

# The Hunger Vital Sign™:

*Best Practices for Food Insecurity Screening in  
Clinical Settings*

By Rebecca Rottapel, MS, MPH

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CHILDREN'S  
HealthWatch  
[www.childrenshealthwatch.org](http://www.childrenshealthwatch.org)



**Tufts**  
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# The Problem: Food Insecurity

*A food secure household has access, at all times, to enough food for an active, healthy life for all household members.*

*-USDA definition*

-15% of American households or 52 million individuals

-Food insecurity is a social determinant of health

-The healthcare system is largely blind to food insecurity



Source: Flickr, Creative Commons



# A Solution...

*...SCREEN AND INTERVENE*

Make the invisible health issue of food insecurity visible by screening for food security in clinical settings



# The Hunger Vital Sign™

## A validated 2-question food insecurity screening tool:

- 97% sensitivity and 83% specificity compared to gold standard

*“ Within the past 12 months we **worried** whether our food would run out before we got money to buy more.”*

*“Within the past 12 months the food we **bought** just didn't last and we didn't have money to get more.”*

Answer options: often true/sometimes true (vs. never true)

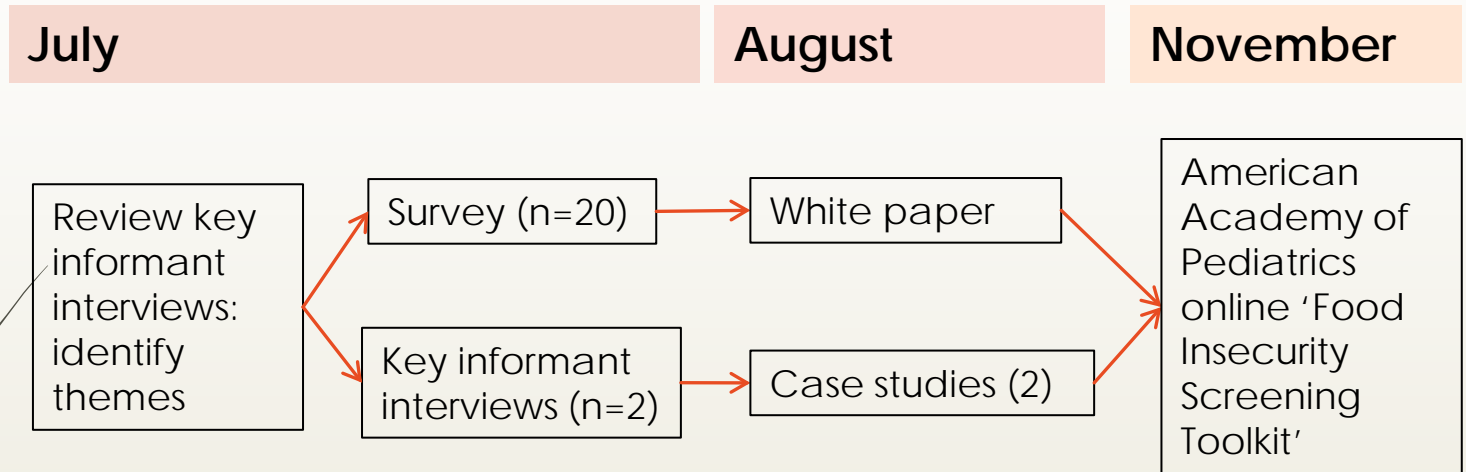
Source: <http://www.childrenshealthwatch.org/public-policy/hunger-vital-sign/>



## PROJECT AIM:

Identify and promote best practices for screening and intervening in food insecurity using *The Hunger Vital Sign*<sup>TM</sup>

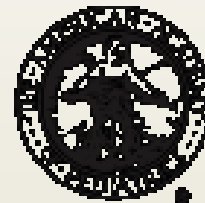
# Methods



# Organization and Partners



American Academy  
of Pediatrics



DEDICATED TO THE HEALTH OF ALL CHILDREN™



# Case Studies:

## Boston Medical Center in partnership with the Greater Boston Food Bank

Children's HealthWatch *Hunger Vital Sign™* Case Study #2    Children's HealthWatch *Hunger Vital Sign™* Case Study #2    Children's HealthWatch *Hunger Vital Sign™* Case Study #2    Children's HealthWatch *Hunger Vital Sign™* Case Study #2

### Why did you begin screening for food insecurity?



Clinicians in the pediatric Crow Clinic at Boston Medical Center (BMC) were looking for ways to help their underweight patients. Research findings showed that many very young children and their families at the clinic were food insecure. It became a priority to help patients access adequate nutrition during the critical period of growth. To accurately identify food insecure patients, pediatricians began using the Hunger Vital Sign™, a validated 2 question food insecurity screening tool. Over time, other departments throughout the hospital have begun to screen and intervene.

The Hunger Vital Sign™ identifies individuals and families as being at risk for food insecurity if they answer that either or both of the following two statements is "often true" or "sometimes true" (vs. "never true")

- "Within the past 12 months we worried whether our food would run out before we got money to buy more."
- "Within the past 12 months the food we bought just didn't last and we didn't have money to get more."



### Quick Facts

Boston Medical Center (BMC) in partnership with The Greater Boston Food Bank (GBFB)

- Boston, MA
- BMC is the largest safety net hospital and busiest trauma and emergency services center in New England
- In 2012, BMC became the first hospital in the country to open an on-site food pantry in partnership with the GBFB
- Incorporated the Hunger Vital Sign™ into the electronic health records system
- On-site preventive food pantry supplies 70,000 lbs of food annually, serving 7,000 individuals each month
- On-site WIC, SNAP and on-site SNAP application assistance
- 1/3 of patients served are children

### Raising a sensitive subject...

Food insecurity and other social determinants of health (e.g., safe housing, access to health care services, transportation, residential segregation) are often stigmatized and not openly discussed in our society. Clinicians may be concerned about their patients' status, but not know how to ask about it appropriately and compassionately. BMC has given great attention to this challenge and developed a social determinants of health training curriculum for their pediatric medical residents.

Residents develop the skills and understanding necessary to communicate with patients about medically relevant social hardships. They are trained to use "normative phrasing" to help patients feel comfortable to communicate honestly.



### Screening for Food Insecurity

Health care providers at BMC are able to screen their patients, record their food security status, and document their progress through the hospital's electronic health records system. Currently, the primary care department is the largest referral source to BMC's on-site preventive food pantry. Referrals from primary care may help an overweight food insecure adult gain access to fresh vegetables and an underweight child access the calories and nutrition they need to thrive.

"I want to make sure I can take care of you and you should know, we actually have a food pantry on-site. In the past 12 months, did you worry whether your food would run out before you got money to buy more? Or did the food you buy just not last and you didn't have money to get more?"

Example of normative phrasing (BMC training curriculum)

### Intervening in Food Insecurity

The intervention process had humble beginnings. Deperate to help her food insecure patients, BMC pediatrician and founder of the pediatric Crow Clinic, Dr. Deborah Frank started the "food pantry" from her desk drawer, keeping a stash of canned vegetables on hand for young families who needed it most. Over time, this operation grew and would develop into the hospital-wide food pantry. BMC's award-winning on-site Preventive Food Pantry was built 19 years ago. It helps fill a therapeutic gap by providing food prescriptions for patients.

Food pantry staff speak multiple languages, allowing them to serve the many immigrant and refugee patients they encounter. The pantry holds up to 600 fresh food products; all the food is supplied by BMC's strong partner: The Greater Boston Food Bank.

"WE WANT PATIENTS WHO FEEL SHAME TO KNOW THAT FOOD IS PART OF THEIR MEDICAL CARE AND WE ARE HERE TO PROVIDE IT."

Leticia M. Hall, D.T.M., Preventive Food Pantry Manager

### REFERRALS TO THE BMC PREVENTIVE FOOD PANTRY:

- INTERVENTION STEPS
1. patient who screens positively for food insecurity...
  1. Receives an referral for food prescription
  2. May immediately pick-up the prescription at on-site pantry
  3. Receives food that meets their health needs and tastes
  4. A diabetic patient will receive low-sugar foods
  5. An under-weight patient will receive higher-calorie foods
  6. Receives enough food for themselves and their household for 3-4 days
  7. May refill prescription every 2 weeks for 1 year (with renewal if needed)

### Keys to success

- Integrating nutritional resources into the hospital setting:
  - In addition to a Preventive Food Pantry, BMC has several on-site nutrition resources
    - Demonstration kitchen
    - WIC office
    - SNAP application assistance
  - Physician refer patients to the social work department
- Setting big goals with strong institutional support:
  - The Vice President of Mission, Thea James, has set a zero quality improvement goal to screen every patient that walks through the doors at BMC.
- Moving the needle on related policy
  - Researchers and physicians at BMC are working to make screening for social determinants of health a national performance measure for hospitals that receive Medicare and Medicaid funding.

About Children's HealthWatch: Children's HealthWatch is a nonpartisan network of pediatricians, public health researchers, and children's health and policy experts. Our network is committed to improving children's health in America. We do that by first collecting data in urban hospitals across the country on infants and toddlers from families living in extreme hardship. We then analyze and share our findings with academics, legislators, and the public. These efforts help inform public policies and practices that can give all children equal opportunities for healthy, successful lives.

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# Case Studies:

## BMC's Preventative Food Pantry

### Intervention steps:

1. Screen positively
2. Receive e-referral for food prescription
3. Pick up 3-4 days of food for household every two weeks



*"We want patients who feel shame to know that food is part of their medical care and we are here to provide it."*

-Latchman Hiralall, Preventive Food Pantry Manager



Source: <http://www.bmc.org/nutritionresourcecenter/foodpantry.htm>



# Survey: Results and Discussion

- Survey sample and generalizability
- Verbal vs. written screening
- Diverse approaches
- Factors that contribute to success
- Challenging factors

# Survey: Results and Discussion

*Survey sample and generalizability*

**Table 1: Demographics of survey respondents.**

Category	Count	Percent (%)
Total Responses	20	100
Out-patient clinic	5	26
Healthcare network	2	10.5
Food bank	4	21
Nutrition organization	2	10.5
Other	6	32
Northeast	8	42
Southeast	3	16
Midwest	7	37
Southwest	6	32
Northwest	4	21
Rural	1	6
Urban	12	75
Suburban	3	19
Size (# of patients served annually)	1,300 - 1,300,000	
Low socio-economic status	15	83
Med socio-economic status	1	6
High socio-economic status	1	6



# Survey: Results and Discussion

- ▶ Survey sample and generalizability
  - ▶ *50% response rate*
  - ▶ *Professionally diverse*
  - ▶ *Geographically diverse*
  - ▶ *More investigation of rural context needed*
- ▶ Verbal vs. written screening
  - ▶ *Majority screening verbally*
  - ▶ *More research to determine if there are differential response rates when screening verbally compared to written*
- ▶ Diverse approaches
- ▶ Factors that contribute to success
- ▶ Challenging factors



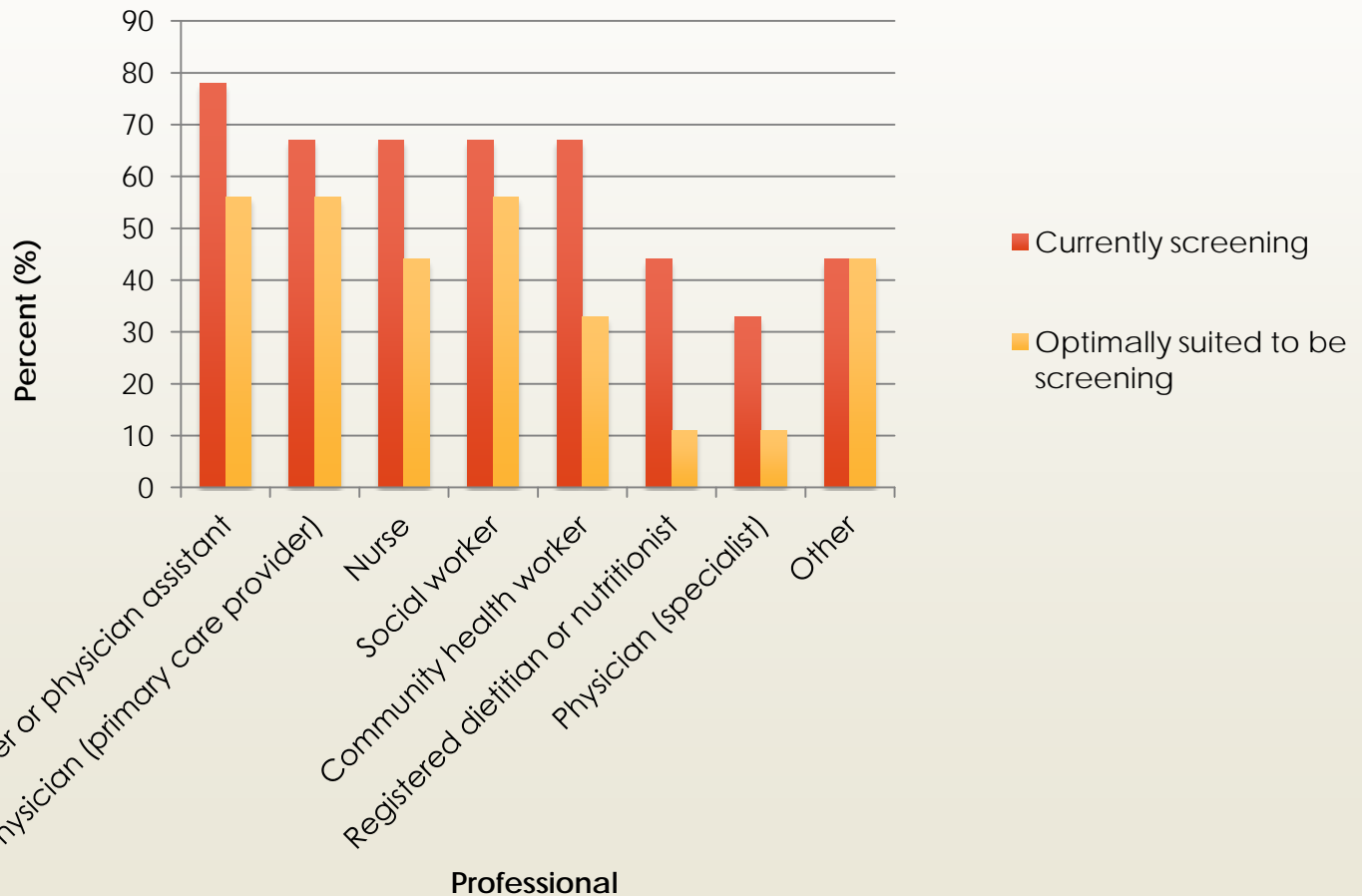
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- ▶ Diverse approaches
  - ▶ *Some screen all patients, others screen subgroups*
  - ▶ *Many professionals are suited for screening*
  - ▶ *Many professionals are suited for intervening*
- ▶ Factors that contribute to success
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# Survey: Results and Discussion

*Diverse approaches to screening*

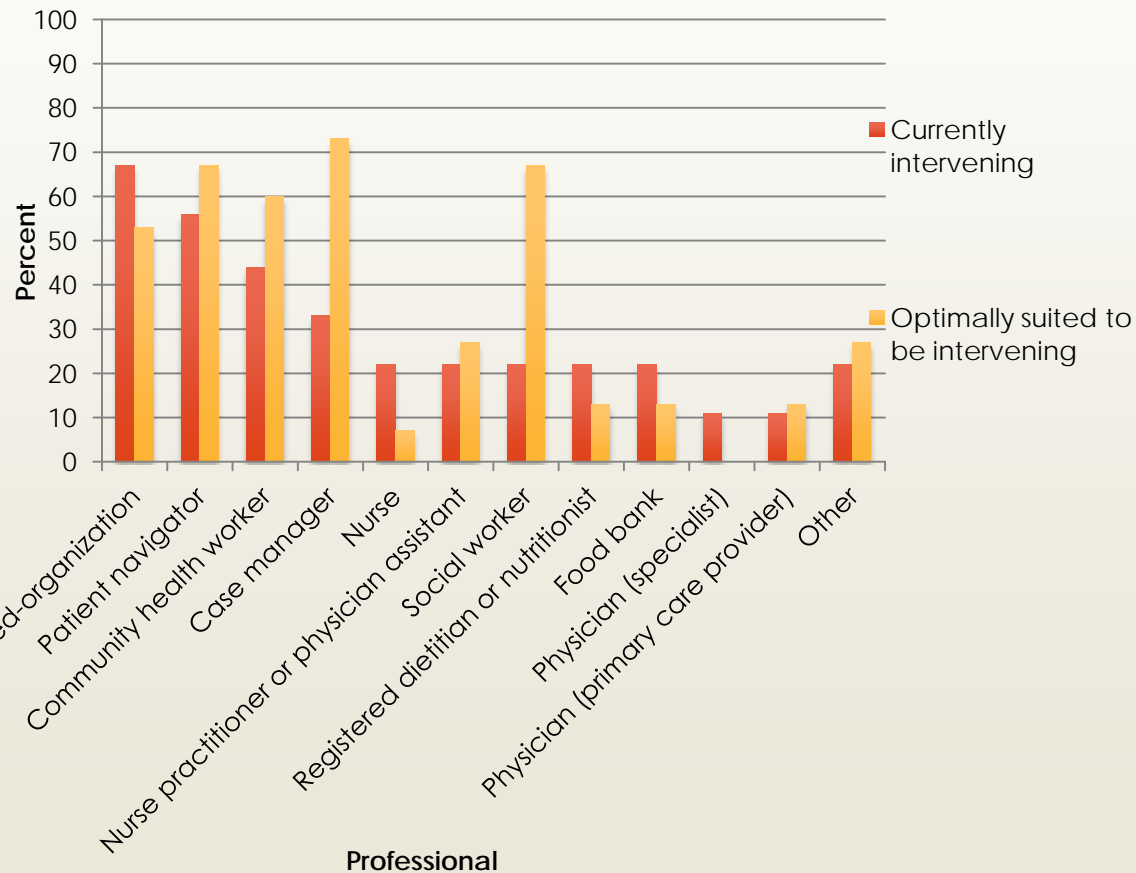
The role of health professionals in screening for food insecurity



# Survey: Results and Discussion

*Diverse approaches to intervening*

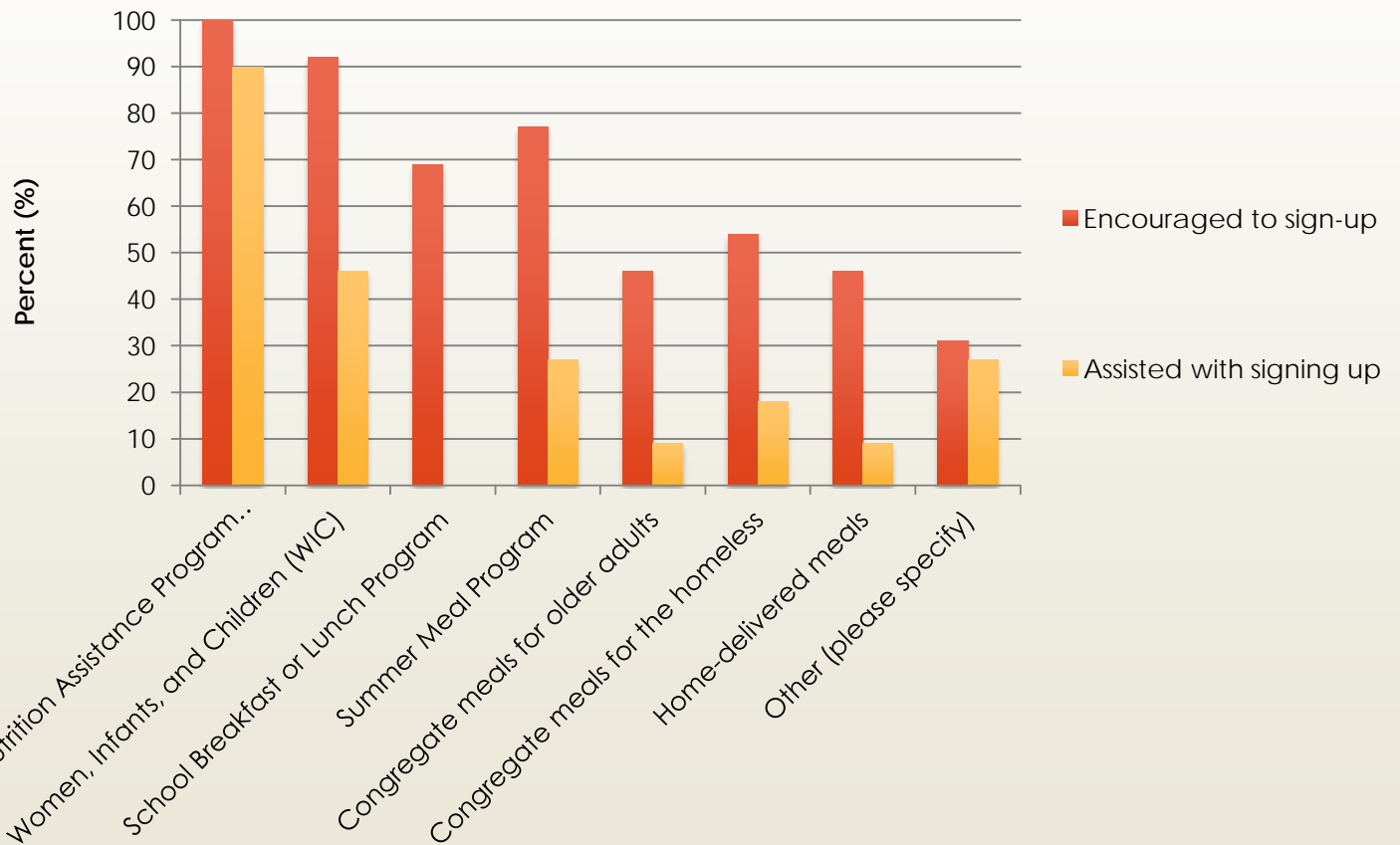
The role of professionals in intervening in food insecurity



# Survey: Results and Discussion

*Diverse approaches to intervening*

Programs and services that patients or clients are encouraged to or assisted with signing up for



Federal and Local Nutrition Assistance Programs and Services



# Survey: Results and Discussion

## ► Survey sample and generalizability

- *50% response rate*
- *Professionally diverse*
- *Geographically diverse*
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## ► Verbal vs. written screening

- *Majority screening verbally*
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## ► Diverse approaches

- *Some screen all patients, others screen subgroups*
- *Many professionals are suited for screening*
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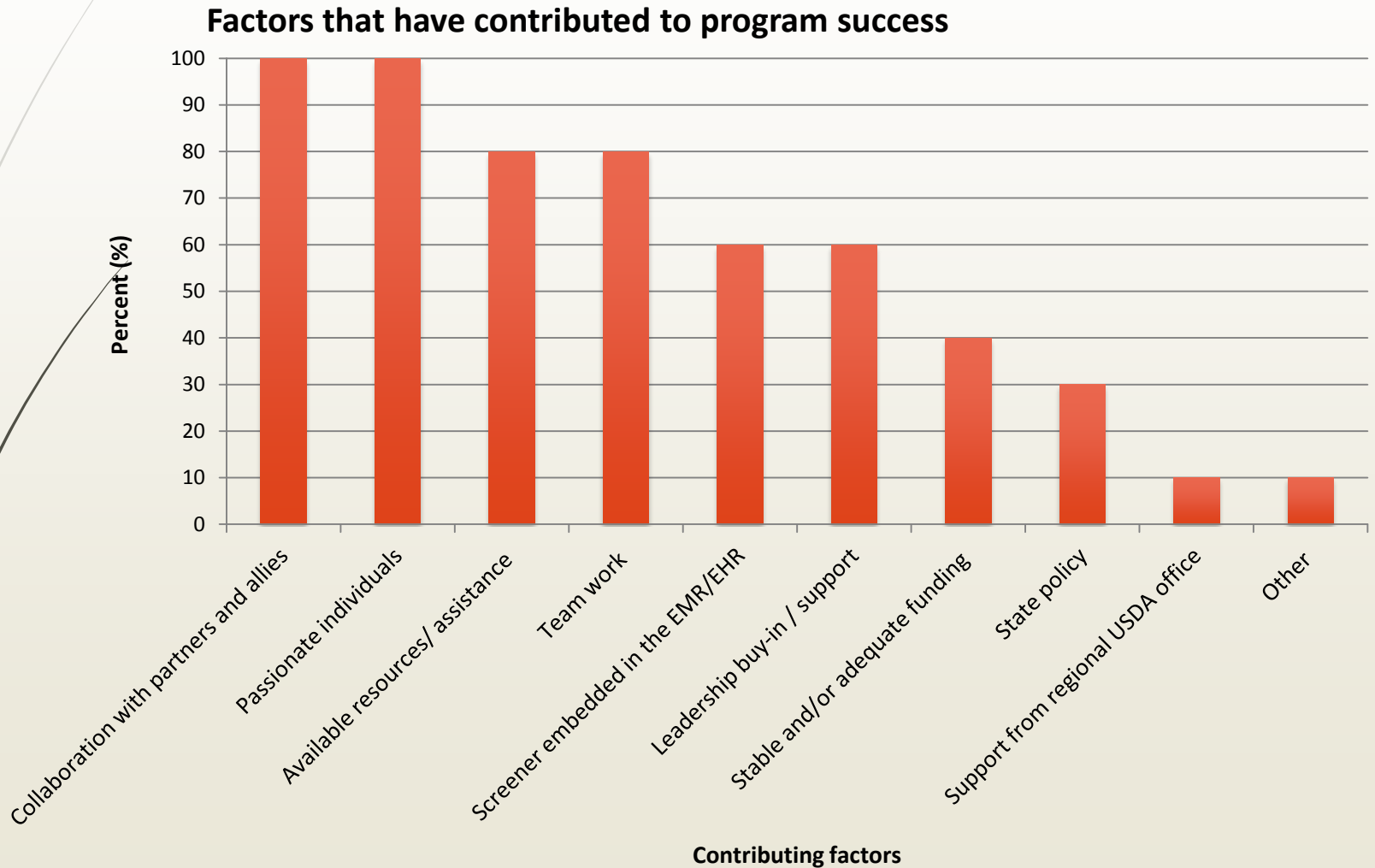
## ► Factors that contribute to success

- *Collaboration with partners and allies*
- *Passionate individuals*

## ► Challenging factors

# Survey: Results and Discussion

Factors that contribute to success



# Survey: Results and Discussion

## ▶ Survey sample and generalizability

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## ▶ Verbal vs. written screening

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## ▶ Diverse approaches

- ▶ *Some screen all patients, others screen subgroups*
- ▶ *Many professionals are suited for screening*
- ▶ *Many professionals are suited for intervening*

## ▶ Factors that contribute to success

- ▶ *Collaboration with partners and allies*
- ▶ *Passionate individuals*

## ▶ Challenging factors

- ▶ *Lack of time for providers*
- ▶ *Lack of funding for screening and intervening*
  - ▶ *Research potential funding streams: Hospital community benefits; Medicare/ Medicaid quality standard*



# Survey: Recommendations

- ▶ Survey sample and generalizability
  - ▶ *More investigation of rural context needed*
- ▶ Verbal vs. written screening
  - ▶ *More research of differential response rates of screening verbally compared to written*
- ▶ Diverse approaches
  - ▶ *Choose the best model for your context*
- ▶ Factors that contribute to success
  - ▶ *Work closely with allies and community partners*
- ▶ Challenging factors
  - ▶ *Research potential funding streams: Hospital community benefits; Medicare/ Medicaid quality standard*

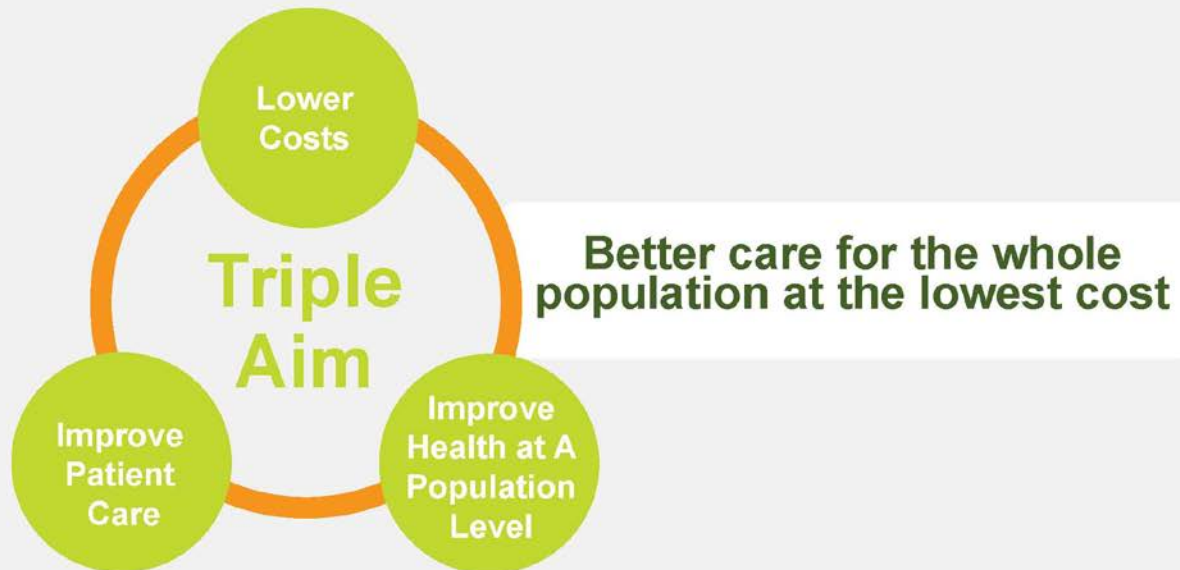


# Discussion: Research context

- ▶ *JAMA*: Avoiding the unintended consequences of screening for social determinants of health
- ▶ *JAMA*: Collecting and Applying Data on Social Determinants of Health in Health Care Settings
- ▶ *JABFM*: Addressing Social Determinants of Health in a Clinic Setting: The WellRx Pilot in Albuquerque, New Mexico
- ▶ Center for Medicare and Medicaid Services (CMS): Accountable Health Communities Model
- ▶ Adverse Childhood Experiences Study (ACEs)

# Food is Medicine

## Triple Aim of Health Care



Source: See Donald M. Berwick et al. The Triple Aim: Care, Health and Cost, 27 Health Affairs 759-769 (2008); Institute for Health Care Improvement.



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- ▶ "USDA ERS - Food Security in the U.S.: Survey Tools." *USDA ERS - Food Security in the U.S.: Survey Tools*. 14 Feb. 2016. <http://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/survey-tools.aspx>

# Thank you!

The Children's Health Watch team



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