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Food changes everything.™

Measuring the Health of the Food Distributed with the *Food Assortment Scoring Tool* (FAST)

*Kate Burggraff and Kristen Williamson, RD, LDN*
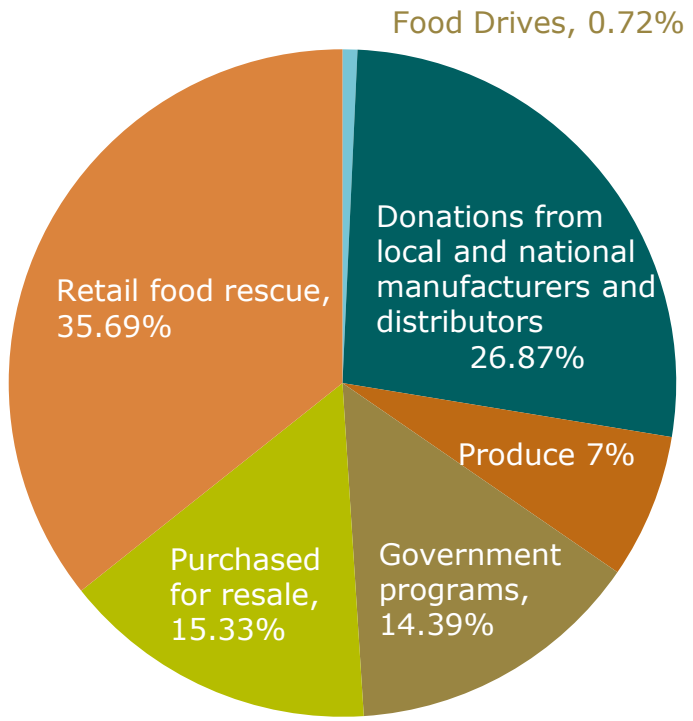
May 10, 2017

BACKGROUND

About Second Harvest Heartland

➢ Our mission is to end hunger through community partnerships.

➢ We provide, on average, 75% of the food that is distributed through nearly 1,000 partners and programs in 41 counties in Minnesota and 18 counties in western Wisconsin.

➢ Last year we distributed more than 80 million meals
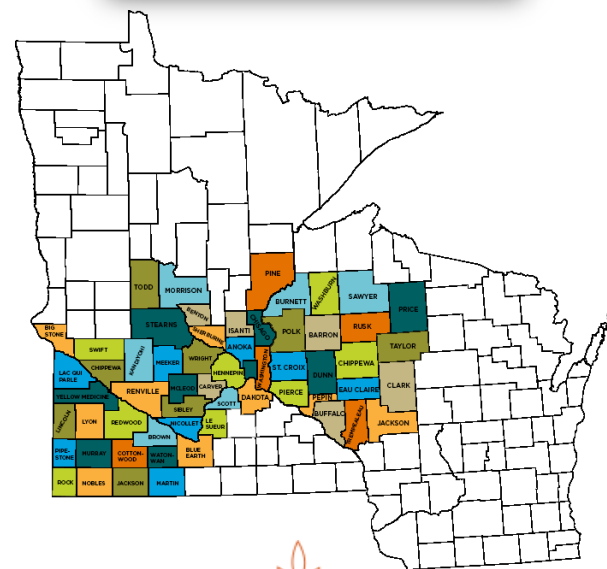
Food resources:
High-level changes to our food system

Second Harvest Heartland Food Sources (2014)

Food Drives, 0.72%

Retail food rescue, 35.69%

Donations from local and national manufacturers and distributors 26.87%

Produce 7%

Purchased for resale, 15.33%

Government programs, 14.39%

Fresh produce from agricultural surplus is projected to be the biggest driver of growth of emergency food nationally

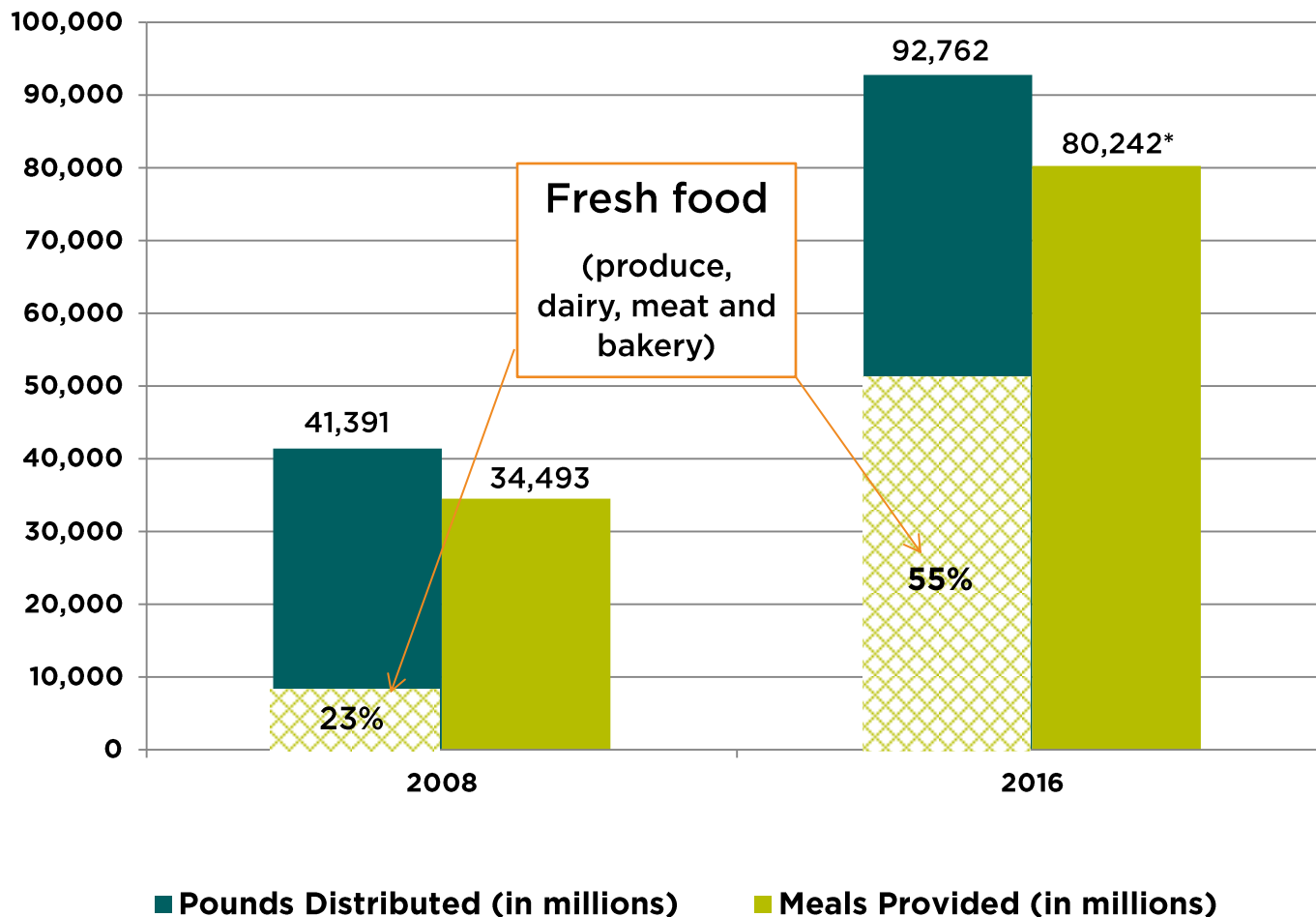6 billion pounds of unharvested produce available nationally

Food Source	2010-2015
Produce	+17%
Purchase	+3%
Retail Food Rescue	+12%
Manufacturer	(3%)
Federal gov't	(4%)

Source: Feeding America

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A Growing Supply of Fresh and Nutritious Food

* Includes meals provided through SNAP and Summer Food Service Program

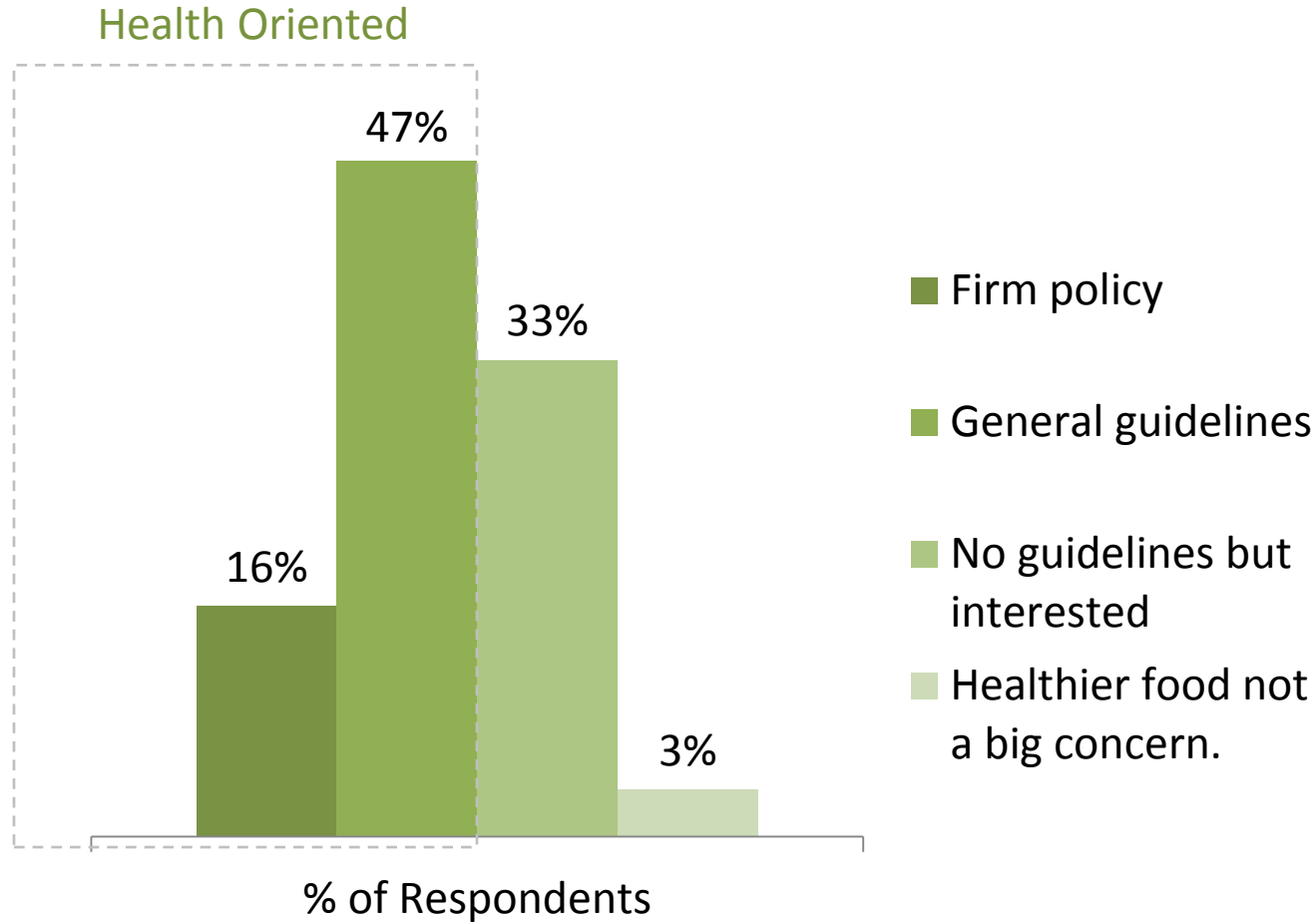# A Growing Supply of Fresh and Nutritious Food

Health Guidelines

Health Oriented

47%

33%

16%

3%

- Firm policy

- General guidelines

- No guidelines but interested

- Healthier food not a big concern.

% of Respondents

N=180

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Our Landscape and Strategy Are Evolving

Feeding Hungry Neighbors	Then	Now
Philosophy	"Recycling" - Waste is sinful	Hunger relief
Food Type	"Whatever's left" A calorie is a calorie	Nutritious, Culturally specific
Key Stakeholder	Food donors	Clients
Strategy	Efficient delivery	Effectiveness, Program access
Role	Supplemental	Greater support
Outcome	Pounds of food	Health & Stability

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Why is this work important?

- **Potential shift from POUNDS as main focus to increased value place on QUALITY of food**

- **Measurement allows for informed choice at all levels of food supply chain (donors -> food bank -> agency)**

- **Food manufacturers & retail push to reduce food waste and carbon foot print (agreement between Top 10 retailers and EPA)**

- **Anticipated increase in nutritional foods as % of whole – "demand – supply" relationship**

Healthy F.O.O.D. Study- 2013 to 2015

- Collaborative effort between Second Harvest Heartland, University of Minnesota and The Food Group

- Focused on implementing the Healthy Eating Index (HEI) measure for food bank inventory items

- Study provided food shelves with a feedback tool measuring the healthfulness of the food ordered from the Food Bank

Key Takeaways:

- Food pantries highly appreciated receiving feedback on the healthfulness of the food they ordered

- While HEI is a widely accepted measure, it was time-consuming and challenging to implement at food banks and pantries

- 27% of Food Bank food is Mixed product – HEI was unable to capture

- There is a need for a measurement tool that can be automated within the context of the Hunger Relief system

INTRODUCTION TO FAST

What is FAST?

- **FAST or *Food Assortment Scoring Tool* was created based on Healthy Eating Index Scores**

- **Foods are divided into 14 separate food categories, similar to those used in the Healthy Eating Index**
  - Further specifies whole wheat vs non-whole wheat and processed meat and non-processed meat

- **The score is calculated based on nutritional value and average product weight**
  - Scoring calculation developed by Dr. Robert King, University of Minnesota

FAST Categories With Examples

Categories	Examples
Fresh Fruits and Vegetables	Fresh fruits and vegetables, frozen fruits and vegetables
Processed Fruits and Vegetables	Canned fruits and vegetables,
Whole Grains *First ingredient must be a whole grain*	Oatmeal, brown rice, quinoa, whole grain bread and pasta
Non-whole grains	Bread, pasta, cereal, lefse, cereal, tortilla
Beverages	Fruit juice, tea, Frappuccino, sparkling water, yogurt beverages
Desserts and Snacks	Doughnuts, cookies, candy, chips, granola bars
Dairy	Milk, butter, sour cream, cheese
Vegetable Protein	Nuts, beans, chickpeas, tofu, lentils, hummus
Meat, Poultry, Fish and Eggs	Chicken, turkey, fish, canned fish, ham

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FAST Categories With Examples-Cont'd

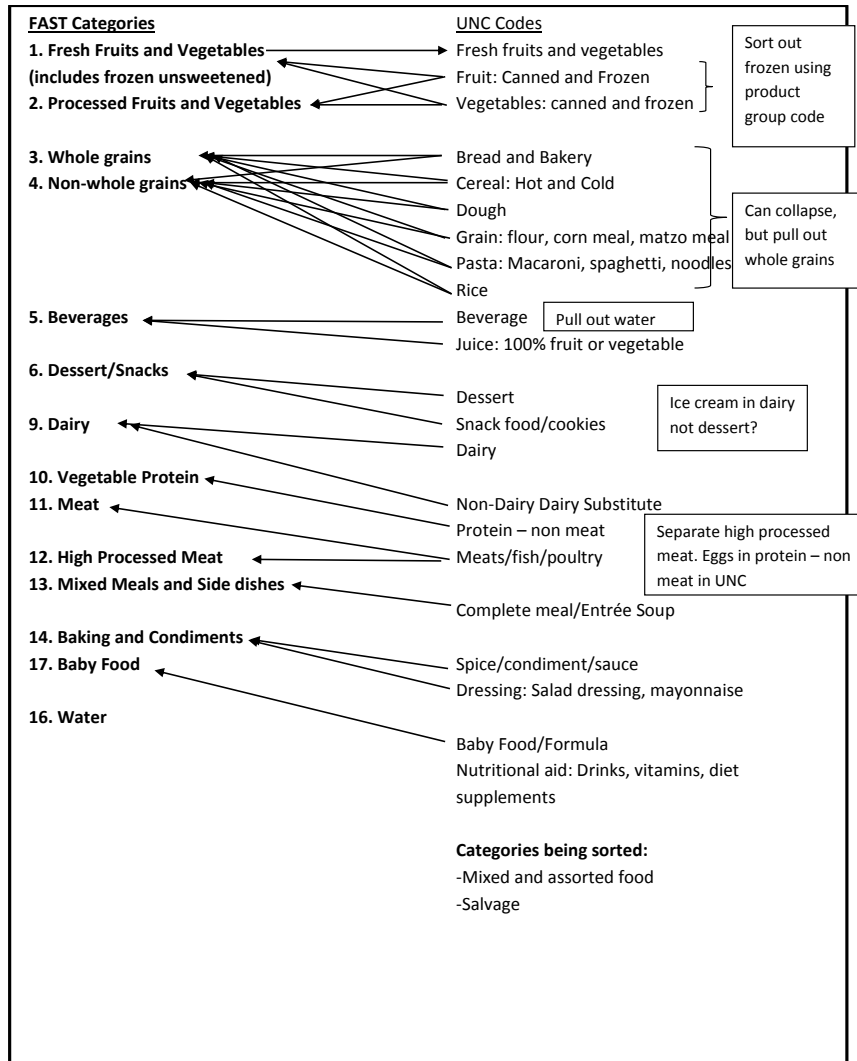| Categories	Examples
High Processed Meat	Hot Dog, Salami, Lunch Meat, Bacon
Mixed Meals and Sides	Soups, Hamburger Helper, Broth, French Toast, Vegetables with Sauce
Condiments, Baking and Cooking needs	Ketchup, Mustard, Pancake Mix, Cookie Mix, Sauces
Water	
Baby Food	Any product intended for use for a baby

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Phase I

- **Develop index and coding protocol to score the nutritional value of food coming into Second Harvest**

  - *Coding has been based on the UNC codes to facilitate sharing across all Feeding America networks*

- **Measure nutritional value of miscellaneous categories – (27% of food)**
  - Retail mixed pallets
  - Food drive donations

- **Create data tracking protocols and reporting tools**
  - Food Bank inventory data
  - Partner agency orders
  - Scoring for Second Harvest would be done on a quarterly basis while orders for individual agencies could be done on a order and aggregate basis

Design and Testing of New Coding Categories

FAST Categories

1. Fresh Fruits and Vegetables
(includes frozen unsweetened)
2. Processed Fruits and Vegetables

3. Whole grains
4. Non-whole grains

5. Beverages

6. Dessert/Snacks

9. Dairy

10. Vegetable Protein
11. Meat

12. High Processed Meat
13. Mixed Meals and Side dishes

14. Baking and Condiments
17. Baby Food

16. Water

UNC Codes

Fresh fruits and vegetables
Fruit: Canned and Frozen
Vegetables: canned and frozen

> Sort out frozen using product group code

Bread and Bakery
Cereal: Hot and Cold
Dough
Grain: flour, corn meal, matzo meal
Pasta: Macaroni, spaghetti, noodles
Rice

> Can collapse, but pull out whole grains

Beverage   Pull out water
Juice: 100% fruit or vegetable

Dessert
Snack food/cookies   Ice cream in dairy not dessert?
Dairy

Non-Dairy Dairy Substitute
Protein – non meat
Meats/fish/poultry

> Separate high processed meat. Eggs in protein – non meat in UNC

Complete meal/Entrée Soup

Spice/condiment/sauce
Dressing: Salad dressing, mayonnaise

Baby Food/Formula
Nutritional aid: Drinks, vitamins, diet supplements

Categories being sorted:
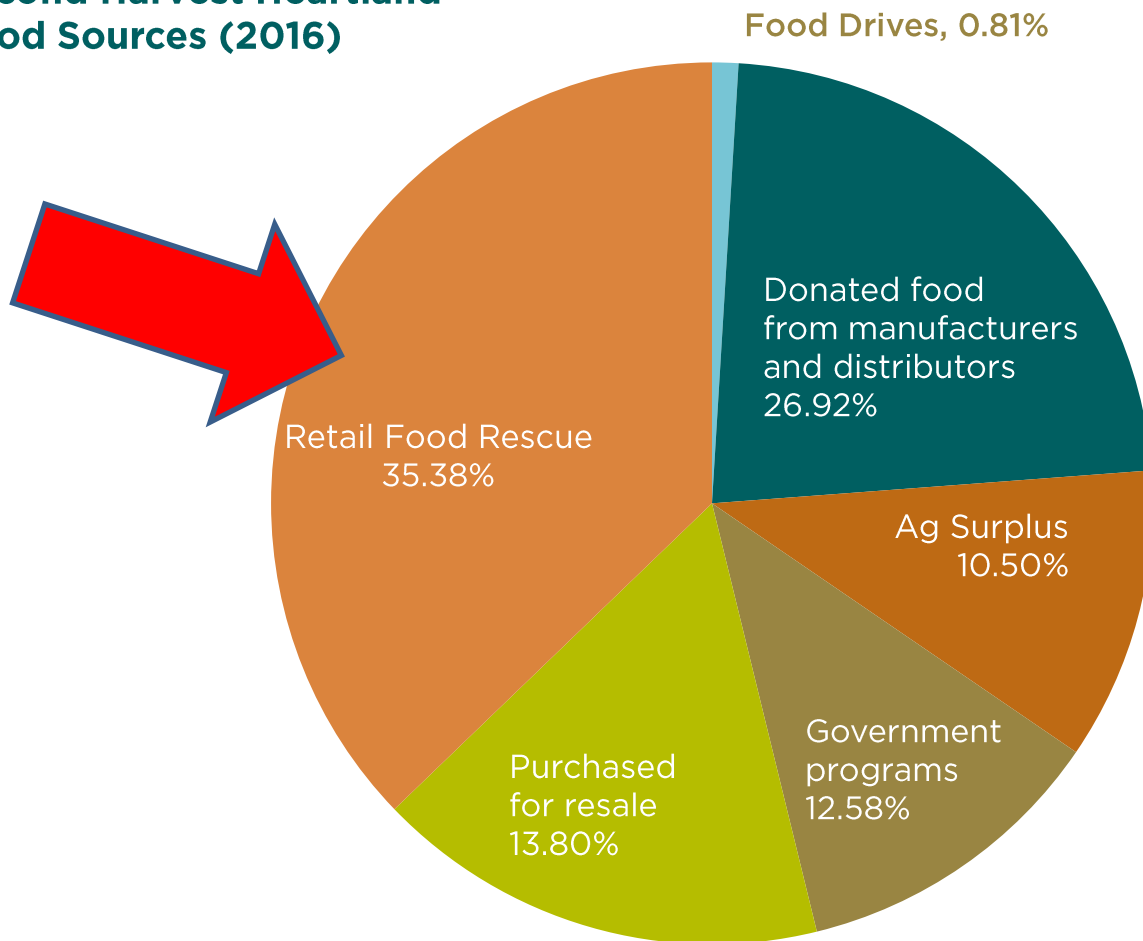-Mixed and assorted food
-Salvage

- **Most UNC categories collapsed**
  - Simplifies coding
  - Increases statistical correlation

- **Increased specificity with split of grains and meats**
  - whole vs. non-whole
  - non vs. high processed

- **Aligned to food shelf tool codes**

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MISCELLANEOUS CATEGORY STUDY

Where does the food come from?

**Second Harvest Heartland
Food Sources (2016)**

Food Drives, 0.81%

Donated food from manufacturers and distributors 26.92%

Ag Surplus 10.50%

Government programs 12.58%

Purchased for resale 13.80%

Retail Food Rescue 35.38%

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Miscellaneous Categories Study Sample

- **About 30% of the food Second Harvest Heartland distributes is miscellaneous**
  - Captured top 65% of miscellaneous categories at Second Harvest Heartland

- **Frequency of data collection varies between each category due to variation of initial data collection and feasibility**
  - Worked with statistician to determine statistical sample variation

- **Data collection done at point of receipt vs. distribution**
  - Food Bank SHH
  - Food Shelf – 4 partners

Dry Public Donations/Food Drive Pallets

- **Year-long data collection on miscellaneous pallets**
  - Sourced from: public donation/food drives and retail rescue

- **Great variation among samples**
  - Gathered year long data to capture seasonality and variations among categories.

Examples :
- **Processed fruits and vegetables,**
- **whole grains/non-whole grains**
- **Beverages**
- **desserts and snacks,**
- **Dairy**
- **vegetable protein**
- **meat, poultry, fish and eggs**
- **high processed meats,**
- **baking and cooking, baby food**

Dry Public Donations/Food Drive Pallets

| Results	Miscellaneous Pallets	
	Public (n=5)	Retail (n=6)
Fresh F & V	0.0%	0.0%
Processed F& V	7.5%	4.3%
Whole Grains	2.5%	6.1%
Non-whole grains	10.4%	3.3%
Beverages	10.2%	29.4%
Desserts and Snacks	34.0%	29.7%
Dairy	0.1%	0.6%
Vegetable protein	4.7%	2.4%
Meat, poultry, fish and eggs	1.2%	1.0%
High processed meat	0.2%	0.2%
Mixed meals and side dishes	9.9%	6.5%
Baking, condiments and cooking	8.4%	9.7%
Baby food	2.9%	0.9%
Non-Food Items	1.9%	1.8%

Food Shelf Retail

- Retail food rescue sorted at the time of receipt for 4 food shelves

- Sorted and weighed before placing on the shelves

- Challenges:
  - Each site receives a varying amount of food rescue
  - Reliance on volunteers to sort food and get on the shelves in a timely manner

Examples :
- Processed fruits and vegetables,
- whole grains/non-whole grains
- Beverages
- desserts and snacks,
- Dairy
- vegetable protein
- meat, poultry, fish and eggs
- high processed meats,
- baking and cooking, baby food
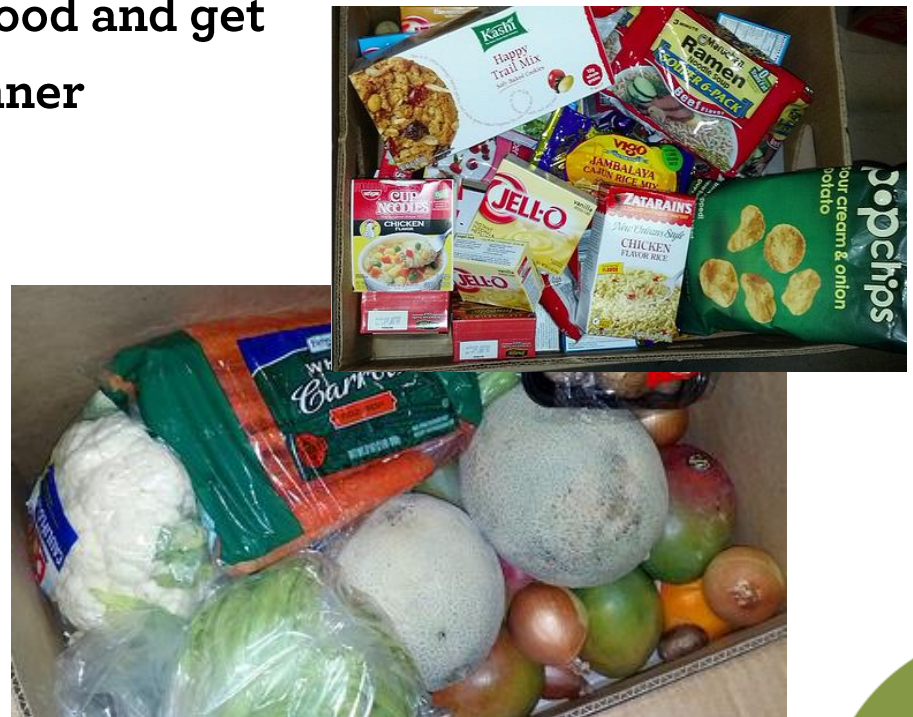
Food Shelf Retail-Cont'd

Results	Food Shelf Retail (n =4)
Fresh F & V	28.8%
Processed F& V	2.8%
Whole Grains	6.3%
Non-whole grains	11.9%
Beverages	6.3%
Desserts and Snacks	7.7%
Dairy	15.3%
Vegetable protein	1.2%
Meat, poultry, fish and eggs	4.2%
High processed meat	5.6%
Mixed meals and side dishes	8.0%
Baking, condiments and cooking	1.6%
Baby food	0.0%
Non-Food Items	-

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Agency Shopping, Dry

- In house product shopping for agencies and food shelf partners

- One of the largest miscellaneous categories (by pounds) each year

- Challenges:
  - Large amount of inventory to capture
 - Constantly changing due to agency pick up

Examples :
- **Processed fruits and vegetables,**
- **whole grains/non-whole grains**
- **Beverages**
- **desserts and snacks,**
- **Dairy**
- **vegetable protein**
- **meat, poultry, fish and eggs**
- **high processed meats,**
- **baking and cooking, baby food**

Agency Shopping, Dry-Cont'd

Results	Agency Shopping, Dry (n=2)
Fresh F & V	0%
Processed F& V	8.4%
Whole Grains	14.1%
Non-whole grains	4.4%
Beverages	14.6%
Desserts and Snacks	43.9%
Dairy	0%
Vegetable protein	0.5%
Meat, poultry, fish and eggs	0%
High processed meat	0%
Mixed meals and side dishes	6.0%
Baking, condiments and cooking	8.2%
Baby food	0%
Non-Food Items	-

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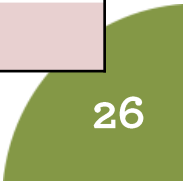
Bread Boxes

- **Made up of bread donations from manufacturers**
- **Boxes are categorized as a percentage in the whole wheat or non-whole wheat products**
- **Data collected on 43 boxes to capture variation**

Results	Bread Boxes (n=43)
Whole Grains	18.0%
Non-whole grains	82.0%

Miscellaneous Categories

	Miscellaneous Donations		Food Shelf Retail (n =4)	Agency Shopping, Dry (n=2)	Bread Boxes (n=43)
	Public (n=5)	Retail (n=6)			
Fresh F & V	0.0%	0.0%	28.8%	0%	-
Processed F& V	7.5%	4.3%	2.8%	8.4%	-
Whole Grains	2.5%	6.1%	6.3%	14.1%	18.0%
Non-whole grains	10.4%	3.3%	11.9%	4.4%	82.0%
Beverages	10.2%	29.4%	6.3%	14.6%	-
Desserts and Snacks	34.0%	29.7%	7.7%	43.9%	-
Dairy	0.1%	0.6%	15.3%	0%	-
Vegetable protein	4.7%	2.4%	1.2%	0.5%	-
Meat, poultry, fish and eggs	1.2%	1.0%	4.2%	0%	-
High processed meat	0.2%	0.2%	5.6%	0%	-
Mixed meals and side dishes	9.9%	6.5%	8.0%	6.0%	-
Baking, condiments and cooking	8.4%	9.7%	1.6%	8.2%	-
Baby food	2.9%	0.9%	0.0%	0%	-
Non-Food Items	1.9%	1.8%	-	-	-

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Outcome of Misc. Project

- **We were consistently able to score more than 90% of the total food distributed.**
  - **September:** 7,461,649/7,656,748 = **97%**
  - **October:** 7,484,010/8,207,091 = **91%**
  - **November:** 7,274,806/7,688,114 = **95%**
  - **December:** 6,979,192/7,494,828 = **93%**

  - **Sep-Dec:** 29,199,657/31,046,781 = **94%**

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FAST Report

- **Detailed report used to calculate score for one period of time and over specified time frame (i.e. calendar year)**

- **Automation by SHH for partner agencies on a monthly basis**
  - Reports will include score to date and scores over time
  - Hope to influence choice based on scores

Q1- Scores

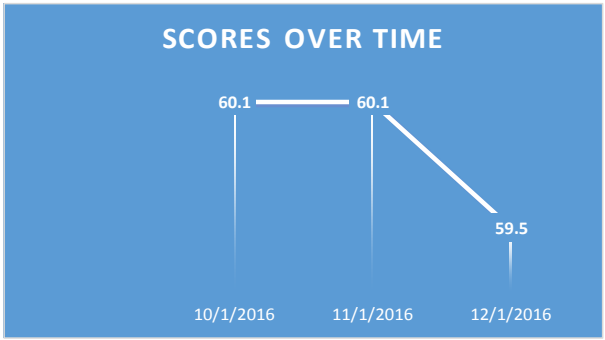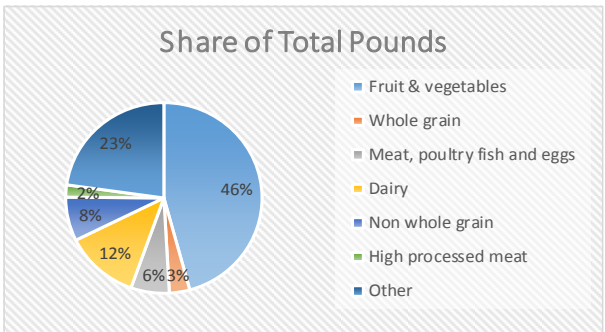# F A S T

Food Assortment Scoring Tool

Food Shelf Name

FAST Score: **61.05**

| 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
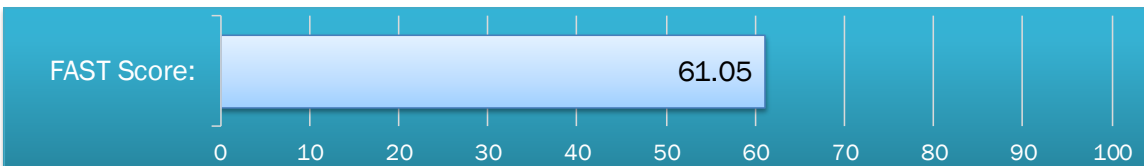
Category	Description	Pounds	Percent of Food
1	Fresh fruits & vegetables	18909361.3	38.6%
2	Processed fruits & vegetables	3474319	7.1%
3	Whole grains	1647238	3.4%
4	Non-whole grains	3638089	7.4%
5	Beverages	3931208	8.0%
6	Dessert and snacks	3326434	6.8%
7	Dairy	6000130	12.3%
8	Vegetable protein	993809	2.0%
9	Meat, poultry, fish & eggs	2101323.577	4.3%
10	High processed meat	1013691.714	2.1%
11	Mixed meals & side dishes	2192966.533	4.5%
12	Condiments, baking, and cooking needs	1664307.566	3.4%
13	Baby food	37447	0.1%
Scorable Pounds		**48,930,324.7**	**100.0%**
14	Water	50687.04011	
Total Pounds		**48,981,011.7**	
Source(s)	**SHH order**	**Date**	**10/1/2015 - 12/1/2016**

[View Report] [New Source] [New Order] [Save Order]

Share of Total Pounds

- Fruit & vegetables
- Whole grain
- Meat, poultry fish and eggs
- Dairy
- Non whole grain
- High processed meat
- Other

46%
23%
2%
8%
12%
6% 3%

SCORES OVER TIME

60.1 — 60.1
59.5

10/1/2016   11/1/2016   12/1/2016

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Implications for FAST Scoring

- **Food Bank**
  - Need for updated ordering portal to provide detail to food shelves when ordering from SHH
    - Provide greater detail (i.e. whole grain and non whole grains)
  - Consistency in receiving and coding of food in NAV system
  - 1.5 hrs/month for dietitian to assess and assign values to new items that come in on a weekly basis
- **Food Shelves**
  - Change ordering habits based on scores to provide a balanced array of food
- **Donor**
  - Influence what's donated from grocery stores into the hunger relief system

Next Phase

- **Test and refine new Tools and Protocols by SHH and other FA food banks**
  - Request for participation in pilot food bank study
  - Implement FAST study in SHH food bank workflow

- **Explore ways to report with accuracy and acceptable manner from donor perspective**

- **Collaborate with partner agencies**
  - How to use data to improve ordering practices
  - Consider ongoing measure of nutritional value of direct retail rescue food

Questions?