Social Determinants Come to the Hospital: A QI-Initiative to Address Food Insecurity on an Inpatient Pediatric Unit

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Introduction: Food Insecurity

"The limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways."[1]

- Social determinants of health can determine a child's physical, social, and emotional capabilities and provide a foundation for a child's health and well-being[2]
- Food Insecurity (FI) is associated with medical conditions e.g. asthma, obesity[3]
- 2015 AAP policy statement: pediatricians should engage in efforts to mitigate food insecurity at the practice and system level[3]

Why Now, Why Us?

Pandemic-related exacerbation of food insecurity:

- Loss of access to national School Lunch Program (NSLP) and School Breakfast Program (SBP)5
- Rise in unemployment5
- Supply chain disruption → increasing food costs5

Hospitalization of children may be only point of contact with health care system

Aim Statement

We will implement universal screening for food insecurity of all children admitted to Lehigh Valley Reilly Children's Hospital inpatient pediatric unit using the AAP's validated 2-step questionnaire "Hunger Vital Signs" and we will intervene with resources dependent on acuity of need for those families that screen positive.

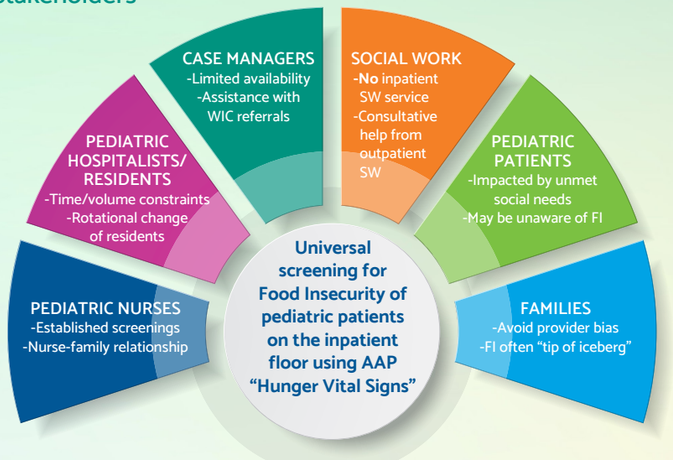
Use the AAP-recommended Hunger Vital Sign[4]:

1. **"Within the past 12 months, we worried whether our food would run out before we got money to buy more."**
   ☐ OFTEN TRUE ☐ SOMETIMES TRUE ☐ NEVER TRUE ☐ DON'T KNOW/REFUSED
2. **"Within the past 12 months, the food we bought just didn't last and we didn't have money to get more."**
   ☐ OFTEN TRUE ☐ SOMETIMES TRUE ☐ NEVER TRUE ☐ DON'T KNOW/REFUSED

*Patients screen positive for food insecurity if the response is **"often true"** or **"sometimes true"** for either or both statements.*

Document and code the administration and results of screening in medical records.

Stakeholders



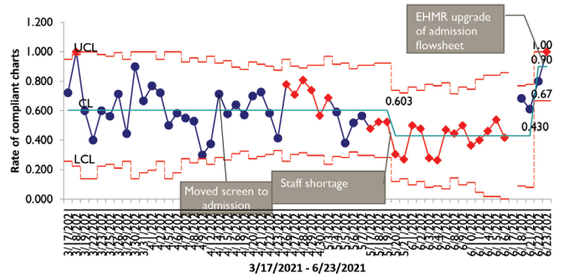
INPATIENT PEDIATRIC FLOOR:
Open med-surg floor
Ages 0-21 yo, approx. 4,000 encounters/year

Process Map

PDSA Cycles

Cycle No.	Description
1	"Hunger Vital Signs" asked by nurses after rapport established with patient family on shift after admission, documentation with "smartphrase"
2	Screening was moved to time of admission due to observed poor compliance later in the hospital course
3	A 3rd question was added to the HVS to streamline assessment of acuity of need and interventions
4	"Hunger Vital Signs" and 3rd question embedded in the EHMR nursing intake flowsheet

Control Chart



Results

- From March 2021 to June 2021, 506/1041 (49%) patients were screened for FI
- 44 (8.6%) patients screened positive
- Screening rate was adversely affected by nursing staff shortage
- Screening rate improved after EHMR upgrade with embedded HVS in intake flowsheet
- Retrospective analysis of demographics of food insecure families

Ethnicity	Residence	Insurance Status
Hispanic/Latino: 53% (vs 28% in all pediatric visits)	Urban: 73%	Public: 81%
Non-Hispanic/Latino: 47%	Suburban: 14%	Private: 19%
	Rural: 12%	

- Food insecure patients have a wide range of BMI and hospital diagnoses

Conclusions and Next Steps

- High level of nurse engagement speaks to perceived importance of FI screening (Screening rate of 60% at initiation)
- Screening process was vulnerable to nursing workload
- Analysis supports food insecurity as an "invisible" SDOH and need for universal screening
- Open questions
  - Unclear if interventions are impactful
  - Family perspective
  - Recovery from pandemic

REFERENCES

1. Life Sciences Research Office, S.A. Andersen, ed., "Core Indicators of Nutritional State for Difficult to Sample Populations," The Journal of Nutrition 120:1557S-1600S, 1990.
2. Screening Children for Social Determinants of Health: A Systematic Review Rebeccah Sokol, Anna Austin, Caroline Chandler, Elizabeth Byrum, Jessica Bousquette, Christiana Lancaster, Ginna Doss, Andrea Dotson, Venera Urbaeva, Bhavna Singichetti, Kanisha Brevard, SarahTowner Wright, Paul Lanier, Meghan Shanahan Pediatrics Oct 2019, 144 (4) e20191622; DOI: 10.1542/peds.2019-1622
3. Promoting Food Security for All Children COUNCIL ON COMMUNITY PEDIATRICS, COMMITTEE ON NUTRITION Pediatrics Nov 2015, 136 (5) e1431-e1438; DOI: 10.1542/peds.2015-3301
4. U.S. Department of Agriculture, Economic Research Service. Food Security in the U.S.: Measurement. (2016, December). Retrieved from https://www.ers.usda.gov/topics/foodnutrition-assistance/food-security-in-the-us/measurement/.
5. Addressing Pandemic-Intensified Food Insecurity Rebecca L. Hetrick, Ovini D. Rodrigo, Claire E. Bocchini Pediatrics Oct 2020, 146 (4) e2020006924; DOI: 10.1542/peds.2020-006924
6. Ashbrook, A., Essel, K., Montez, K., & Bennett-Tejes, D. (2021, January). Screen and intervene - food research & action center. Screen and Intervene: A Toolkit for Pediatricians to Address Food Insecurity. Retrieved October 3, 2021, from https://frac.org/wp-content/uploads/FRAC_AAP_Toolkit_2021.pdf.

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