

# Health Benefits of Participating in the Healthy Harvest Food Box Program for a Food Insecure Population

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# Background

- Food insecurity is defined as the inability to afford food, altering spending habits to have money to purchase food, or avoiding healthy food options due to expense.
- Perishable foods in general, cost more and expire quicker.
- Community Memorial Foundation provided a \$28,000 grant to the Northern Illinois Food Bank in conjunction with AMITA Hinsdale Hospital and Hinsdale Family Medicine Residency to provide fresh fruit and vegetable boxes to food insecure patients.
- This project was based on an initial pilot project at Kishwaukee Hospital System Project which ran from December 2016 until March 2017.

# Methods & Objectives

- Patients were screened for food insecurity using the standardized **Medicaid Screening Questionnaire** for Food security. (2 questions)
- Any patient deemed at risk was subsequently screened using the USDA food insecurity questionnaire. (6 questions), score of 2 or higher deemed positive.
- Patients who were determined to be food insecure were given vouchers redeemable for one **25-30 lb box of fresh fruits and vegetables per week**. Vouchers were given/ mailed monthly to the participants.
- Boxes were given out from July, 2018 until June, 2019.
- Project funding would have allowed for up to 75 boxes per week, however our cafeteria refrigerator space was limited to 35 boxes.

# Methods & Objectives

- On average, **30-35 boxes were provided each week.**
- Patients were given the opportunity to opt out of the project at any time. New participants were added to the program as they were screened.
- **Patients most in need were the first to receive boxes.** Initially individuals with a score 5/6 or greater were included.
- Leftover boxes were given to anyone who was able to use the boxes, regardless of food box score. (Minimize food waste)

# Research Questions

Does having regular access to fruits and vegetables have positive outcomes on food insecure individuals/families?

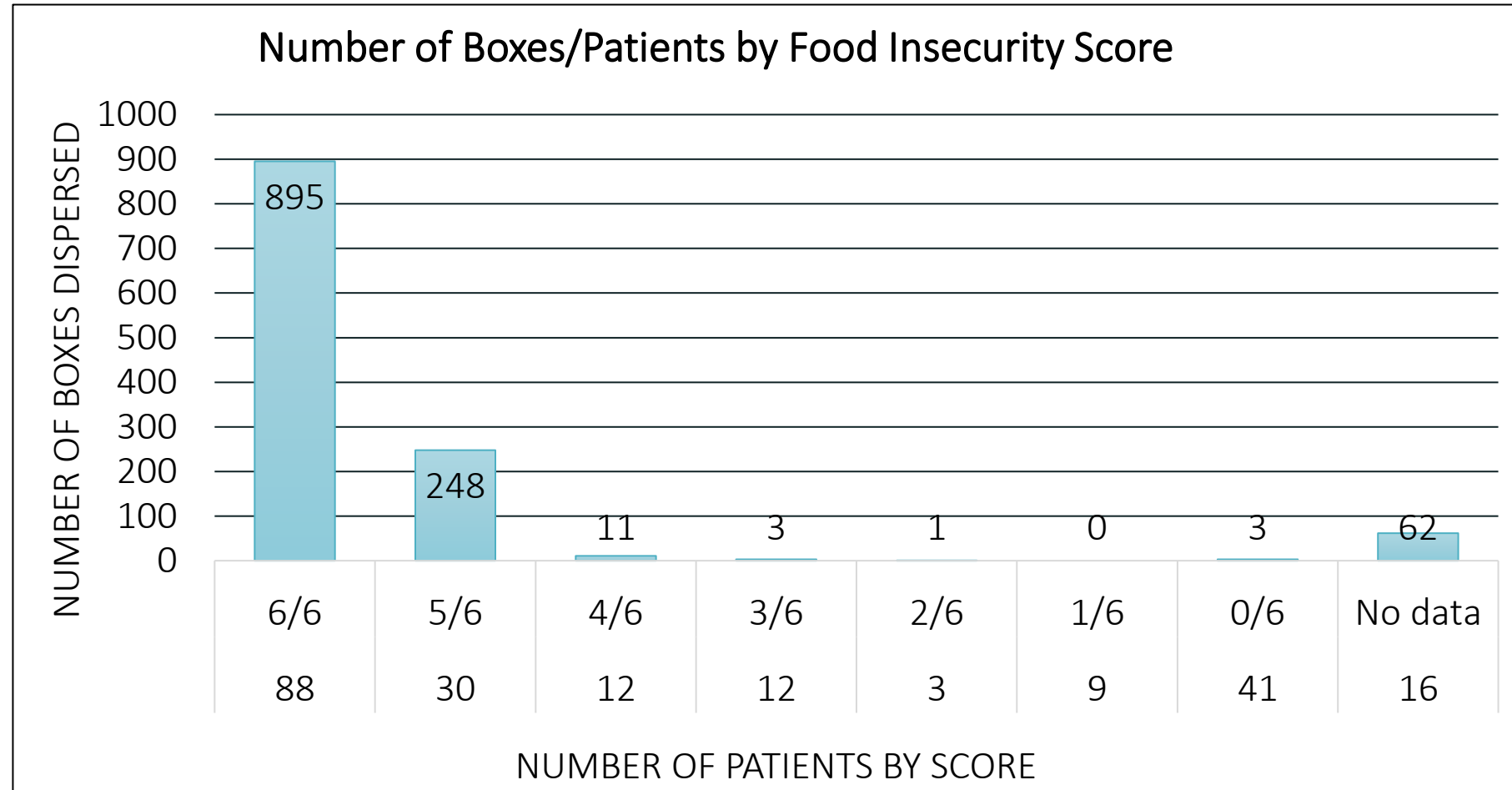
Does having regular access to fruits and vegetables make it easier for patients to eat healthy?

Does regular use of food boxes lead to:

Decreased HBA1c in diabetic participants?

Lower SBP in HTN participants?

- 300+ patients screened
- 170 screened food insecure
- 128 patients screened “high risk” for food insecurity
- 1223 boxes dispersed





Our food boxes



# Inclusion/ Exclusion Criteria

- Data below is collected only on clinic patients.
- Data collection is completely dependent on patient follow up in clinic.
- Children age <18 were not included in the study due to age associated variables



# Many Diabetics Became Controlled

# Diabetics who <u>DID</u> receive food box	% Diabetics who <u>DID</u> receive food box	# Diabetics who <u>DID</u> receive food box w/ pre-program A1c >7 (uncontrolled)	# Diabetics who <u>DID</u> receive food box w/ post-program A1c <7 (controlled)	% Diabetics who <u>DID</u> receive food box w/ post-program A1c <7 now controlled	P value
23	67.6%	17	6	35.3%	<b>0.012</b>

# Diabetics receiving boxes had reduction in HbA1c

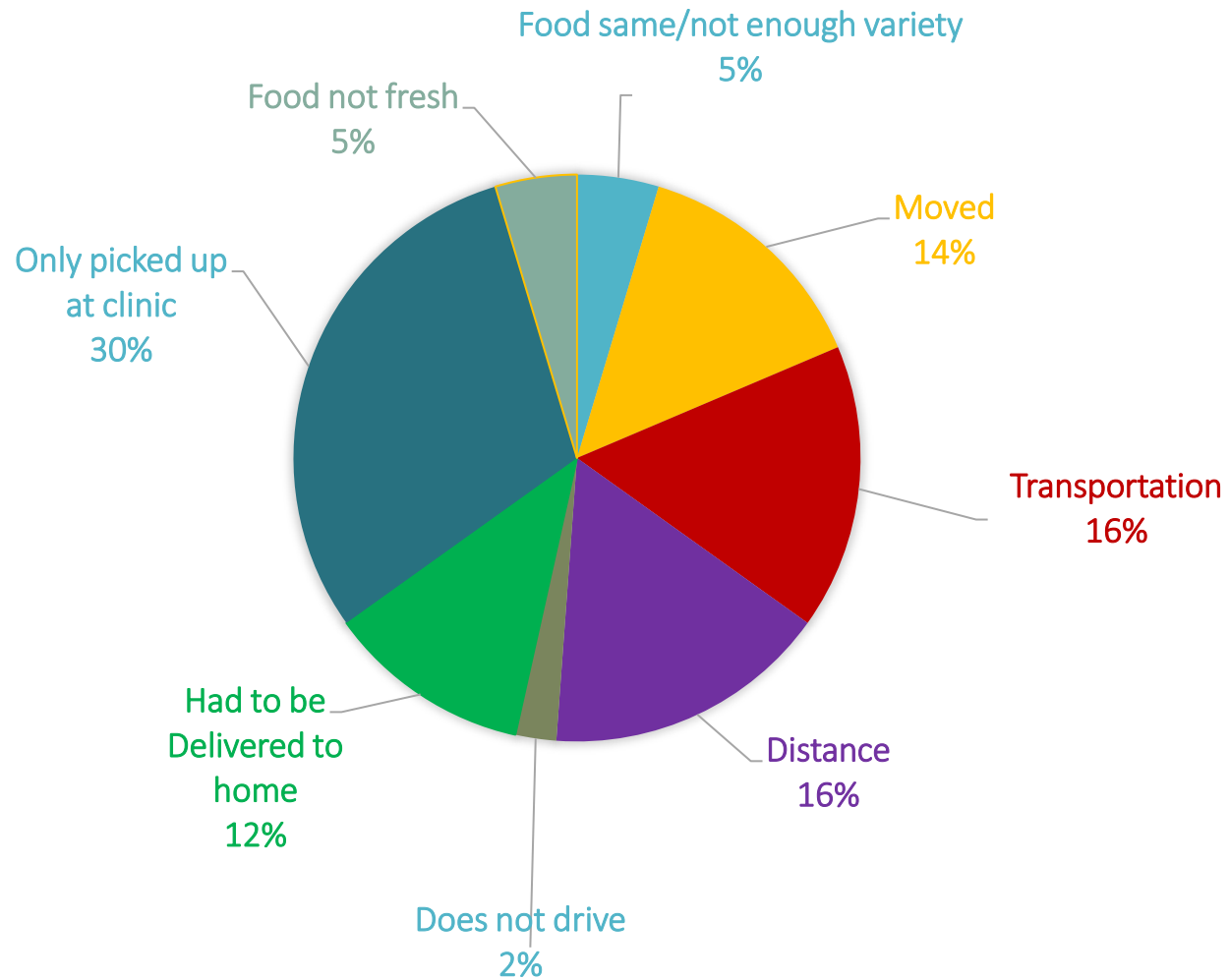
# Boxes Received	# Diabetic patients who <u>DID receive</u> boxes	# Diabetic patients who <u>DID receive</u> boxes w/ <b>A1c Reduction</b>	% Diabetic patients who <u>DID receive</u> boxes w/ <b>A1c Reduction</b>	Average <b>A1c change in Diabetic</b> who <u>DID receive</u> boxes	P Value
1 or more boxes received	23	15	65.2%	-0.93	<b>0.015</b>
5 or more boxes received	8	5	62.5%	-0.75	<b>0.18</b>

## Diabetics who did not receive boxes had average increase in HbA1c

# Boxes Received	# Diabetic patients who <u>DID NOT receive boxes</u>	# Diabetic patients who <u>DID NOT receive boxes</u> w/ <b>A1c reduction</b>	% Diabetic patients who <u>DID NOT receive boxes</u> with <b>A1c reduction</b>	Average change in A1c who <u>DID NOT receive boxes</u>	P value
0	11	2	18.2%	+0.28	<b>0.23</b>

## Hypertensives had reduction in SBP

# Boxes received	# HTN patients who <u>DID receive</u> boxes	# HTN patients who <u>DID receive</u> boxes with <b>reduction in SBP</b>	% HTN patients who <u>DID receive</u> boxes with <b>reduction in SBP</b>	Average <b>SBP</b> change in <b>HTN</b> patients who <u>DID receive</u> boxes	p value
1 or more	46	22	47.8%	-1.11 mmHg	<b>0.30</b>
> 5	25	10	40.0%	-1.28 mmHg	<b>0.32</b>



Reasons for Participant ceasing activity in the program

Patients were asked to take a survey on their experience with the food boxes.

*We had ~10% response rate.*

% Respondents Reporting “Eating Healthier”	% Respondents Reporting “Improved Overall Health”	% Respondents Reporting “Making Lasting Lifestyle Changes”	% Respondents Reporting “Increased Activity”	% Respondents Reporting “Eating Out Less”	% Respondents Reporting “Eating More Fruits and Vegetables”
94.74%	71.43%	84.21%	47.37%	42.11%	100.00%

# Conclusions

- Regardless of sample size, the patient's experiences were overwhelmingly positive
- Diabetic patients who received at least 1 box had reduction in HbA1c.
- Receiving food boxes appears to show a trend in lower SBP compared to non-recipients.
- Diabetic patients who received any number boxes appear to have a significant reduction in HbA1c compared to those who did not receive boxes.
- We cannot quantify, (if any) health benefits of those in the homes of the participant that may have shared the boxes.
- Our data does NOT account for confounding variables.
- It is presumed that that the boxes alone did not result in all the potential health benefits discussed. We expect that regular follow up with their family physicians, proper treatment for chronic conditions, in addition to lifestyle changes led to the findings seen.
- A larger food insecure patient population with access to tracking data for chronic conditions could yield more insight.

“Food is costly and we don't have food stamps. Thank you for the food. God Bless.”

“It's good to be able to have and eat fruits and vegetables and share with your grandchildren. It was so easy and made a huge difference in our diets. Both myself and our son are diabetics and it gave me...better options for meals that helped get our blood sugars under control. ...Thank you very much for letting us be a part of this program. It made a HUGE difference for us at a time when life seemed to be hitting us from all sides. We are so grateful to you Julie, and the entire staff for all your help. Bless You!”

"My husbands cancer went into remission, although I am sure from treatment. The addition of... good fruits and veggies, changed the way I cooked and helped him to feel good during treatment."

## Testimonials



# Acknowledgements

Community Memorial Foundation

Northern Illinois Food Bank

Julie Thomas RN

Dr. Elizabeth Bockhold

Hester Bury

HFMC Front Desk Staff

Sharon McNeil

Adam Maycock

Michael Murrill

William Paul

Hinsdale Hospital Kitchen Staff



# Mobile Rx Food Truck (2019-present)

- Feeding up to 70 families a week
- Fresh Fruits and veggies
- Milk, eggs, lean meats



