rate was equivalent to that in the State of Maine. Notably, in the adult program, the FI rate was three times the rate of the general population in Maine, in line with the prevalence reported in the national CF population. CF-specific questions identified additional patients with FI during screening compared to HVS alone and are worthy of more investigation, specifically in adults.

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