

## **Family Fresh Prescription: Encouraging Healthier Pediatric Eating Habits**

Neha Chava

Albert Schweitzer Fellow 2025- 2026 (Detroit Chapter)

### **Abstract**

Detroit children are disproportionately affected by pediatric obesity and food insecurity compared to children throughout Michigan. This leads to worse health outcomes in childhood and into adulthood for the Detroit community. Fresh Prescription (Rx) is a fruit and vegetable prescription program currently operating in the Detroit area that offers fresh produce to enrollees but was designed with adult patients in mind. This project at Wayne Pediatrics focused on optimizing this existing program and translating it to the pediatric population to build a sustainable initiative that promotes healthy eating habits. Researchers implemented a 6–12-week prescription produce program that provided fresh fruits and vegetables via food delivery boxes or redeemable vouchers at Eastern Market, along with virtual biweekly nutrition education sessions. Quantitative and qualitative data were collected through a pre- and post- survey to assess family experiences and behaviors related to healthy eating and to understand enrollment/engagement barriers in food prescription programs. Out of 81 families referred to the program, 29 families were successfully enrolled to receive either a voucher or produce box to their homes, and 15 families completed the post survey. Families appreciated the convenience of food deliveries to their home, but many parents faced barriers to completing all three nutrition education sessions. Through qualitative observation, children engaged more with healthy eating when parents also demonstrated interest in nutrition education. While it is important that families have fresh fruit and vegetables, nutrition education remains vital to creating dietary changes, and addressing the entire family unit is necessary to improve pediatric health outcomes.

### **Background/Importance:**

According to the United Way ALICE report in 2021, around 70% of households in Detroit, MI were food insecure<sup>1</sup>. It is evident that food insecurity continues to be a highly prevalent cause for concern, especially in urban areas such as Detroit<sup>2,3</sup>. Particularly in Detroit, children are disproportionately affected by food insecurity compared to the rest of Michigan. The “Kids Count in Michigan” 2020 report, showed that 88% of children K-12 received free and reduced-price lunch in Detroit compared to 50% in Michigan. Additionally, 45.6% of children ages 0-18 in Detroit are enrolled in the food assistance (FAP) program compared to only 23.6% in Michigan<sup>4</sup>. In response to this increasingly important need, more healthcare practices and providers have piloted and created fruit and vegetable prescription programs<sup>5,6,7</sup>. Though there are many unique variations of these programs, most programs consist of a voucher that providers can “prescribe” their patients that are used at local farmers markets or partnering organizations to purchase fresh produce such as fruits and vegetables. Additionally, some programs have a nutrition education component that follows patients over time and provides education on the importance of healthy eating, recipe/cooking tips, and the effect of nutrition on health outcomes<sup>5</sup>.

There has been initial success when evaluating these programs and how they can combat this issue of food insecurity. Multiple programs have reported significant increases in food security factors such as increased fruit and vegetable intake, improvement in dietary intake patterns, and child-reported measures of food insecurity<sup>8,9,10</sup>. Programs have also created innovative ways to deliver nutrition education, such as a menu generator system that considers patient preferences and outputs similar recipes<sup>11</sup>. However, other data on food prescription programs have shown mixed results and limited evidence for a significant decrease in food insecurity measures<sup>5</sup>. Many factors such as limited resources and time for the prescription programs, unclear evaluation measures, and lack of inquiry into long term efficacy of programs may contribute to these mixed results<sup>7</sup>.

Currently in the Detroit community, there is a significant food prescription program that has shown successful outcomes. This program is called Fresh Prescription (Rx) and provides both nutrition education and a food prescription box for enrollees. They partner with Eastern Market in Detroit to fill these prescriptions of fresh produce that patients receive from their primary care physician. An extension of the Fresh Rx program was started at Wayne Pediatrics to address food insecurity in the pediatric population. However, there have been lower enrollment numbers and less engagement than expected. This may be due to difficulty adapting the original Fresh Rx program, designed for a single adult, to address the needs of a whole family experiencing food insecurity. This project will focus on identifying the needs of families in Detroit to create tools and resources necessary to improve pediatric nutrition habits in a setting of high prevalence of food insecurity. We will address these initial limitations in the Fresh Rx prescription program to create a sustainable program for all families at Wayne Pediatrics to improve long term health outcomes for children in Detroit.

### **Project Objectives:**

- Identify and utilize resources and tools necessary to build a sustainable and family-centered food prescription program at Wayne Pediatrics.
- Assess family perceptions, experiences, and behaviors related to food prescription programs to better understand barriers to engagement.
- Establish comprehensive evaluation methods to measure improvements in food access, dietary quality, and overall program outcomes.

### **Methods**

- This program was a 6–12-week prescription produce program partnering with the larger Fresh Prescription program that provided fresh fruits and vegetables via food delivery boxes (see Appendix 1) or redeemable vouchers at Eastern Market, along with virtual biweekly nutrition education sessions for Wayne Pediatric Families.

- Originally there were 6 nutrition education sessions for each food box/voucher delivery, but these were combined into 3 total sessions to increase convenience for families due to scheduling conflicts for the education sessions. These nutrition education sessions covered MyPlate Basics, Portions, Nutrition Facts, Sugar and Salt, Fats and Oils and Selection and Storage (see Appendix 2).
- Quantitative and qualitative data were collected through a pre- and post- survey to assess family experiences and behaviors related to healthy eating and to understand enrollment/engagement barriers in food prescription programs.
- Pre- and post-surveys asked questions about fruit and vegetables, sugary beverage, salty greasy and sweet foods intake, confidence with picking out healthy vegetables, access to healthy vegetables, and knowledge of MyPlate guidelines.
- Program Workflow (see Appendix 3): Providers met families in clinic and referred to the program. Everyone, regardless of age or presence/absence of health conditions, was eligible to enroll. The community health worker compiled the referrals, and the medical student team would call to enroll families, complete the consents and surveys, deliver nutrition education sessions, and send the request for food box delivery/Eastern Market vouchers.

## Results

- Program Summary
  - 81 families referred --> 29 families enrolled --> 15 families completed post survey
- Who We Reached
  - All caregivers: female
  - Adults (average age: 31.6, range 21-48)
  - Kids (average age: 11.3, range 1-20)
  - Average family size: 3.7 (~2 kids/family)

- Support Delivered
  - 111 food boxes (\$25.75 per box)
  - 39 food vouchers (\$15 per voucher)
- Needs and Resources
  - 17 families reported food insecurity
  - Supplemental Assistance:
    - SNAP – 12 families
    - WIC/EBT Bridge Card- 11 families
    - Medicaid – 19 families
- Reported Health Conditions
  - Obesity (9 adults, 2 children), HTN (4 adults), Prediabetes (2 adults), T1 Diabetes (1 child), T2 Diabetes (1 child)
- Cities of Residence
  - 20 families from Detroit, 2 families from Roseville, 1 family from Ecorse, Fraser, Hamtramck, Inkster, River Rouge, Southfield, and Wixom
- **Engagement and Preferences**
  - Average time of Nutrition Education Sessions: **15-20 minutes**
  - Preferred times for calling families:
    - **After school/Evening (around 3:30-6+ PM)- 17 families**
    - Morning/midday (9 AM-2/3 PM)- 8families
    - Flexible times- 4 families
  - 15 families completed pre and post survey
  - **Strong program satisfaction-** all 15 families plus one more (16) wanted to be re-enrolled!
  - Drop off in engagement was seen with each nutrition education session (figure 1).

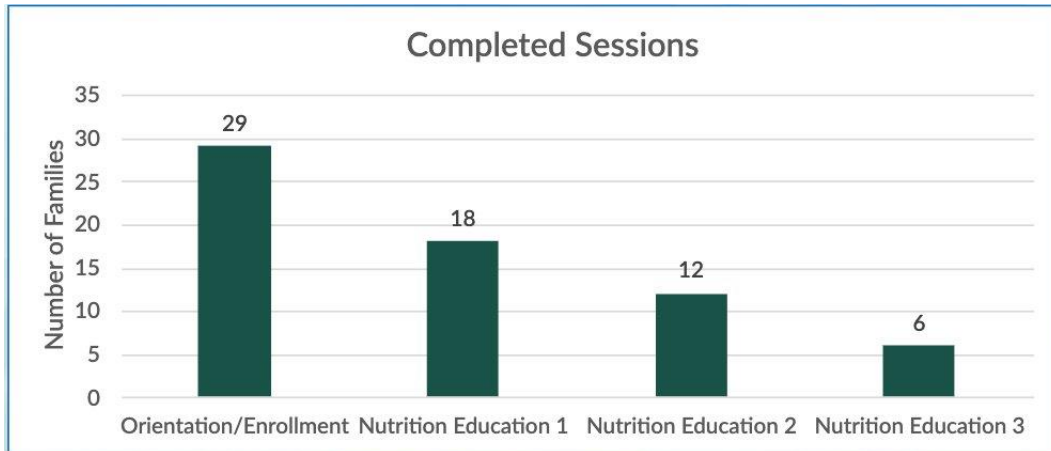


Figure 1: Graph shows how many families completed each program session.

- **Topics that parents wanted to discuss further:**
  - Easy protein ideas (kids +toddlers)
  - Simple recipes (with beans, squash, veggies)
  - Healthy Alternatives (whole grains, sweeteners)
  - Diabetes- friendly foods (ex. Fruit choices)
  - Strategies for helping kids eat more greens

## Qualitative Review

- **What Changed?**
  - Families ate **more vegetables** and fewer **sugary drinks**
  - Kids got more involved in cooking, **picking out vegetables at the store** and eating healthy because they would open the delivery boxes with parents!
  - Parents reported more cooking, meal prep and confidence around healthy eating
  - **Convenience with food delivery** helped families eat healthier!
  - Some families really appreciated the nutrition education component
  - There is a **need for culturally relevant foods**+ support with unfamiliar ingredients
  - Some people thought the box didn't have quality vegetables and were not helpful as they don't usually cook with those vegetables.

- One mother expressed: "[Child] eats more veggies and believes veggies will make her body stronger"
- One mother said: "He has learned how to clean the greens, learned that certain greens can go with pork/beans to make more southern, [...] and picks out veggies that were in the bag"
- Families also sent images of healthy meals they cooked with the food boxes (see Appendix 4).

### **Community Event at Wayne Pediatrics**

- We also hosted a capstone family community event at Wayne Pediatrics that focused on healthy eating and nutrition. This event consisted of 5 stations: teaching about MyPlate, exposing beverage sugar content, planting your own vegetable plant, vegetable tasting + reading food labels and reading time with catered healthy vegetables/fruit (see Appendix 5). 17 people attended with 4 children ages 0-5, 5 children ages 11-20 and 8 caregivers.
- Overall, the families said they appreciated the event, and one grandmother said their child has been to similar community events at Wayne Pediatrics the past 3 times! One volunteer shared that one of the participants who has type 1 diabetes said he stopped drinking pop but was still drinking lemonade and seeing the sugar content through the demonstration was eye-opening. Another volunteer mentioned that the kids were willing to try the seaweed snack and loved eating the vegetables and fruits that they saw in the MyPlate Station. Families asked how quickly they would see the plants growing and were very excited to take plants home! This interprofessional event included volunteers from the medical school, physicians, and undergraduate students in nutrition who all worked together to run the stations.

### **Discussion**

- Engagement/retention is the barrier this season
  - Previously, we were worried about low recruitment numbers at Wayne Pediatrics and were evaluating if this program is helpful to families. We have found that we can recruit many families and this program is received positively. We now need to work on engagement with nutrition education sessions and completion rates of the program. We can support parents in timing and delivery of nutrition education sessions. Our results show that the peak time for these virtual sessions (over the phone) is 4-6 pm (after school) as the strong majority preference. We must find the support to deliver education at a convenient time while also staying mindful of staffing constraints at Wayne Pediatrics. Additionally, we can integrate food education into boxes that families have delivered, so they have a physical copy of the information.
- Parent Involvement= Key for pediatric nutrition education of the
  - Parents mentioned that the food delivery boxes were like gifts for the children such as their toddler who could open and see/ feel the vegetables and fruits as well as adolescents who would come up with meals to make with the vegetables. Those parents that were engaged in the nutrition education sessions reported that their children also were engaged in cooking healthy foods and picking out more healthy vegetables/fruits at the store when going shopping. This shows the value of nutrition education to drive both whole family and pediatric behavior change around eating.
- Systemic/Structural barriers are affecting our families!
  - One of the barriers to our program was that some families were going to the Eastern Market and not being able to redeem their vouchers. We understand that this can cause a deep mistrust in the program and again in the healthcare system as this program is being delivered through Wayne Pediatrics. We can

work on streamlining the voucher process with our partners to ensure families are able to get their fruits/vegetables.

- Additionally, at the time of this program, food stamps were being disrupted/paused nationally. Many families were grateful for this food during this time and expressed difficulty with their existing SNAP/WIC benefits. One family mentioned they weren't able to get their SNAP benefits in the month of January due to a clerical/processing error of their documentation.
- Hunger is not just related to having food and being able to eat. One family mentioned that they weren't able to cook because they had a sewage leak and their electricity was stopped. Multiple program participants also had phone service discontinued during the program duration. Hunger is related to access to electricity, housing, violence, mental health, etc and these factors are extremely important to consider when addressing pediatric nutrition in Detroit where there is a high prevalence of food insecurity.
- Families want practical guidance
  - Many participants asked about specific recipes, ways to cook vegetables that they have never tried before (such as Swiss chard) and protein options to improve their daily intake. Additionally, families had children with a range of health conditions and asked for advice on improving diets for children with autism, compulsive eating disorders, and diabetes.
- This program shows promising results even with a small sample size.
  - Though engagement was a barrier, we still saw very positive results with strong program satisfaction, and families were willing to engage in 15–20-minute nutrition education sessions. We also saw a subjective increase in vegetable intake, decrease in sugary beverage intake, and families reported having more confidence in continuing to make healthy changes past the program's duration.

These are all signs that this program can have a lot of value for many families, and it is extremely important that we continue to have financial investment to help families improve their nutrition habits.

- This program needs to be a support system.
  - Some families were very interested in having in person group events at Wayne Pediatrics to learn more about nutrition with other families in the program. We saw with the community event how many children and caregivers were able to learn more about nutrition just in a one-hour event. This program can start to include a component of group-based nutrition education and monthly community events if there is capacity.
  - This program also cannot be emergency assistance. The food box quantity itself isn't enough to address food insecurity, but we saw how this amount of food was able to help families during the time that SNAP/ WIC benefits were disrupted. SNAP/WIC is ultimately a very tedious, clunky process for people who truly need the support and one way to address this barrier for families is to create more prescription programs like these where families can learn about nutrition but also have some extra support. This can also serve as a preventative solution to help families/children create healthier dietary patterns before health conditions arise later in life.

### **Recommendations for Optimization**

- Tailor food boxes to individual community needs with attention to family size and cultural sensitivity
- Include nutrition education handouts with food boxes/ at enrollment for food vouchers and streamline nutrition education sessions for family convenience

- Create a community recipe book/ online group to share ideas and discuss about healthy eating between participants
- Make Fresh Rx year-round to increase access to the program and foster longitudinal engagement
- Emphasize family-based engagement and include children in nutrition education sessions (focus on longitudinal, community/group-based events)
- Potentially create a community food pantry at Wayne pediatrics/health care office for patients affected by food insecurity
- Find ways to incorporate more support staff for the program and work with more medical/undergraduate students to expand reach of the program
- Continuous quality improvement of the program by listening to family's needs!

### **Impact Statement**

Through adapting an existing Fresh prescription program at Wayne Pediatrics with the focus of encouraging healthier pediatric eating habits, we were able to deliver over 100 food boxes and over 30 food vouchers to 29 families. As a result of this 6-12 week program, families subjectively consumed more vegetables, less sugary drinks and were more confident in making long lasting healthy lifestyle changes.

### **Sustainability**

To continue this program, there needs to be support staff to enroll families, deliver nutrition educations and make sure boxes/vouchers are being sent. There is a sort of self-sustaining system now as the medical student Fresh Rx group whose leadership changes every year runs the program at Wayne Pediatrics. However, there have been issues due to time constraints and participant follow-up because of this turnover. I plan to work with undergraduate nutrition students who can help run this program and contact families to not only have interprofessional

collaboration but also more support for the community health worker at Wayne Pediatrics to deliver this program to families. I believe if we can create a cycle of students who would like to deliver the program, then we can pass this program throughout the years and improve engagement in nutrition education sessions.

## **Reflection**

The process of completing this project through the Albert Schweitzer Fellowship Program has been extremely transformative. I believe we met the project objectives of creating an engaging program, but there is still a long way to go! Sustainability will be the hardest piece moving forward, but we have seen how valuable this program is to families in the community. We must find a way to continue supporting families as many participants voiced they would like to continue the program. Additionally, I think a longitudinal year-round Fresh Rx program will truly drive nutrition/behavior change. The boxes, vouchers, and nutrition education sessions are constant reminders of small changes that can be made over a longitudinal period to improve health. Changing eating habits and improving health literacy is a continuous lifelong process for both patients who may need the support but also providers who learn to communicate the necessity of healthy interventions.

The biggest reflection I take from this year is that service and advocacy are BOTH necessary to effect change. Service has been key for me to have real conversations with families around their dietary habits and concerns around health. Service also builds community for those who are engaging in service such as with seed packing events by meeting new people but also allows providers to understand the needs of the community. I used to think advocacy was the most important thing for change, but I think change can start from an individual community member and blossom from there. Service gives you the background to advocate for people's needs. I realized that quality is better than quantity and even if I reach only one person then everything we do to serve will have been worth it. I will take this with me for the rest of my career and life.

## **Acknowledgements**

Thank you to all the families involved in the Fresh Rx program as well as the families at Wayne Pediatrics. This project could not have been possible without their willingness to trust and engage in our program. I also want to thank Dr. Meghan Dwaihy, my mentor in both medical school and throughout this project. She has served as an inspiration for me since my second year of medical school and has truly supported my growth in incorporating nutrition and public health into my career journey. Thank you also to Dennis Archambault who has greatly helped with the direction of this project and has guided me throughout my fellowship year and my advocacy journey with Michigan Universal Healthcare Access Network. Lastly, I am so grateful for my family Narasimha, Krishna and Nishant Chava who have always been there for me and started these early conversations around nutrition in our South Asian community from a young age. I could not have done medical school without them.

## References:

1. Detroit Food Metrics Report 2020 (with 2021 update). Accessed December 26, 2024. <https://www.detroitfoodpc.org/sites/default/files/pdfs/DFMR20-Report-20220929-FINAL.pdf>.
2. Gundersen C. Food insecurity is an ongoing national concern. *Adv Nutr*. 2013;4(1):36-41. Published 2013 Jan 1. doi:10.3945/an.112.003244
3. Taylor DE, Ard KJ. RESEARCH ARTICLE: Food availability and the food desert frame in detroit: An overview of the city's food system. *Environ Practice*. 2015;17(2):102-133. <https://proxy.lib.wayne.edu/login?url=https://www.proquest.com/scholarly-journals/research-article-food-availability-desert-frame/docview/1687416060/se-2>. doi: <https://doi.org/10.1017/S1466046614000544>.
4. Mlppadmin. (2024, April 10). Kids count. MLPP. <https://mlpp.org/kids-count/>
5. Little M, Rosa E, Heasley C, Asif A, Dodd W, Richter A. Promoting Healthy Food Access and Nutrition in Primary Care: A Systematic Scoping Review of Food Prescription Programs. *American Journal of Health Promotion*. 2022;36(3):518-536. doi:10.1177/08901171211056584
6. Muleta, H., Fischer, L.K., Chang, M. *et al*. Pediatric produce prescription initiatives in the U.S.: a scoping review. *Pediatr Res* **95**, 1193–1206 (2024). <https://doi.org/10.1038/s41390-023-02920-8>
7. Anne Cafer, Meagen Rosenthal, Parker Smith, Danielle McGrew, Kaustuv Bhattacharya, Yiran Rong, Monika Salkar, Johnny Yang, Jasmine Nguyen, Austin Arnold, Examining the context, logistics, and outcomes of food prescription programs: A scoping review, *Research in Social and Administrative Pharmacy*, Volume 19, Issue 1, 2023, Pages 57-68, ISSN 1551-7411, <https://doi.org/10.1016/j.sapharm.2022.09.007>.
8. Saxe-Custack, A.; LaChance, J.; Hanna-Attisha, M.; Ceja, T. Fruit and vegetable prescriptions for pediatric patients living in Flint, Michigan: A cross-sectional study of

food security and dietary patterns at baseline. *Nutrients* **2019**, *11*, 1423- look into this article

9. Ridberg RA, Bell JF, Merritt KE. A pediatric fruit and vegetable prescription program increases food security in low-income households. *Journal of nutrition education and behavior*. 02/2019;51(2):224-230.e1. doi: 10.1016/j.jneb.2018.08.003.
10. Jennifer N Aiyer, Margaret Raber, Rosalind S Bello, Anna Brewster, Elizabeth Caballero, Catherine Chennisi, Casey Durand, Marcita Galindez, Katherine Oestman, Maryiam Saifuddin, Jennifer Tektiridis, Reginald Young, Shreela V Sharma, A pilot food prescription program promotes produce intake and decreases food insecurity, *Translational Behavioral Medicine*, Volume 9, Issue 5, October 2019, Pages 922–930, <https://doi.org/10.1093/tbm/ibz112>
11. Devis Bianchini, Valeria De Antonellis, Nicola De Franceschi, Michele Melchiori, PREFER: A prescription-based food recommender system, *Computer Standards & Interfaces*, Volume 54, Part 2, 2017, Pages 64-75, ISSN 0920-5489, <https://doi.org/10.1016/j.csi.2016.10.010>.

# Appendix

1.



2.

### fresh prescription

#### MyPlate Basics

Make half your plate fruits and vegetables.

Carve at least 2 cups of fruit and 2 1/2 cups of vegetables every day.

Drinks at least 8 glasses of water every day.

Use salt and water wisely.

**FRUITS**

**GRAINS**

**VEGETABLES**

**PROTEIN**

**MODERATION**  
 Pounce on individual foods. Food. Sugar. Grease. In moderation. Balance and variety matter the most.

**VARIETY**  
 Eat the rainbow. The more colors on your plate, the better.

**PROPORTION**  
 Eat more from the larger food groups.

meridian

### fresh prescription

#### Portions

How much you eat is just as important as what you eat!

Carve at least 2 cups of fruit and 2 1/2 cups of vegetables every day.

How do you know you're eating enough fruits and vegetables every day?

**The size of a small fist equals:**

- One cup of vegetables
- One serving of fruits

**Portion Disturbance**  
 Add portion distortion. We often see dinner plates with larger portions than recommended. Converting portions into "fists" to eat for a "healthy diet" and weight.

What are food and water needs?

What are food and water needs?

meridian

### Nutrition Facts

The food label tells you about the nutrients in foods for 1 serving.

There may be more than 1 serving in a package or can of food. Check the label to know the number of servings.

Frozen Peas		Canned Peas	
Nutrition Facts		Nutrition Facts	
Serving Size 1/2 Cup (125g)		Serving Size 1/2 Cup (125g)	
Amount Per Serving		Amount Per Serving	
% Daily Value*		% Daily Value*	
Total Fat	0g	Total Fat	0g
Saturated Fat	0g	Saturated Fat	0g
Trans Fat	0g	Trans Fat	0g
Cholesterol	0mg	Cholesterol	0mg
Sodium	0mg	Sodium	0mg
Total Carbohydrate	15g	Total Carbohydrate	15g
Dietary Fiber	2g	Dietary Fiber	2g
Sugars	0g	Sugars	0g
Protein	4g	Protein	4g

### Sugar & Salt

**RETHINK YOUR DIET**

**RETHINK YOUR DRINK!**  
 Avoid beverages with added sugar. Check the ingredients on the food label.  
 \*soda\* are fruit-flavored or sucrose are added sugars.  
 \*\*ade\*\* are drinks with added sugars, like lemonade.

**100% fruit juice is a better option and water is great!**

- Limit fruit juice to no more than 1 cup a day.
- Natural sugars in whole fresh fruits are best.

**REDUCING SODIUM (SALT)**  
 Most salt and sodium comes from packaged foods. Check the label and track the amount of sodium you eat.

- Sometimes food labels will say "low fat" but they still have 5mg of sodium.

**Tips to Reduce Sodium**

- Eat more fruits and vegetables.
- Use other spices to flavor foods instead of salt.

### Fats & Oils

Check the nutrition facts and ingredients list for the 3 types of fat in your foods.

**Saturated Fats**

Butter, lard, coconut oil, etc.

- Typically solid at room temperature
- Meats, whole milk, and cheeses have this fat, and any food with the word "butter"

**Unsaturated Fats**

Vegetable oil, avocados, fish, etc.

- Typically liquid at room temperature
- Sometimes referred to as "healthier" fats
- One example is fish that is high in Omega-3 which is good for heart health.

**Trans Fats**

Short, hard, and hard, short.

- Processed with hydrogen
- Lower your levels of good cholesterol (HDL) and raise levels of bad cholesterol (LDL).

**TIPS to try:**

- Trim off skin and fat from meats
- Try baking or broiling foods
- Avoid these as much as possible

### Selection & Storage

**Keep Fruits & Vegetables Fresh for Longer!**

Fruits and vegetables are available year-round, but are ripe for a shorter period of time; it's best to use them as soon as possible. Produce that is too soft usually means it is too ripe.

Pack fruits and vegetables that are in season. If they aren't in season, consider frozen or canned fruits or vegetables.

**How to Store Your Fresh Produce**

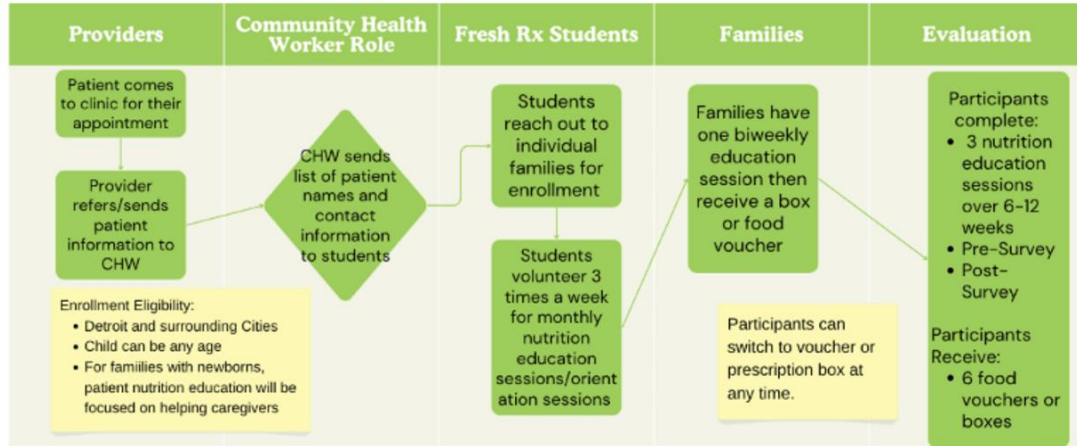
**Room Temperature:**

- Apples (up to a week)
- Avocados
- Bananas
- Tomatoes
- Cucumbers
- Peppers

**Refrigerate:**

- Broccoli and cauliflower
- Celery
- Corn (in the husk)
- Berries
- Cherries
- Crapes
- Citrus and other citrus fruits
- Melon
- Leafy greens
- Carrots

# Family Fresh Rx Workflow



3.

4.



# Community Nutrition Event!



5.

# Community Nutrition Event!



- 17 people attended!
- 4 children ages 0-5 years old
- 5 children ages 11+ (11-20 years old)
- 8 caregivers
- Interprofessional event with medical students and nutrition students at the undergraduate school
- Thank you to everyone at Wayne Pediatrics!!!

