

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

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# Methods and Objectives

- 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 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.
- Patient 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. (See No Data column on graph)

# Research Questions

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

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

Does regular use of food boxes lead to:

Decreased BMI of overweight/obese participants?

Decreased HBA1c in diabetic participants?

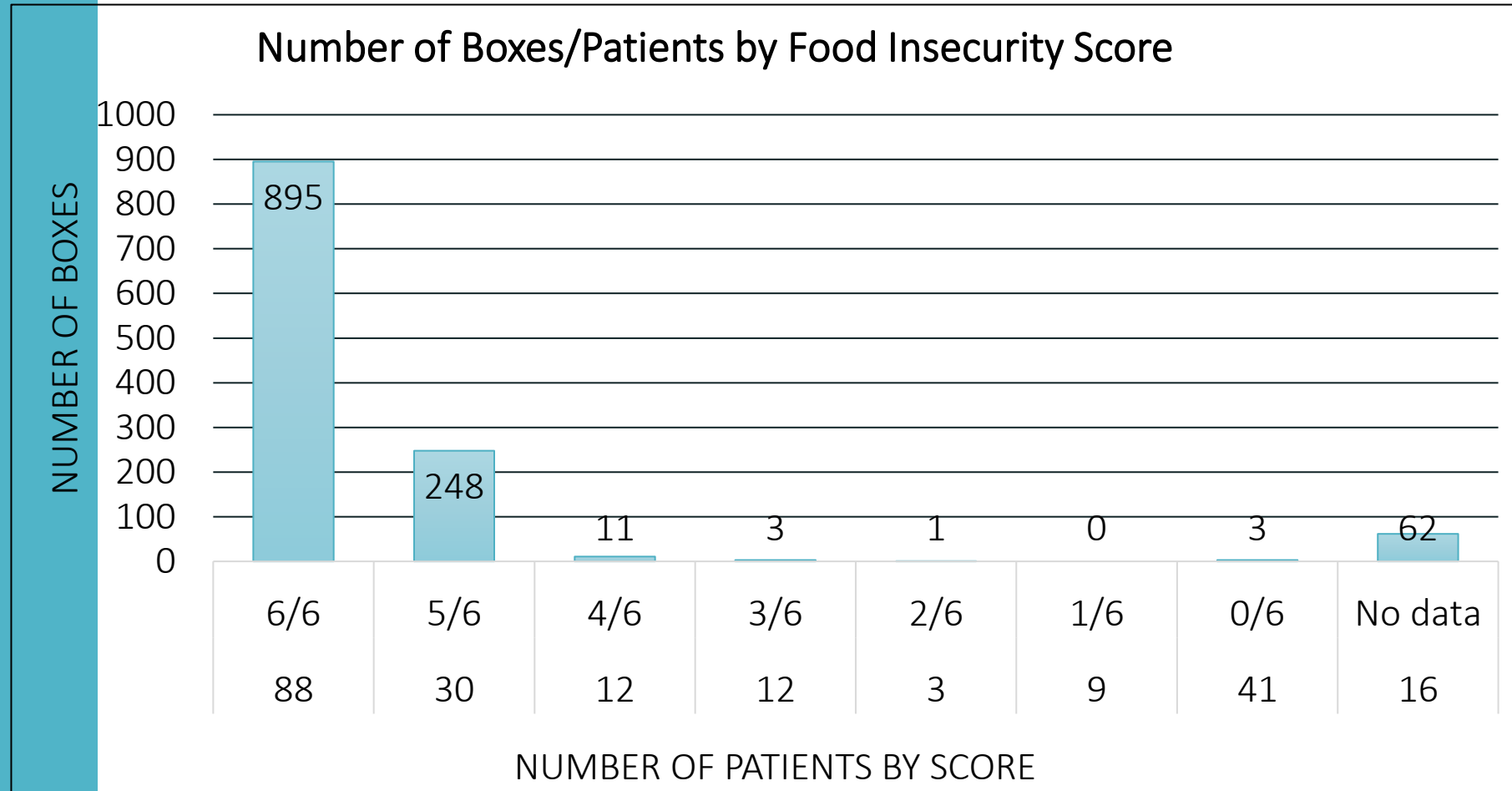
Lower SBP in HTN participants?

- 300+ patients screened.

170 screened food insecure

129 patients screened “high risk” for food insecurity

1223 boxes dispersed.





## DM Patient Data

# 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/ <b>pre-program A1c &gt;7 (uncontrolled)</b>	# Diabetics who <u>DID</u> receive food box w/ <b>post-program A1c &lt;7 (controlled)</b>	% Diabetics who <u>DID</u> receive food box w/ <b>post-program A1c &lt;7</b> <small>now controlled</small>	P value
23	67.6%	17	6	35.3%	<b>0.012</b>
# Boxes Received	# Diabetic patients who <u>DID</u> receive boxes	# Diabetic patients who <u>DID</u> receive boxes w/ <b>A1c Reduction</b>	% Diabetic patients who <u>DID</u> receive boxes w/ <b>A1c Reduction</b>	Average <b>A1c change in Diabetic</b> who <u>DID</u> receive 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	0.18
# Boxes Received	# Diabetic patients who <u>DID NOT</u> receive boxes	# Diabetic patients who <u>DID NOT</u> receive boxes w/ <b>A1c reduction</b>	% Diabetic patients who <u>DID NOT</u> receive boxes with <b>A1c reduction</b>	Average change in A1c who <u>DID NOT</u> receive boxes	P value
0	11	2	18.2%	+0.28	<b>0.23</b>



# Inclusion/ Exclusion Criteria

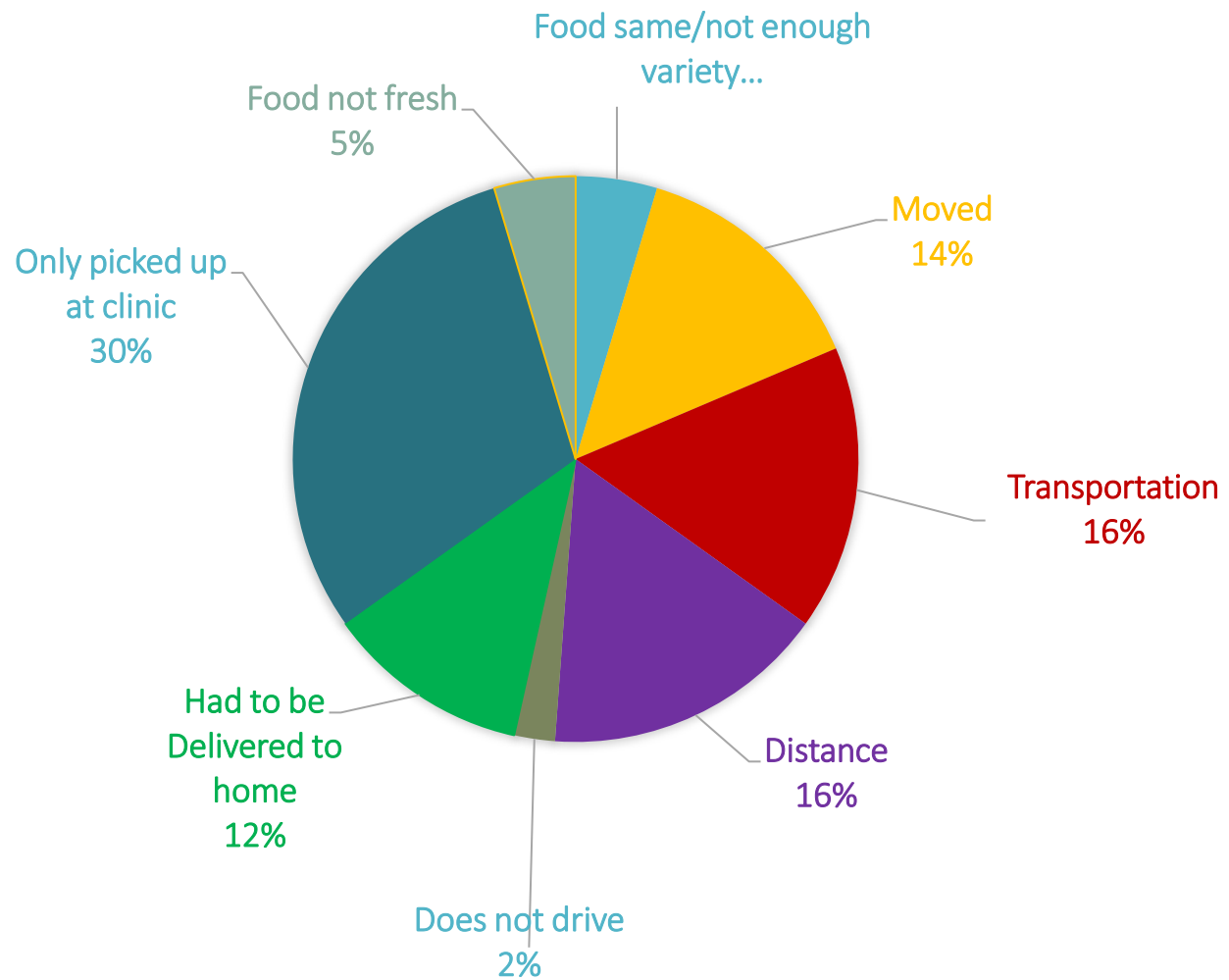
- Data below is collected only on clinic patients. Data collection is completely dependent on patient follow up in clinic.
- Children age <18 were not included in the study due to age associated variables

# Diabetics who <u>DID receive</u> food box	% Diabetics who <u>DID receive</u> food box	# Diabetics who <u>DID receive</u> food box w/ <b>pre-program A1c &gt;7 (uncontrolled)</b>	# Diabetics who <u>DID receive</u> food box w/ <b>post-program A1c &lt;7 (controlled)</b>	% Diabetics who <u>DID receive</u> food box w/ <b>post-program A1c &lt;7 now controlled</b>	P value
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0	11	2	18.2%	+0.28	<b>0.23</b>

# Boxes received	# HTN patients who <u>DID</u> receive boxes	# HTN patients who <u>DID</u> receive boxes with <b>reduction in SBP</b>	% HTN patients who <u>DID</u> receive boxes with <b>reduction in SBP</b>	Average <b>SBP</b> change in <b>HTN</b> patients who <u>DID</u> receive 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



# Patient/Participant Surveys

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 Health Changes in Their Life"	% 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

- 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
- Regardless of sample size, the patient's experiences were overwhelmingly positive
- Patients who received 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.

▶ “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."**



# Acknowledgements

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