



Meeting the Challenges of Diabetes: Transforming Food Shelves to Meet Client Needs with SuperShelf

Introductions: Teresa Ambroz

Moderator: Marna Canterbury

Panelists: Caitlin Caspi, Nathan Hesse, and Nora Gordan

September 20, 2022

Managed Care Organization Diabetes Performance Improvement Collaborative (PIP)

- The three-year **PIP collaborative** launched January 1, 2021.
- **Care coordinators and case managers** have an essential role in educating, supporting, and assisting members in setting and achieving health goals to improve their diabetes care.
- **PIP aims to:**
 - **improve the comprehensive diabetes care and services** for seniors and SNBC members
 - **close the gaps in health care disparities** within our populations

Minnesota Department of Health – Diabetes Unit

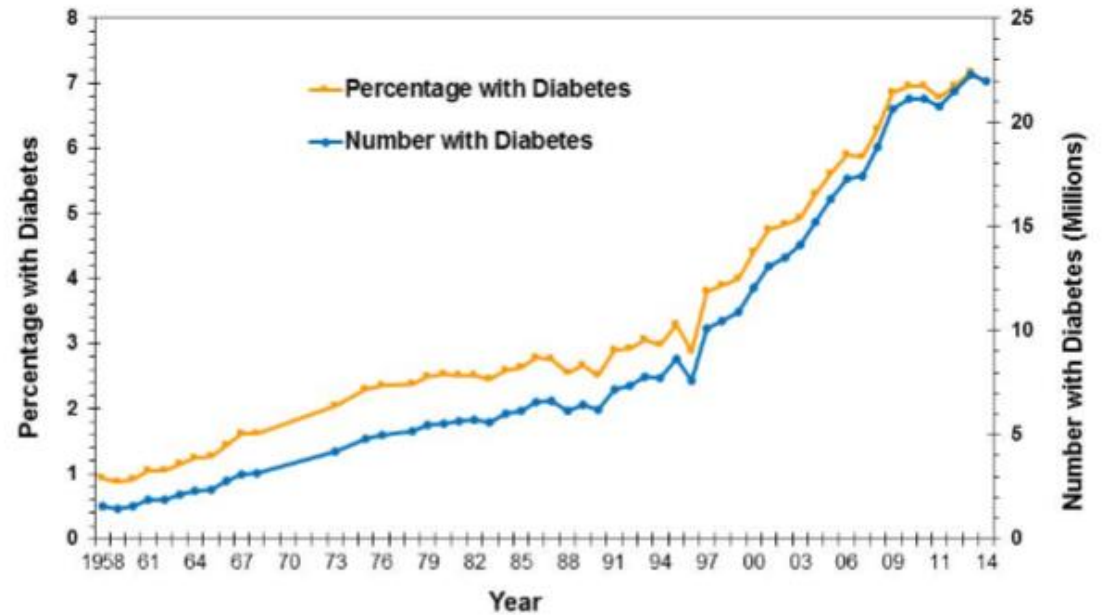
Prevent diabetes and improve the lives of all Minnesotans affected by diabetes.

- Assess, monitor, inform
- Convene and collaborate
- Support PSE approaches
- Promote healthy lifestyles
- Equitable access to care and evidence-based programs





Number and Percentage of U.S. Population with Diagnosed Diabetes, 1958-2014



CDC's Division of Diabetes Translation. United States Diabetes Surveillance System available at <http://www.cdc.gov/diabetes/data>



Food Environment Trends and Diabetes Trends

- 1970's - 20 oz. plastic soda bottles introduced
- 1979 – First kid's "Happy Meal"

MDH: Statewide Health Improvement Partnership (SHIP)

- **Supports community-driven solutions** to expand opportunities for active living, healthy eating, commercial tobacco-free living and well-being.
- **Collaborates with local public health** and the SuperShelf program to support food shelf transformations throughout Minnesota.
- **For more information** on the work MDH's SHIP is doing with SuperShelf in your area, please contact:
 - Sadie Gannett (sadie.gannett@state.mn.us or 651-201-5680)
 - Hilary Gebauer (hilary.Gebauer@state.mn.us or 651-201-3865)

Welcome Panelists!



Moderator:
Marna Canterbury, MS,
RDN, Senior Director of
Community Health,
HealthPartners



Caitlin Caspi, ScD Associate
Professor, Rudd Center for
Food Policy and Health
Institute for Collaboration
on Health, Intervention,
and Policy, University of
Connecticut



Nathan Hesse, MSW, LGSW
Agency Relations Program
Manager, The Food Group



Nora Gordan, MPH, Food
Programs Analyst, Office of
Economic Opportunity,
Minnesota Department of
Human Services

SuperShelf

**Meeting the Challenges of Diabetes:
Transforming Food Shelves to Meet Client Needs
with SuperShelf**



Marna Canterbury, MS, RDN
Sr. Director of Community Health
HealthPartners

Nora Gordon, MPH
Food Systems Analyst
MN Department of Human Services

Nathan Hesse, MSW, LGSW
Agency Relations Program Manager
The Food Group

Caitlin Caspi, ScD
Director of Food Security Initiatives
Rudd Center for Food Policy and Obesity



Minnesota Hunger Relief System



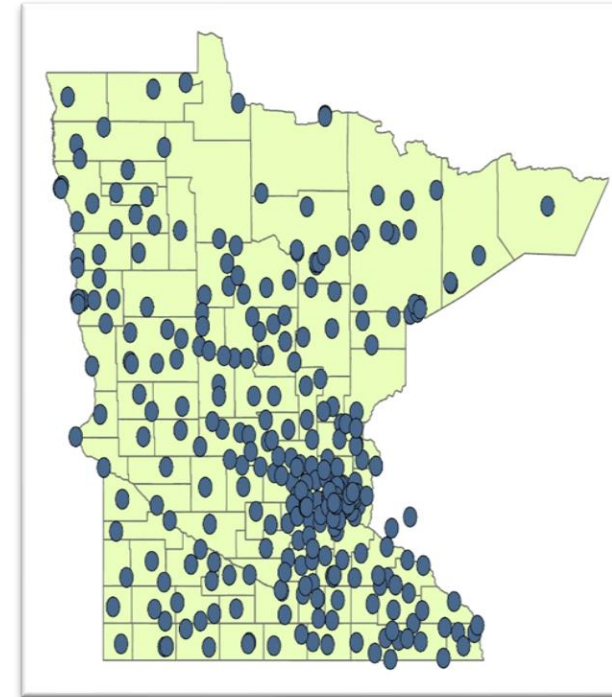
**Minnesota
Food Banks**



**Minnesota
Food Shelves**



**Serving people who are food
insecure, 3.6 million visits**



CHRONIC DISEASE RISK AMONG FOOD SHELF USERS

Has a doctor ever told you or someone in your household they...



47% Have high blood pressure



41% Should lose weight



33% Have high cholesterol



32% Have diabetes



67%

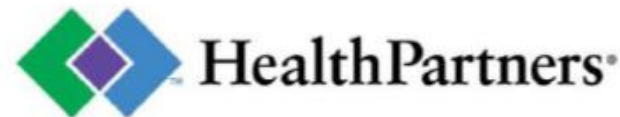
Responded **YES** to one or more health condition.



SuperShelf



Transforms food pantries, creating welcoming environments for communities to access appealing, healthy food.



SuperShelf Values



GOOD FOOD We believe reliable access to healthy, appealing and culturally appropriate food will promote overall health in our communities.

RESPECT FOR ALL: We believe person-centered, welcoming, and positive approaches create dignified experiences that further equity in our communities.

COLLABORATIVE PARTNERSHIPS: We believe mutual trust and fully-engaged partners build strong, connected communities working toward sustainable systems change.

EVIDENCE-BASED PRACTICES: We believe excellence comes from thoughtful, rigorous evaluations, and replicable solutions.

SYSTEMIC THINKING: We believe influencing policy and processes at all levels drives transformational change in our food system.

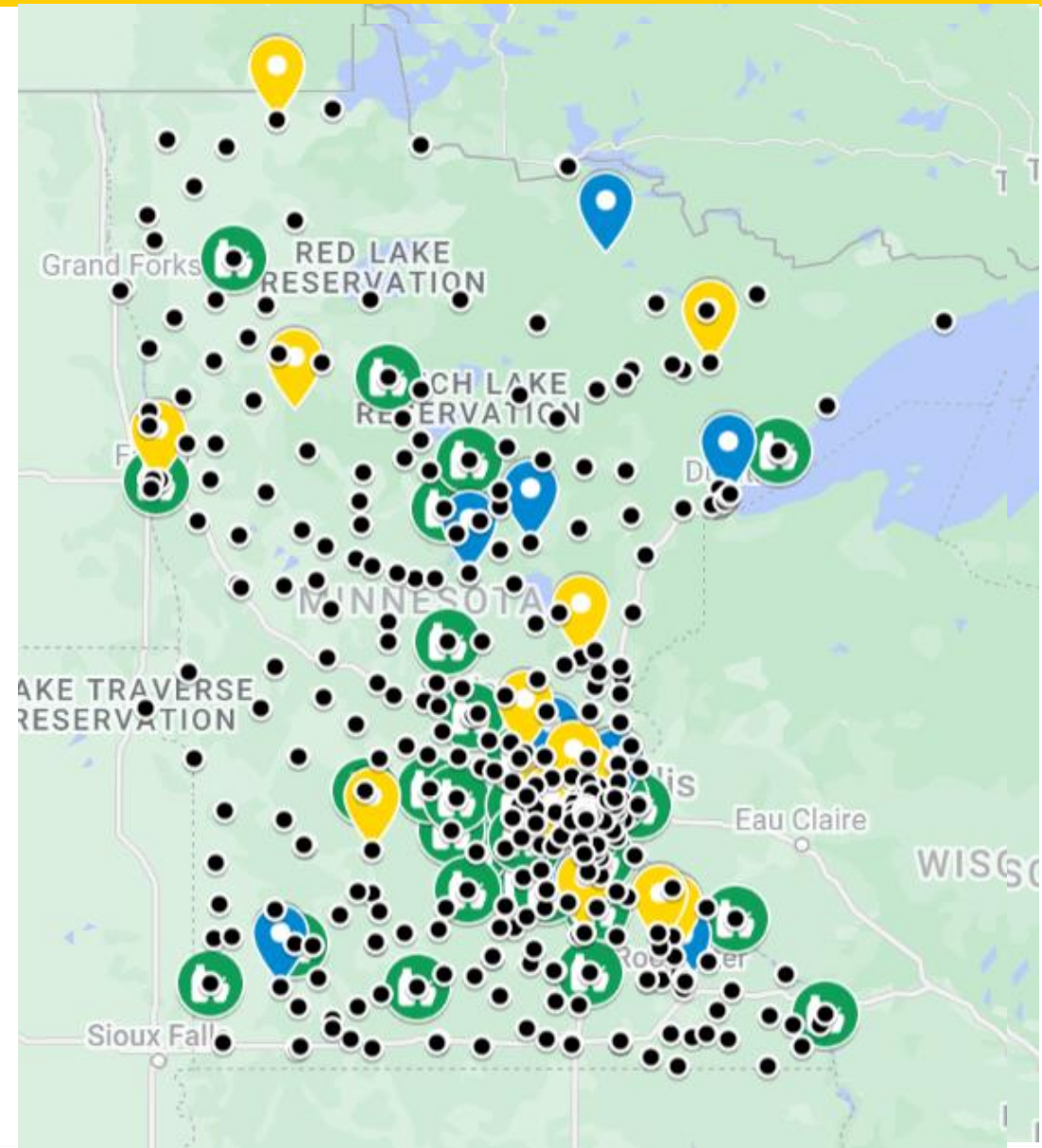
SuperShelf

Transforms food pantries, creating welcoming environments for communities to access appealing, healthy food.



SuperShelf in Minnesota

- U of M Extension Lead Consultants
- SuperShelves Transformed and Certified
- SuperShelves Transformed
- SuperShelves in Process
- Food Shelves



Panel Overview

MN client Surveys and SuperShelf Overview (*Nora*)

Person-centered approaches (*Nathan*)

SuperShelf Evaluation (*Caitlin*)

Discussion and Questions (*All*)



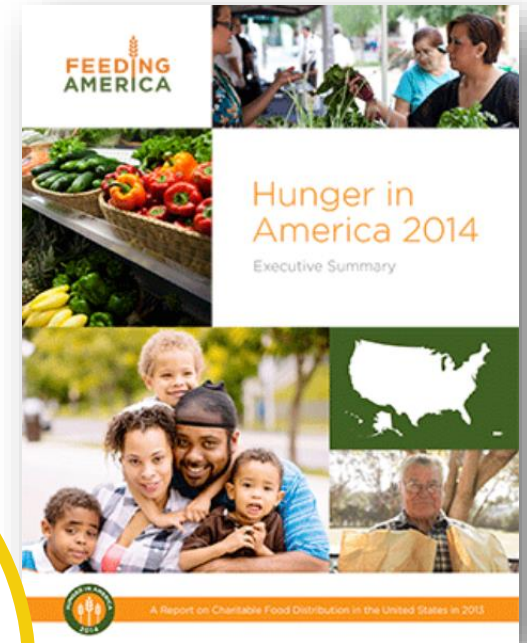
MN Statewide Surveys-

Nora Gordan



Origins of the Minnesota Food Shelf Client Surveys (2017 & 2019)

- Lack of data in hunger relief
- Partner discussions
- Formative research for SuperShelf intervention





2019 MINNESOTA FOOD SHELF SURVEY

Brought to you by:



- **220** MN food shelves participated across MN
- **5,529** food shelf clients



TOP 5 FOODS

CLIENTS WANT AT EACH VISIT



1
meat,
poultry, fish



2
fresh fruits &
vegetables



3
dairy



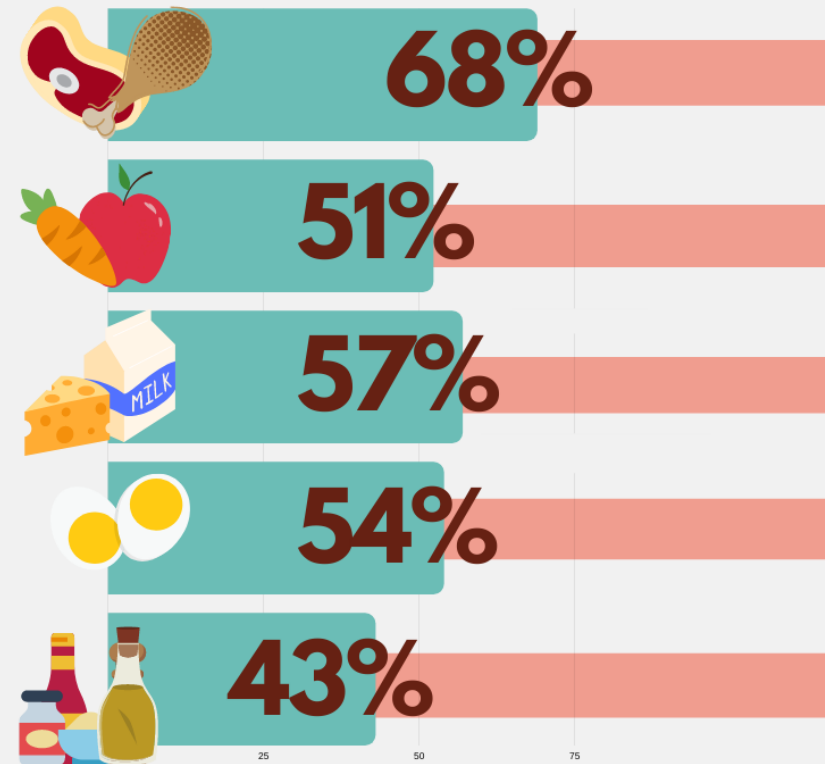
4
eggs



5
cooking &
baking



PERCENTAGE OF CLIENTS THAT SAID THESE ITEMS WERE ALWAYS AVAILABLE EACH VISIT





TOP 5 EXPERIENCES CLIENTS VALUE



1
I can choose my own food



2
Staff/Volunteers greet me; make me feel welcome



3
Selection process is easy



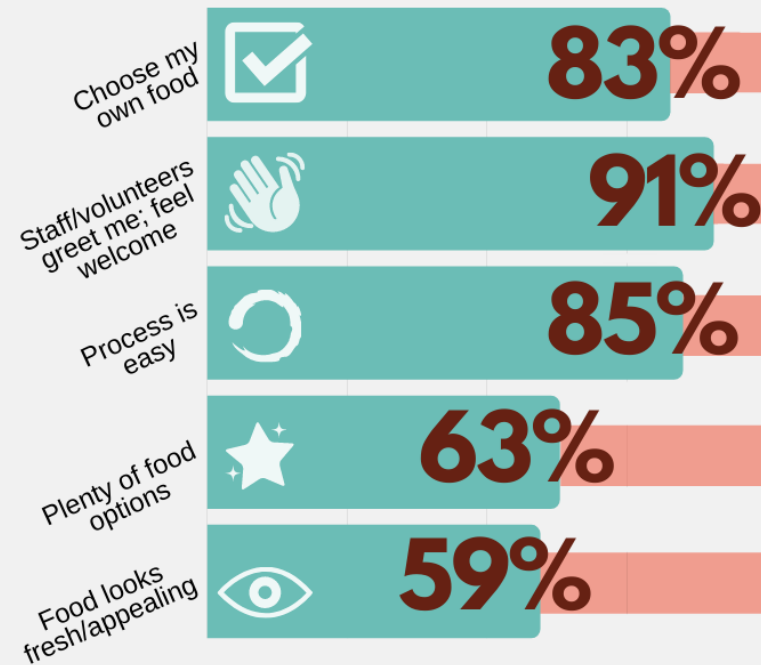
4
Plenty of different food options

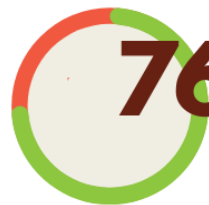


5
Food looks fresh & appealing



PERCENTAGE OF CLIENTS THAT SAID THESE EXPERIENCES ALWAYS OCCURRED EACH VISIT





76%

of food shelf users said they visited their food shelf **once a month or more.**



73%

have been using the food shelf for **1 year or more.**



55%

said they got **HALF or MORE** of **ALL** their **food** from the food shelf in the last 6 months.

Yet,

69%



**STILL REMAIN
FOOD INSECURE.**



The food shelf is important to me because...

“

...It provides the healthiest part of my diet, and I've become a much better cook since coming here.

-Food Shelf Client

”

2019

MINNESOTA
FOOD SHELF SURVEY



The food shelf is important to me because...

“

The food shelf offers fresh fruits and vegetables that I would not normally buy due to cost. It helps me save money that we can put towards other expenses-utilities, heat, fuel oil, etc. It helps put food on my table.

-Food Shelf Client

”

2019

MINNESOTA
FOOD SHELF SURVEY

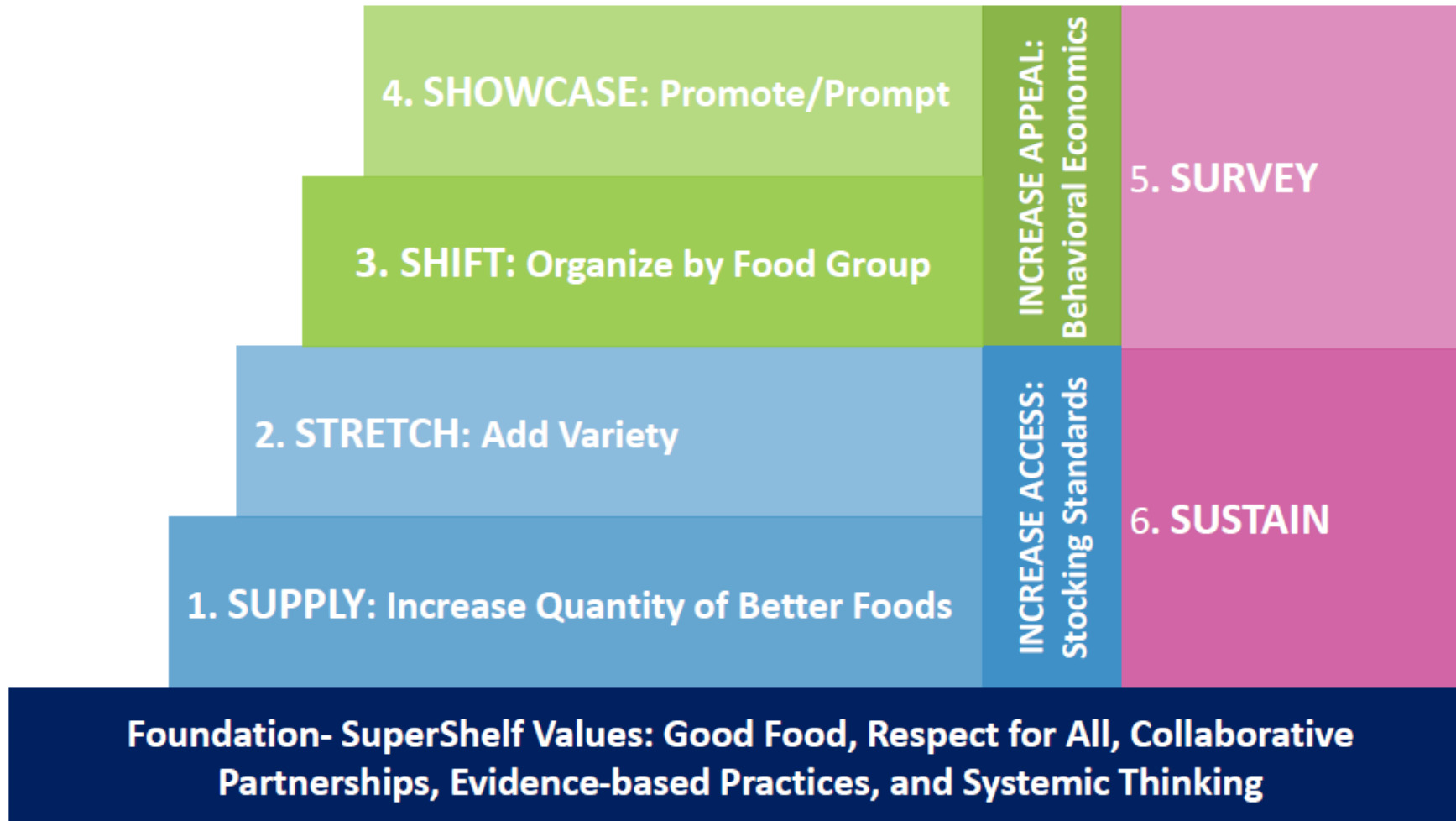


SuperShelf: How it works-

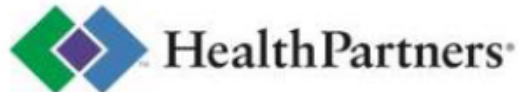
Nora Gordan



Six Steps to SuperShelf Systems Change



Transforms food shelves, creating welcoming environments for communities to access appealing, healthy food.





Works to:

- Create an environment that is client-centered
- Promote and respect individual choice
- Increase access to a variety of healthy, culturally appropriate foods
- Apply **behavioral economics** to create an appealing environment
- Meet specific standards, methods, and values
- Make the healthiest choice the easiest choice for all



Behavioral Economics in Food Shelves

The why behind decision making

- Environmental change approach (vs. direct education)
- Encourage and informs a health(ier) choice
- Promotes a dignified, choice-based shopping experience
- Solves the common problem of “what’s for dinner”
- **Not** one-size-fits all, nor mandated



SuperShelf as a Statewide Model



- Approach is driven by our values and mission
- Provides replicable intervention
- SuperShelf consultants provide 1:1 support
- Statewide reach and continuity
- Learning that can be applied to help improve the food system nationwide



Statewide Views on SuperShelf

- Our responsibility is the people of Minnesota
- Alignment with SuperShelf client-centered values and methods
- Ripple effect throughout the state...



Statewide Ripples

- Provides technical assistance and resources for food shelves; professional development
- Creates baseline standard of client-centered values, encourage culture shifts from charity to solidarity
- Trusted network for referrals through MN Food Helpline
- Supports participation in USDA The Emergency Food Assistance Program (TEFAP)
- Creates statewide continuity, expectations, and standards for community, stakeholders, leadership (systems impact and change!)



Statewide Impact on Decision Making



- The Emergency Food Assistance Program (TEFAP)
 - USDA commodity food program – **Top 5 Foods** (2021 8.4M, 2022 7.5M pounds of food in MN)
- COVID-19 pandemic related funding (2021 5.6M Lbs.)
- Encourage client-centered approaches when providing guidance, best practices, and policies at the state level for MN food shelves

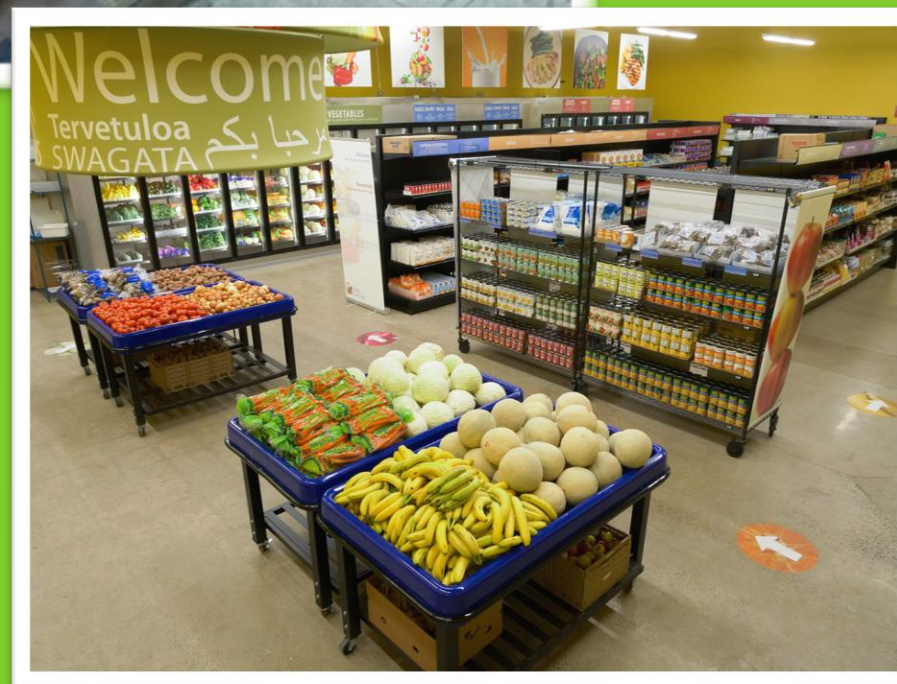


SuperShelf:
A person-centered approach-
Nathan Hesse

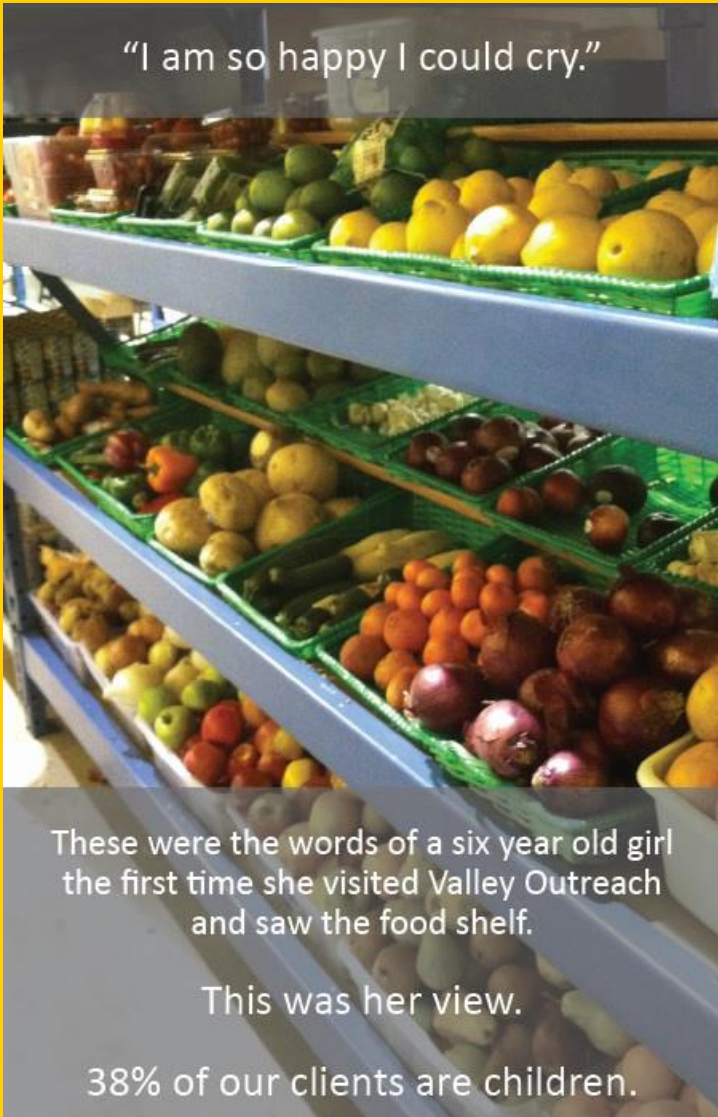


A Different Approach

SuperShelf works with food shelves to be welcoming, positive environments, that support our neighbor's food access with healthier foods, in an appealing environment, that fosters community between all.



Client Experience



Why did I choose that?

Common Expectation:
Burger and Fries. What if
there was an appealing
choice?



Choice Architecture

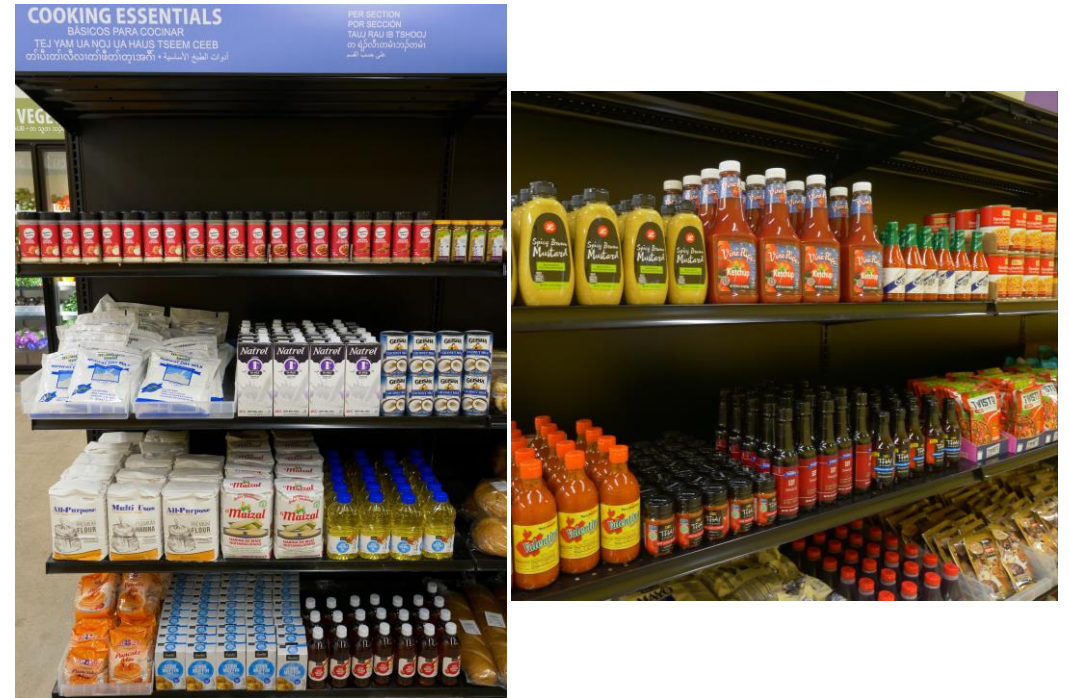
Many Yes or No Options



Before

Choose: 1 of each item =
6 total items and Less Choice

One Larger Category



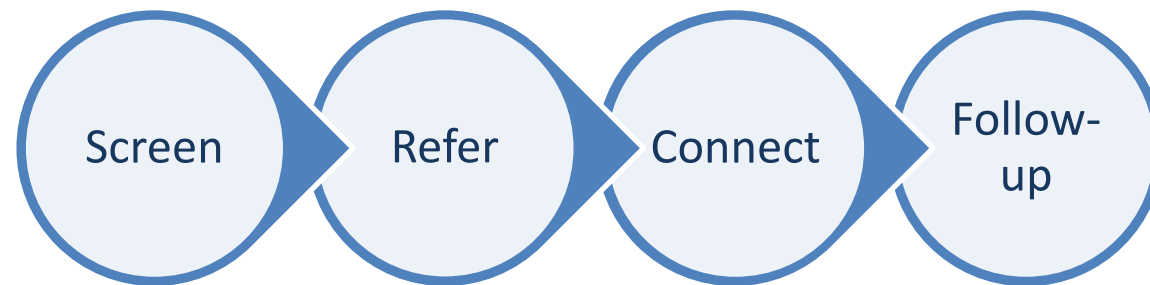
After

Choose: Any 6 Cooking or Baking items =
More Choices/Better Choices



Statewide Food Security Resources

- Food Insecurity Screening and Referral
- Minnesota Food Helpline
 - 1-888-711-1151 - <https://www.hungersolutions.org/programs/mn-food-helpline/>
- Your Local Food Shelf and SuperShelves
- SNAP, WIC, County resources



SuperShelf Evaluation-

Caitlin Caspi



SuperShelf Evaluation Overview

- Pilot study (2016-2017)
- NIH-funded study (2017-2022)
 - Implementation outcomes
 - Diet quality outcomes
 - Qualitative and exploratory findings
- Discussion
- Areas for future multi-sector work



Pilot Study (2016-2017)



Does SuperShelf lead to improvements in the nutritional quality of food shelf inventory and the food in client carts?

- 2 intervention food shelves
- 2 control food shelves
- 71 clients before and 70 after the intervention

BECR
CENTER

DUKE-UNC USDA
CENTER *for* BEHAVIORAL ECONOMICS
and HEALTHY FOOD CHOICE RESEARCH



Pilot Study: Assessments

Nutritional Quality of
Inventory



Nutritional Quality of
Client Carts

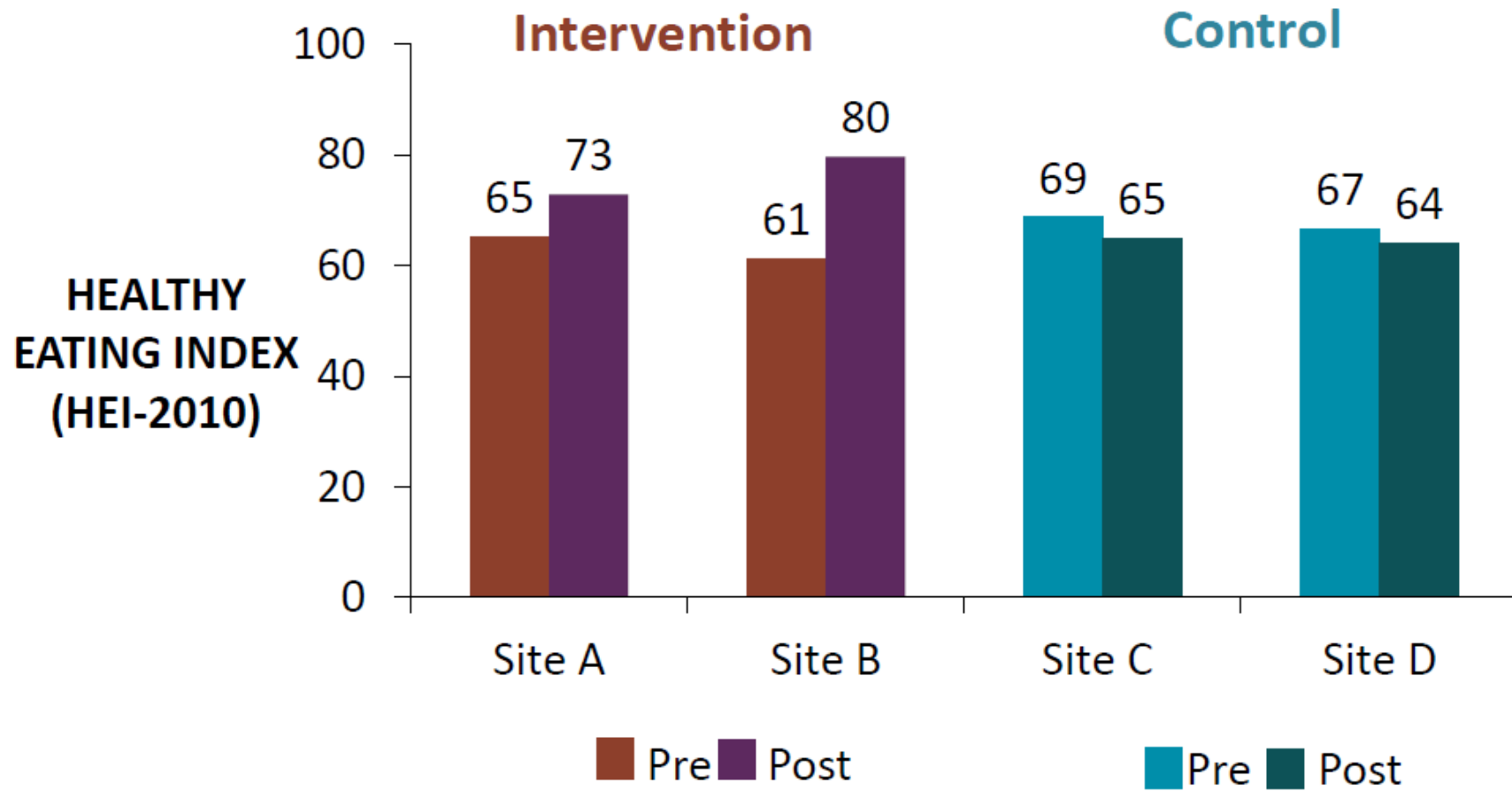


Outcome Measure: Healthy Eating Index-2010 (0-100)

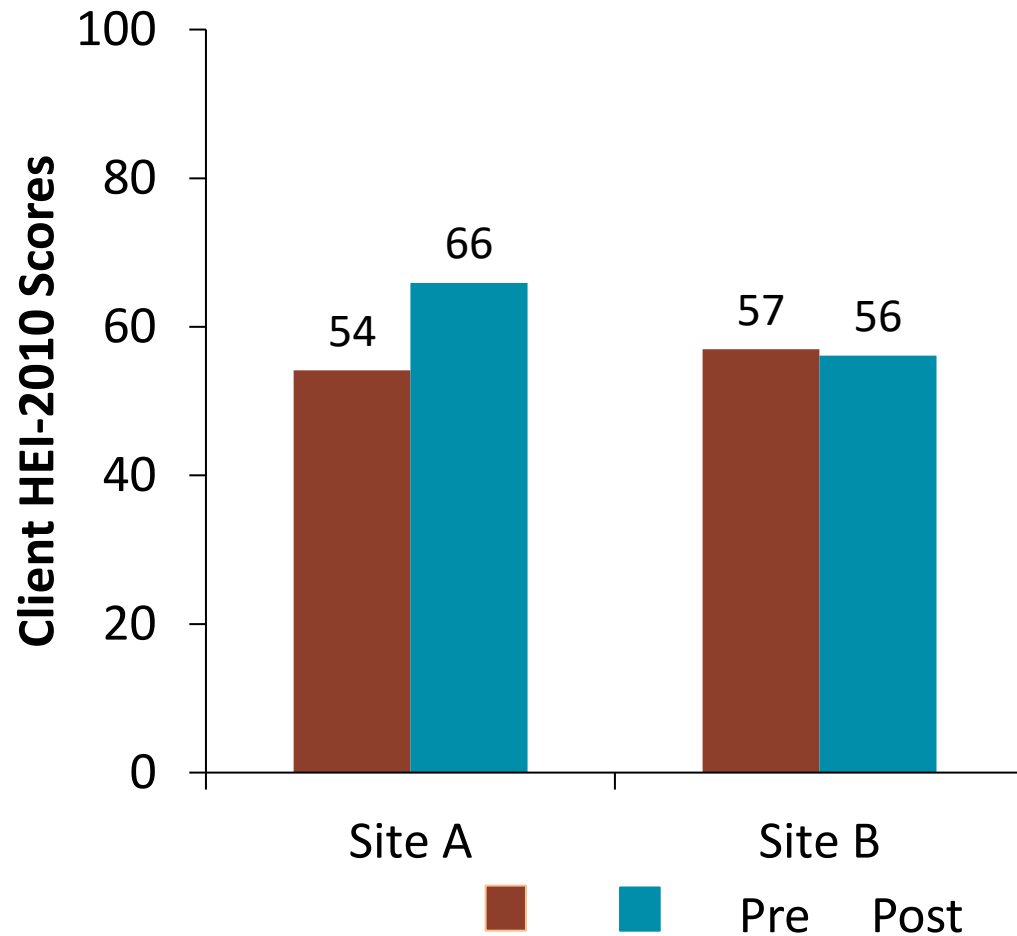
Component (HEI-2010)	Maximum score possible	Qualifications for maximum score
Total Fruits	5	≥ 0.8 cup equiv. / 1,000kcal
Whole Fruits	5	≥ 0.4 cup equiv. / 1,000kcal
Total Vegetables	5	≥ 1.1 cup equiv. / 1,000kcal
Greens and Beans	5	≥ 0.2 cup equiv. / 1,000kcal
Whole Grains	10	≥ 1.5 cup equiv. / 1,000kcal
Dairy	10	≥ 1.3 cup equiv. / 1,000kcal
Total Protein Foods	5	≥ 2.5 ounce equiv. / 1,000kcal
Seafood and Plant Proteins	5	≥ 0.8 ounce equiv. / 1,000kcal
Fatty Acids	10	(PUFAs + MUFAs) / SFAs ≥ 2.5
Refined Grains	10	≤ 1.8 ounce equiv. / 1,000kcal
Sodium	10	≤ 1.1 gram / 1,000kcal
Empty Calories	20	≤ 19% of energy
Total	100	Obtain maximum score in all components



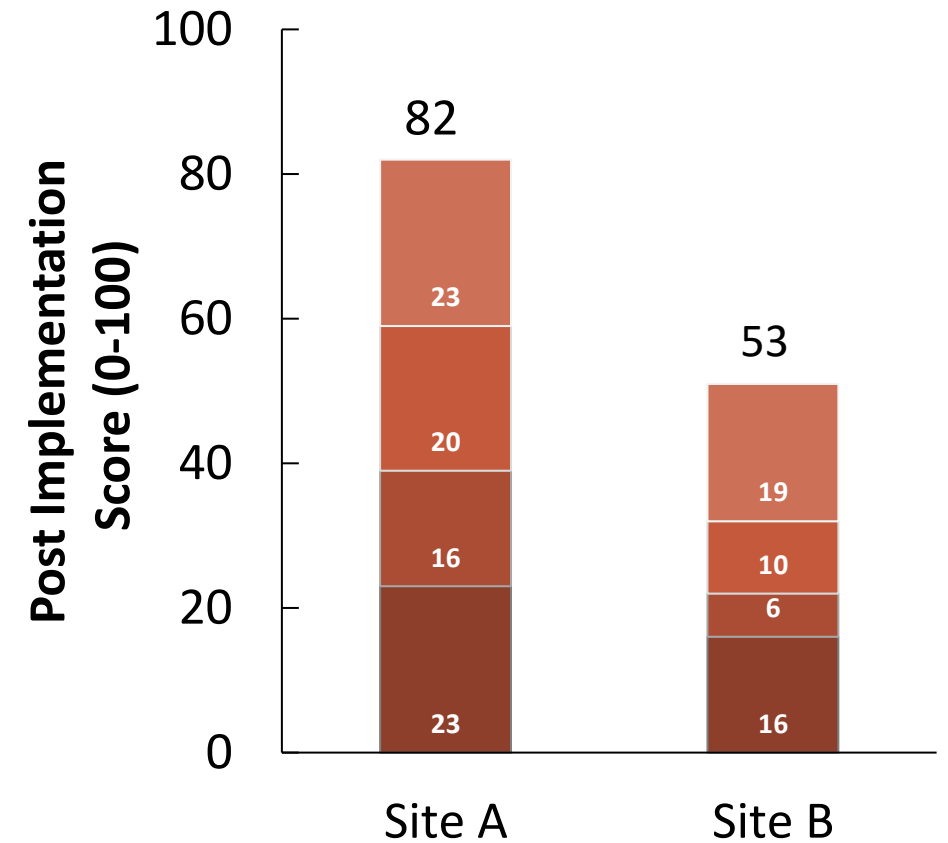
Pilot Study: Inventory Results



Pilot Study: Client Cart Results



Change was statistically significant at Site A



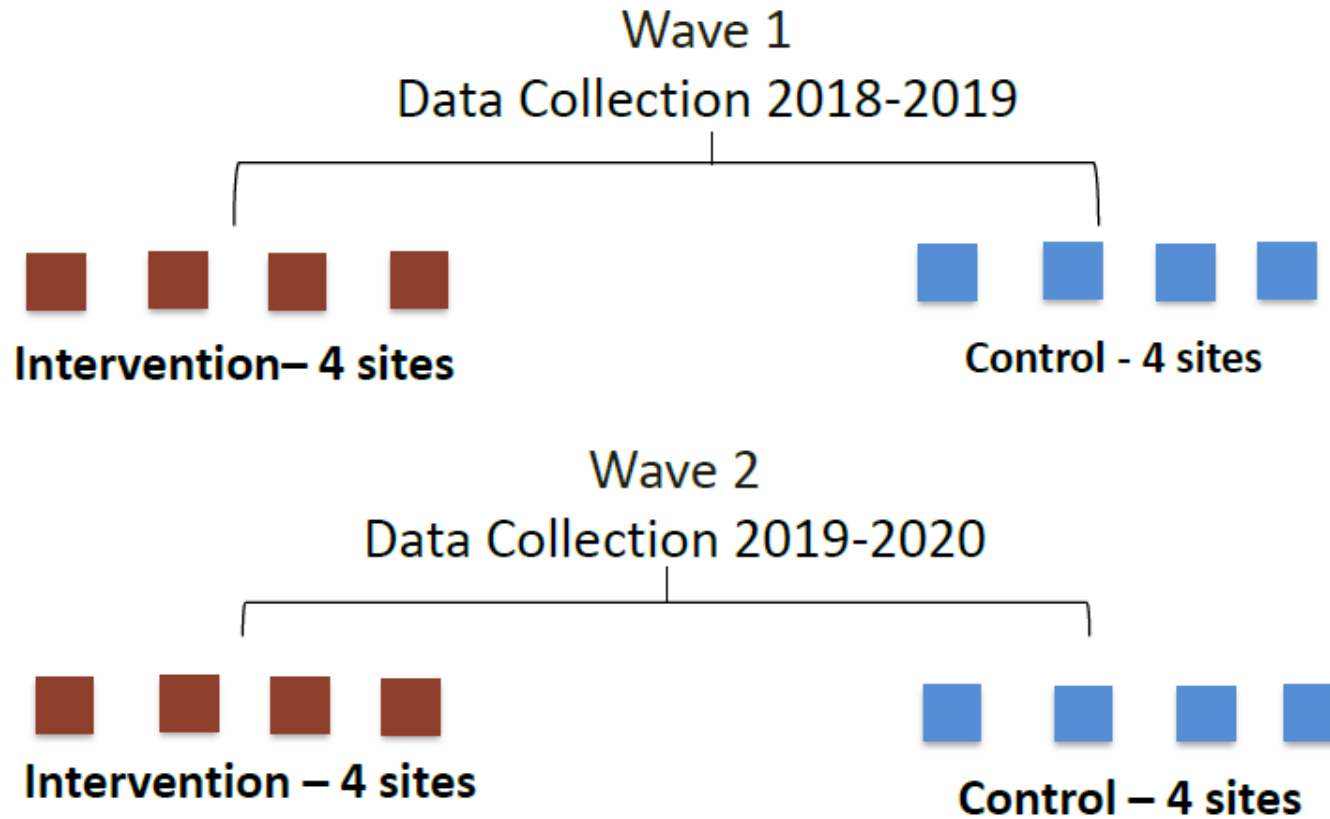
NIH-funded study (2017-2022)



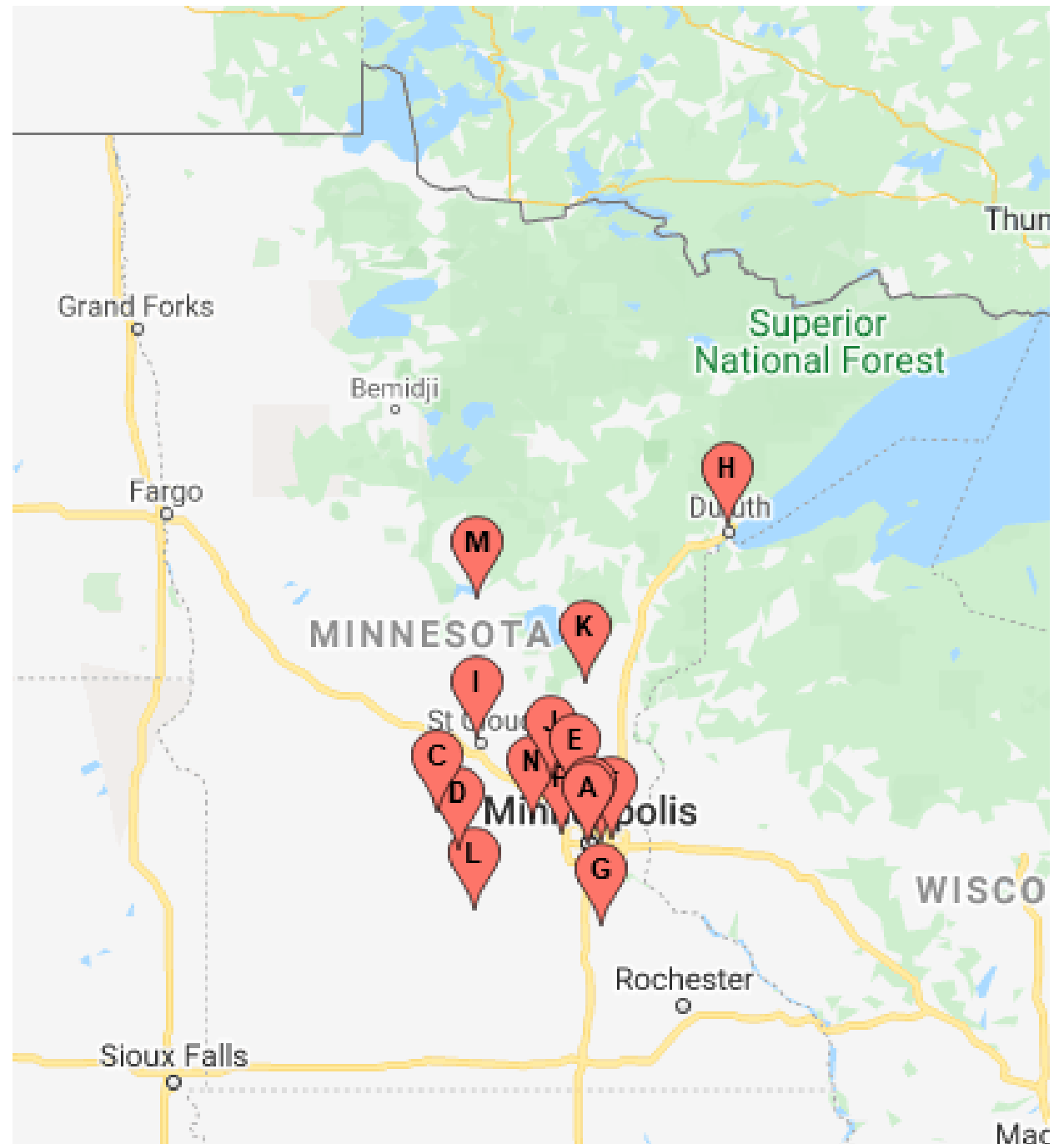
- 16 food shelves across Minnesota
- Intervention group and a “delayed intervention” control group
- Follows clients over time
- Adds client diet quality as primary outcome
- Updated Healthy Eating Index to 2015 version



Evaluation Design: Random Assignment of 16 Food Shelves



Minnesota Food Shelves Selected (N=16)



Evaluation Measures Collected

Level	Assessment	Measure
Client	Two 24-hour dietary recalls (paired)	HEI (0-100)
	Client cart (two independent samples)	HEI (0-100)
	Client survey (paired)	Various, incl. food shelf usage
Food shelf	Inventory	HEI (0-100)
		FAST (0-100)
	Implementation	Implementation score (0-100)
	Manager surveys and Interviews	Various

Measures collected at baseline and 1-year follow-up



NIH Evaluation: Effects of COVID- 19 Pandemic



- 11 food shelves (5 intervention, 6 control) completed data collection as planned

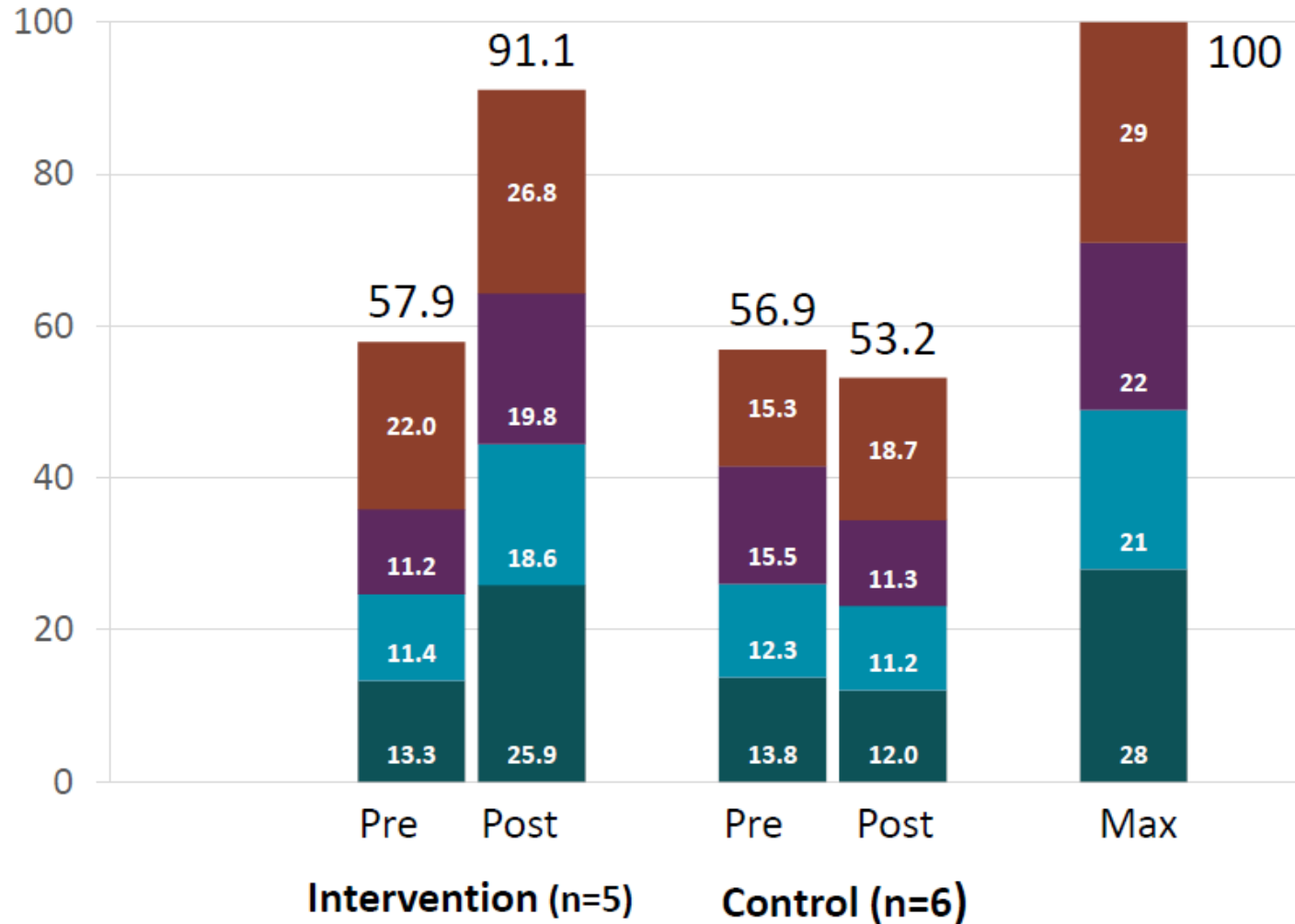


Results: Implementation

11 Food Shelves

IMPLEMENTATION SCORE

- Stocking Standards (0-29)
- Unhealthy Food Placement (0-22)
- Healthy Food Placement (0-21)
- Aesthetics & Layout (0-28)

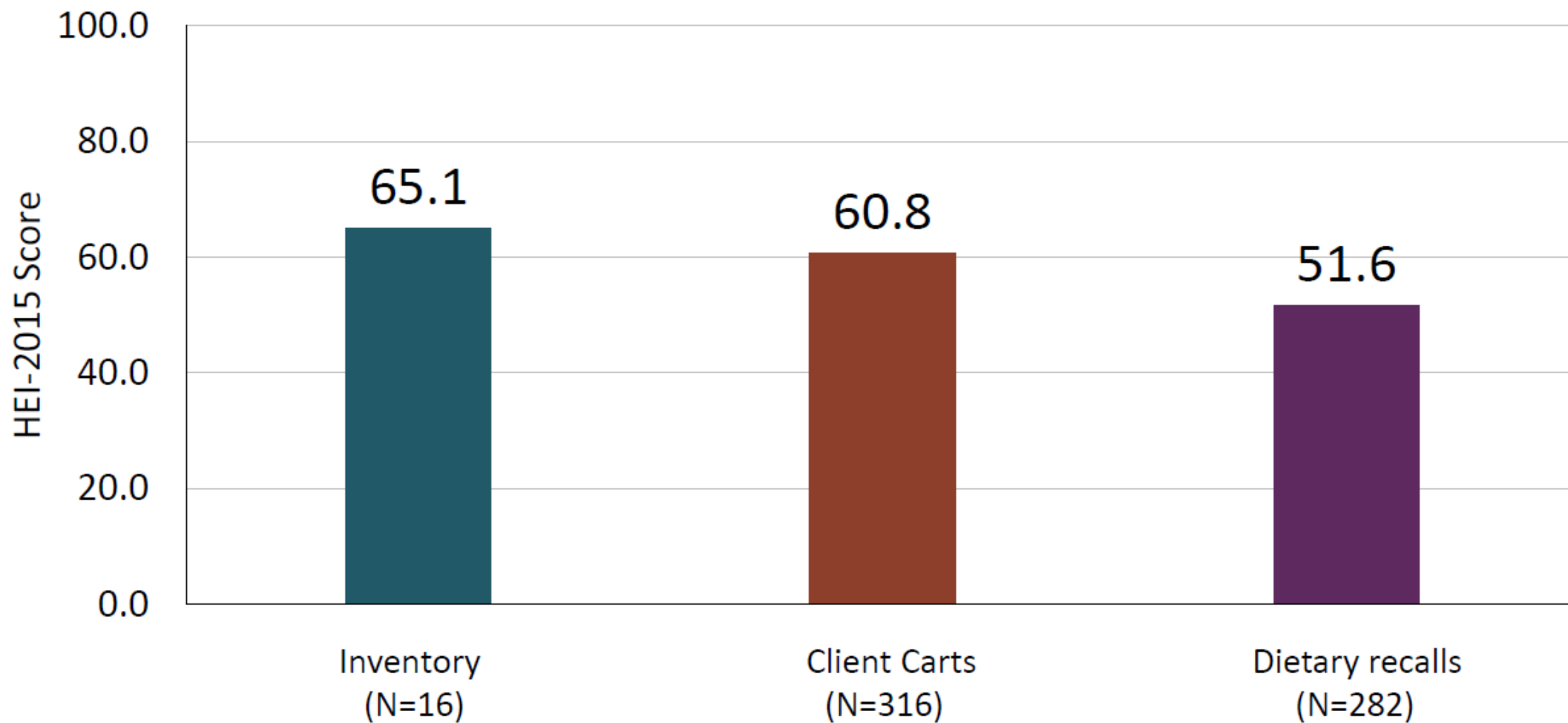


*p-value for Time *
Treatment arm =
p<0.001*

*Change was
statistically significant
for all subcomponents
except stocking
standards*

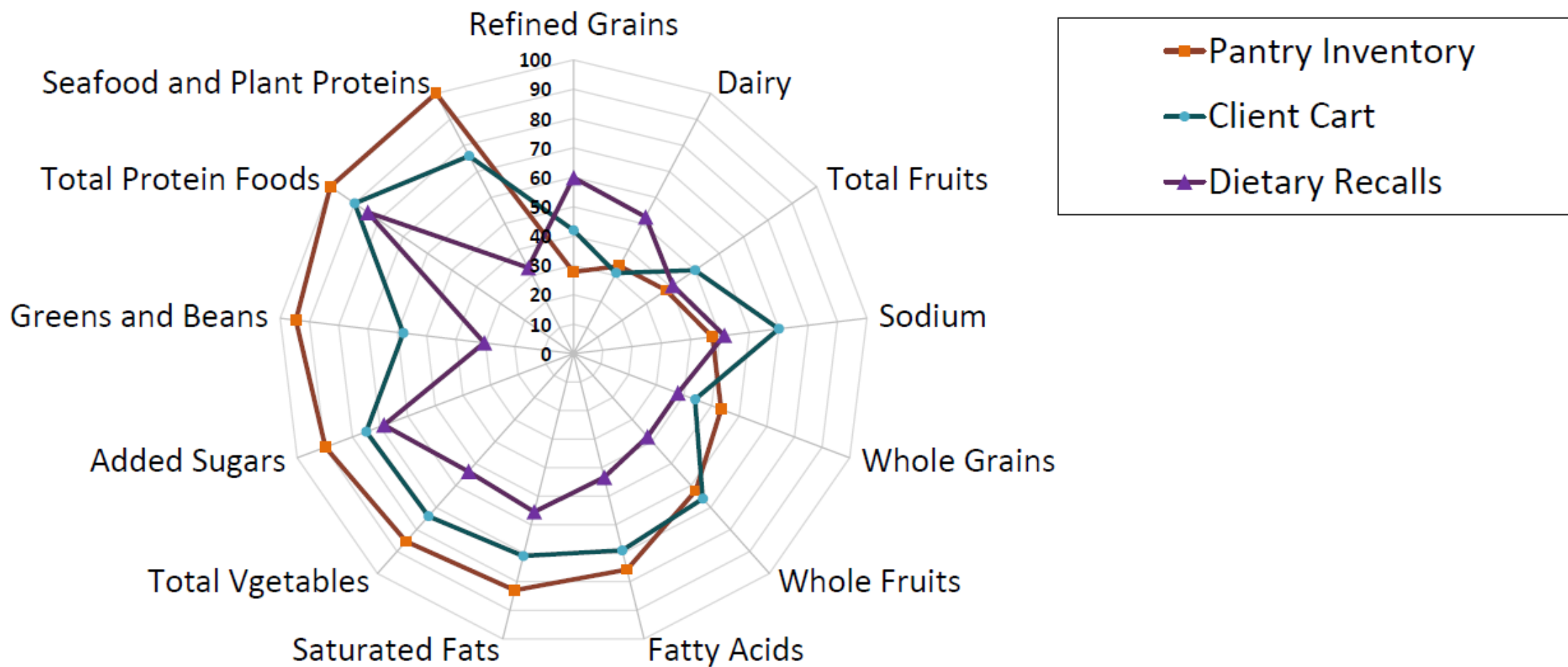


HEI-2015 Scores for Inventory, Client Carts, and Diet

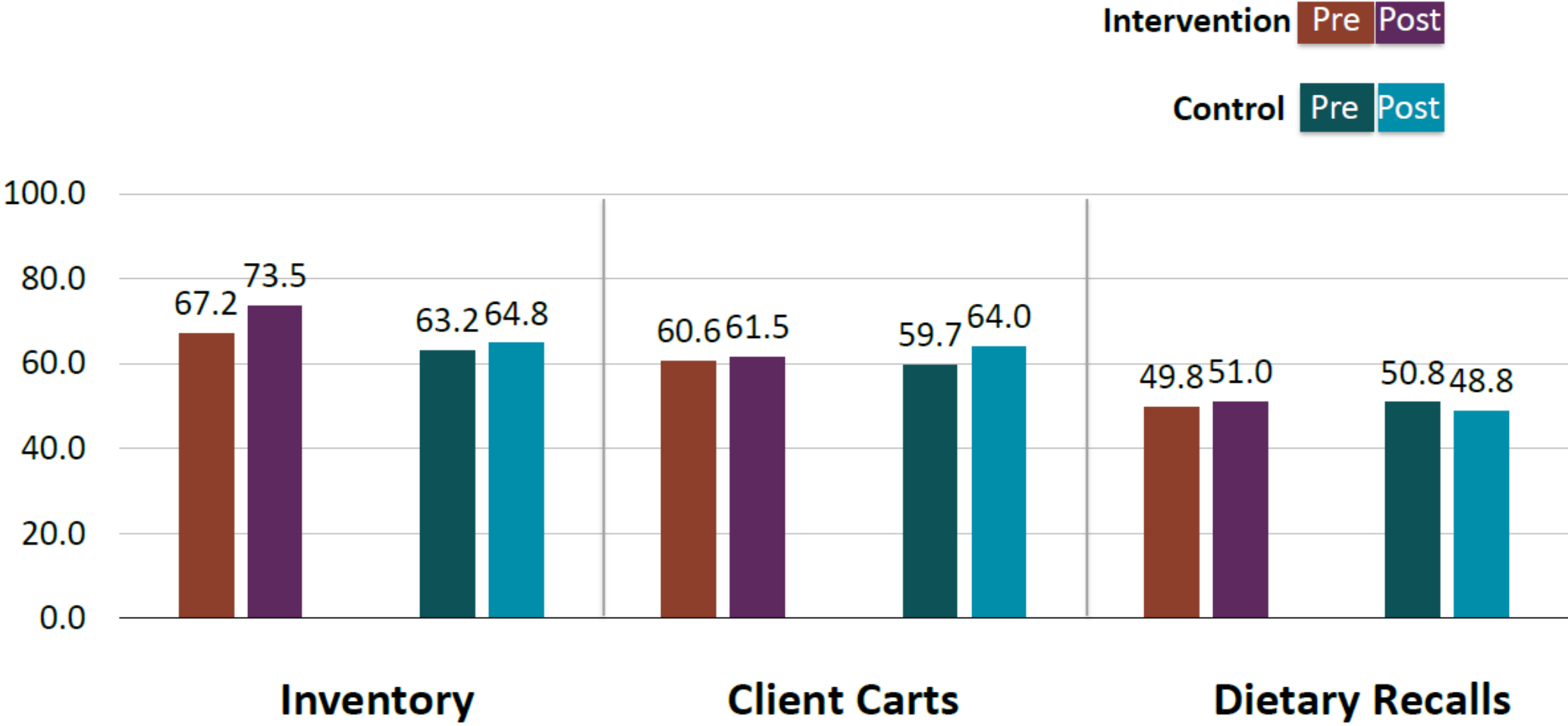


HEI-2015 Subcomponent Scores for Inventory, Client Carts, and Diet

N=16 Food shelves and 316 clients



Results: Pre and Post HEI-2015 Scores



Differences between treatment arms were not statistically significant



Food Shelf Staff & Volunteers Were Satisfied



- *“We weren’t going to spend our money on [whole grain items, brown rice] because people don’t like those anyways. Which is not true from what we’re finding.”*
- *“We’ve been working really hard on making it a friendly, positive environment and SuperShelf has...led us in the right direction*



Client Satisfaction

Clients in intervention group more likely to report *“I am pleased with options of food available”* compared with control group



“[The clients] are happier...people are more content with making their choices.”

(Volunteer)



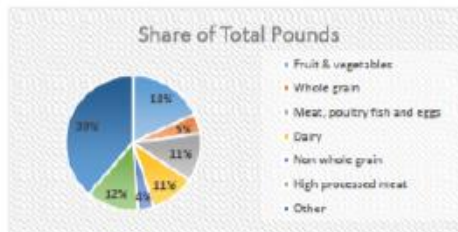
Did SuperShelf Change Other Measures?

FAST

Food Assortment Scoring Tool

Food Shelf Name

FAST Score: 50.31			
Category	Description	Pounds	Percent of Food
1	Fresh fruits & vegetables	61.0	13.9%
2	Processed fruits & vegetables	18.4	4.2%
3	Whole grains	21.0	4.6%
4	Non-whole grains	16.6	3.6%
5	Beverages	17.0	3.9%
6	Dessert and snacks	51.0	11.6%
7	Dairy	46.6	10.6%
8	Vegetable protein	13.6	3.1%
9	Meat, poultry, fish & eggs	37.0	8.4%
10	High processed meat	55.0	12.5%
11	Mixed meats & side dishes	32.0	7.3%
12	Condiments, baking, and cooking needs	27.0	6.1%
13	Baby food	48.0	9.8%
Scorable Pounds		435.2	100.0%
14	Water	15.8	
Total Pounds		455.0	
Source(s)		Public Donation, Retail Rescue, Tris order, Sift order	Date: 4/1/2016 - 2/8/2017



This tool was developed through funding from The Target Foundation and a collaboration between The Food Group, University of Minnesota, and Second Harvest Heartland.

SWAP

SUPPORTING • WELLNESS • AT • PANTRIES



GREEN

Choose often;
low in saturated fat,
sodium and sugar;
supports health

YELLOW

Choose sometimes;
medium levels of fat,
sodium or sugar;
can contribute to
good health

RED

Choose rarely;
high levels of fat,
sodium or sugar;
think of as treats;
limited health benefits





Key Points

- Intervention was feasible to implement
- Demonstrated satisfaction from clients, food shelf managers, and volunteers
- Did not result in change in HEI-2015 scores



Putting it All Together

- HEI-2015 scores for inventory rather high at baseline
- Clients still constrained in what they are allowed to take
- Did not consider foods from outside the food shelf
- Some movement in other measures of diet quality developed for the food shelf



Gaps and Opportunities



- Partnership with other programs health-promoting resources
- Supporting new models for food shelves
- Understanding food shelves part of a much larger effort to improve health equity



SuperShelf: Questions and Discussion



Upcoming Webinars can be found here:

[Performance Improvement Project \(PIP\): Improving Comprehensive Diabetes Care](#)

Evaluation and Certificate of Attendance

Evaluation Link

```
graph TD; A[Evaluation Link] --> B[Certificate of Participation – upon completion of Evaluation]; B --> C[Recording - Recording can be found at the Performance Improvement Project - Diabetes Page on the Stratis Health Website];
```

Certificate of Participation –
upon completion of Evaluation

Recording - Recording can be found at the Performance Improvement Project - Diabetes Page on the Stratis Health Website

Thank you!

Ambroz, Teresa (MDH) teresa.ambroz@state.mn.us

Chambers, Tammy (Diabetes PIP) tammy.j.chambers2@healthpartners.com