

# HOW TO GET THE MOST OUT OF YOUR EBT DATA



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# MI-WIC & EBT

## 1. MI-WIC & EBT

2. Program Management

3. Vendor Management

4. Client Redemption  
Patterns

5. Program Integrity



### MI-WIC (Management Information for WIC) Michigan's Client Eligibility System:

- Implemented Statewide in May 2009
- Web-based application
- Interfaces with many external systems
- 3 Sigma Software

### EPPIC (Electronic Payment Processing Information Control) Michigan's EBT system:

- Implemented Statewide in November 2008
- Online technology
- Real-time interface to MI-WIC
- Processes client benefits, pays the retailer
- The Xerox Company



# Data Mining

- Michigan data includes nearly all aspects of the WIC program.
  - The data collection process begins on-site at one of over 200 WIC clinics, and continues as clients redeem their benefits at any of nearly 2,000 WIC authorized vendors statewide.
- In August 2013, Michigan had **268,020** active WIC Clients.

**What can we do with all of that data?**



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# Informed Program Management

1. MI-WIC & EBT

## 2. Program Management

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- Balancing client food preferences with food availability in stores, manufacturer changes, and USDA regulations.
- Evaluate the effectiveness of Nutrition Education
  - Increasing clients stage of change
  - Evaluating effect of Nutrition Education on actual transactions.
- Understand trends among clients and vendors.



# Authorized Peanut Butter Brands

1. MI-WIC & EBT

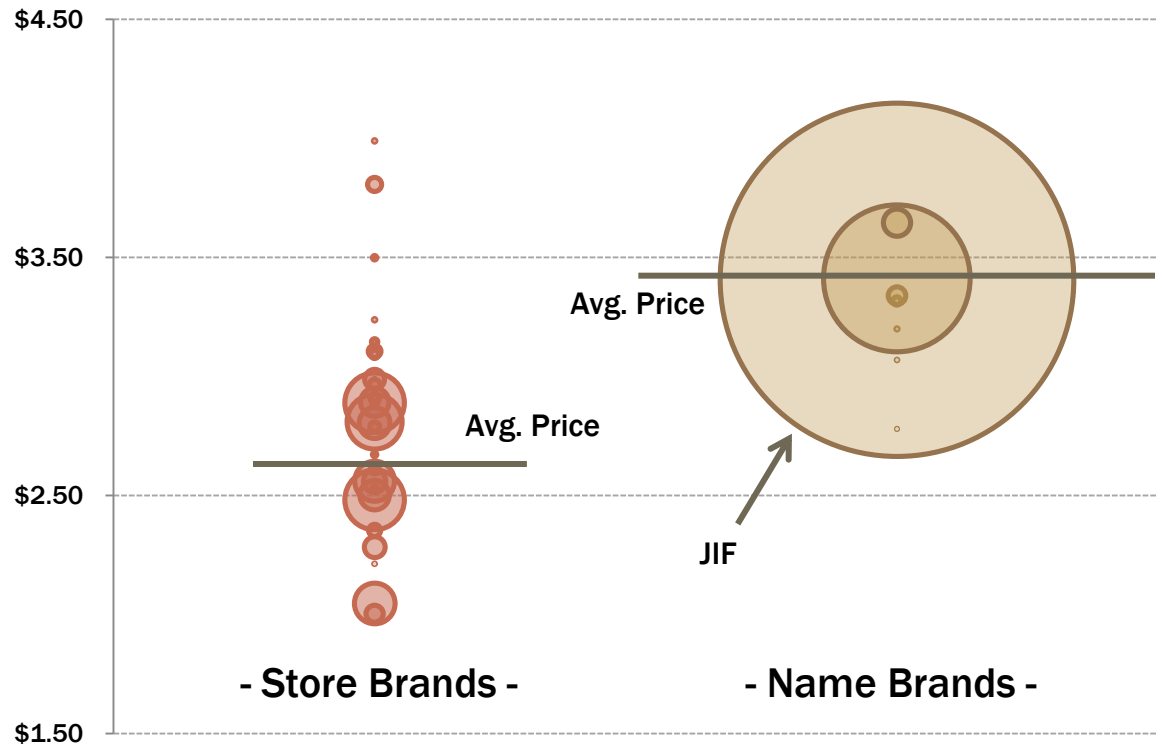
## 2. Program Management

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Peanut Butter Prices & Volume  
2010 Q4 through 2012



# Measuring the Efficacy of Nutrition Education

1. MI-WIC & EBT

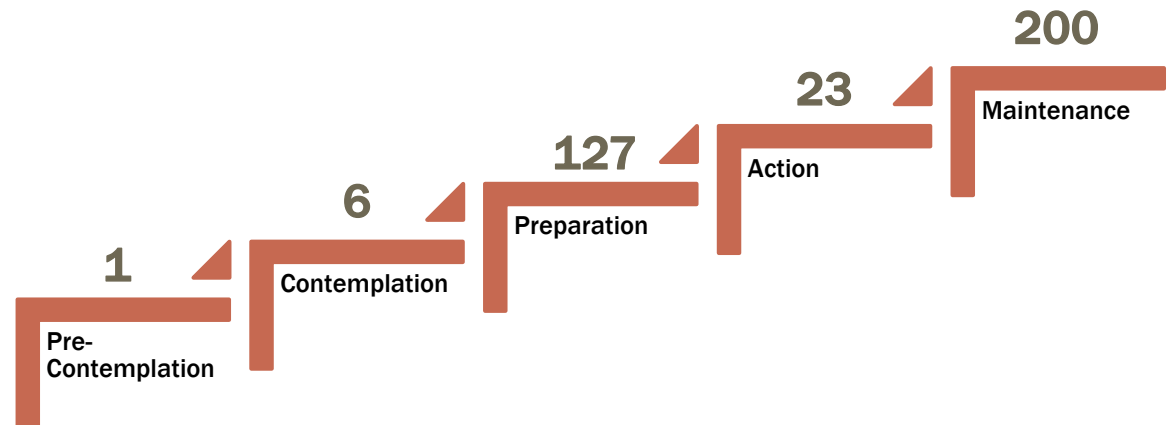
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Clients Stage of Change Before Whole Grain Nutrition Ed



Stages of change for clients who took WICHealth.org  
Whole Grains Nutrition Education from 9/2012 - 2/2013

# Measuring the Efficacy of Nutrition Education

1. MI-WIC & EBT

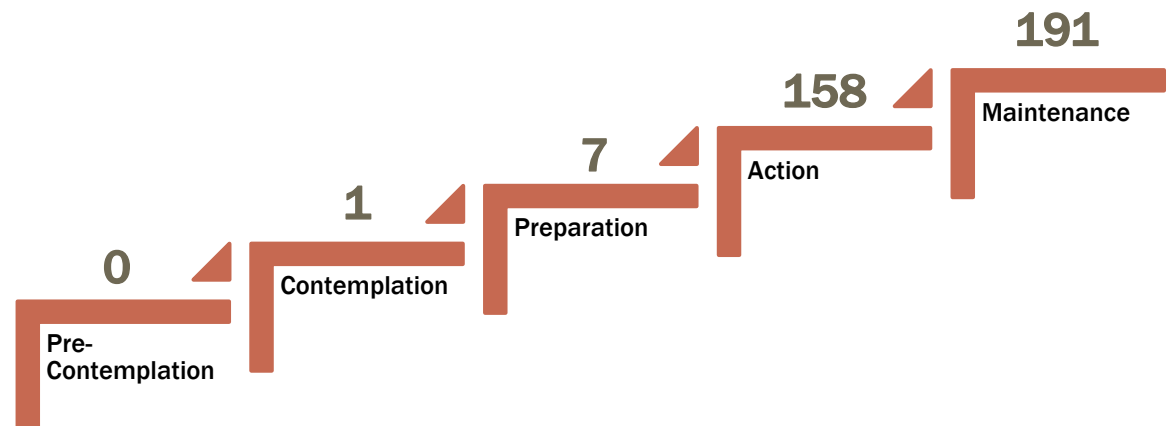
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After Whole Grain Nutrition Ed



Stages of change for clients who took WICHealth.org  
Whole Grains Nutrition Education from 9/2012 - 2/2013

# Measuring the Efficacy of Nutrition Education

Impact of Whole Grain Nutrition Ed On Progression of Individuals Throughout the Stages of Change

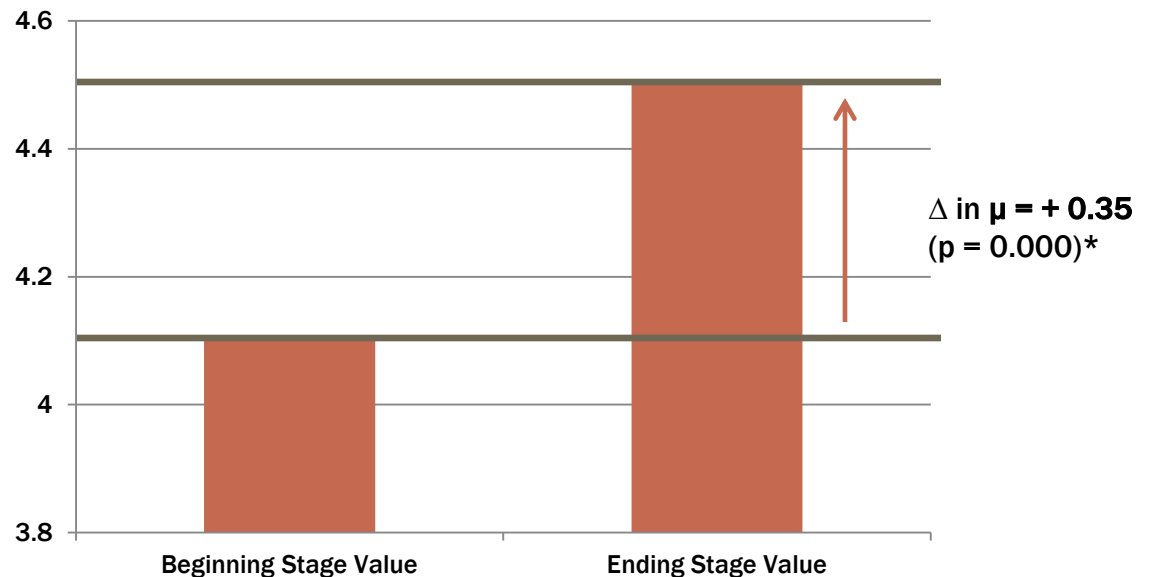
1. MI-WIC & EBT

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\* denotes significant difference



# Efficacy of Nutrition Education

## Impact of Whole Grain Nutrition Ed. On Cereals Redemptions Whole Grain Cereals as a Share of Total Cereals Redeemed

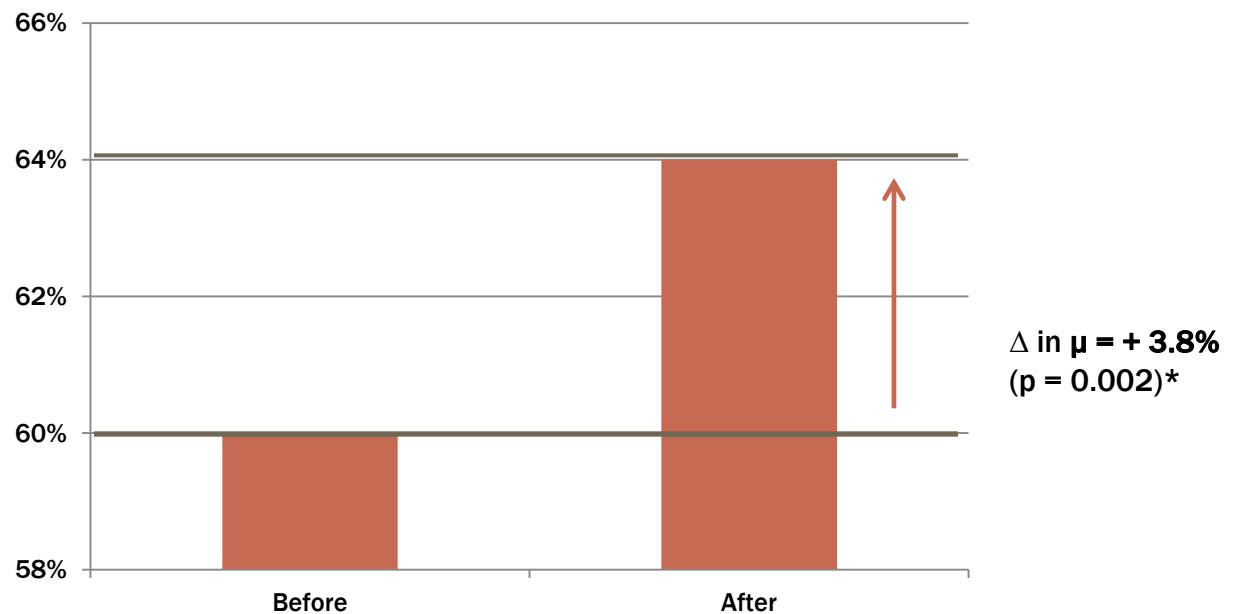
1. MI-WIC & EBT

### 2. Program Management

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Note: 6 months of redemptions before and after NE training

# Financial Impact of Food Product Changes

1. MI-WIC & EBT

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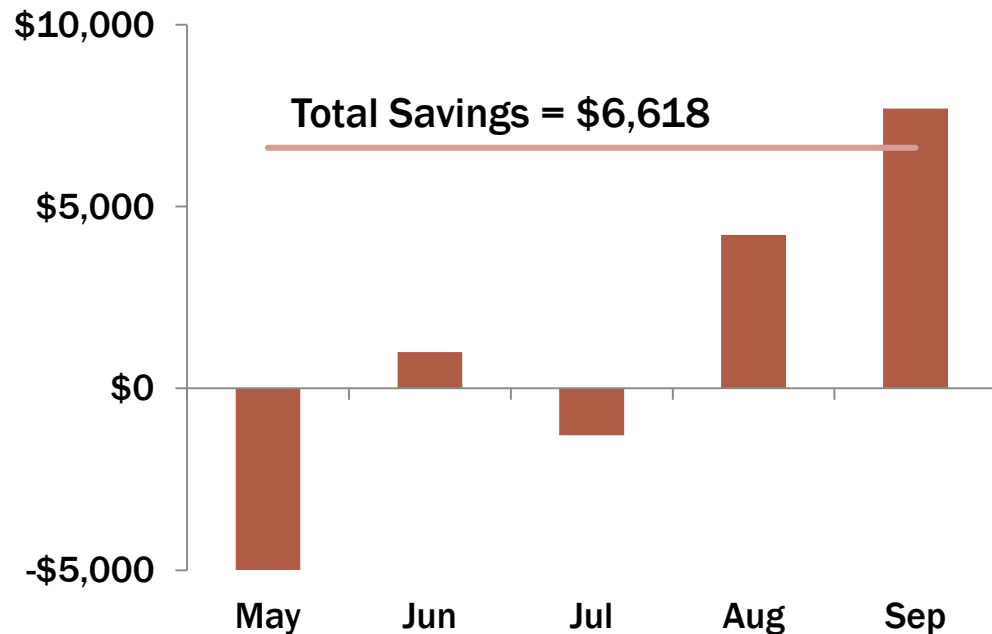
5. Program Integrity

- **Background:** In 2010, Mead Johnson changed its infant formula from LIPIL to Premium, affecting powder, concentrate, and ready-to-feed formulas.
- **Their plan:** Estimate monthly formula rebate amounts based on their anticipated rollout schedule.
- **Our plan:** Use EBT.

# Financial Impact of Food Product Changes

Research Question: What impact did Michigan WIC's decision to implement the change via EBT, rather than manufacturer's proposal, have on total formula rebates?

Answer:



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# Vendor Relations

1. MI-WIC & EBT

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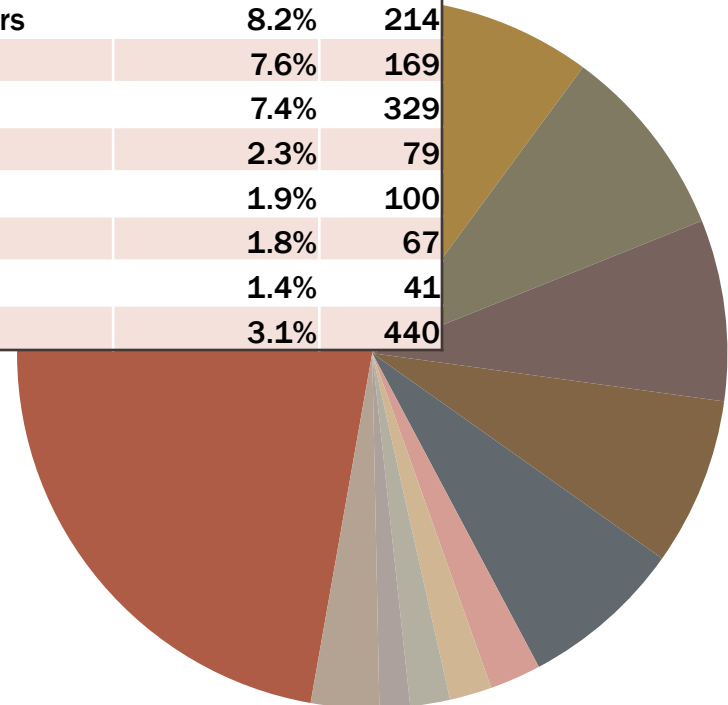
5. Program Integrity

- Reviewing redemptions by vendor to assess client shopping preferences.
- Identify the type of foods vendors sold based on the type of store (Rural / Urban, Mom and Pop Grocery / Full Line)

# Redemptions by Vendor Peer Group

Quarterly \$ Volume of Sales by Vendor Peer Group, 2013 Q2

Vendor Peer Group	% of \$ Redeemed	# of Stores
Major Chain (incl. Meijer, Kroger, Wal-Mart)	47.1%	320
Detroit - 3 or more registers	10.2%	100
Chain - 8 to 59 outlets	8.8%	129
Metro & Urban South - 3 or more registers	8.2%	214
Detroit - 1 or 2 registers	7.6%	169
Urban North & South - 1 or 2 registers	7.4%	329
Metro - 1 or 2 registers	2.3%	79
Chain - 2 to 7 outlets	1.9%	100
Rural South - 3 or more	1.8%	67
Rural North - 3 or more	1.4%	41
Everything Else	3.1%	440



1. MI-WIC & EBT

2. Program Management

**3. Vendor Management**

4. Client Redemption Patterns

5. Program Integrity

# Vendor Inventory Variations: Urban / Rural

1. MI-WIC & EBT

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4. Client Redemption  
Patterns

5. Program Integrity

- Some food categories exhibit large variations in redemptions between urban and rural vendors.
- Analyzing patterns may help identify areas where vendor, distributor, or even local clinic behavior may be influencing clients.
- In the first 8 months of 2013, alone, large variations are evident.

# Impact of Inventory Variations

## Summary of Largest Redemption Differences within a Category

Jan – Aug 2013

	Food Category	% Redeemed w/in Food Category		
		Urban	Rural	Difference
Formula	12.4 oz. PWD Gentlease	19.2%	28.0%	-8.8%
	12.5 PWD Enfamil Premium Infant	48.1%	37.8%	+10.3%
Whole Grain Bread, Rice, Tortillas	Whole Grain Bread	43.4%	66.8%	-23.4%
	Whole Wheat Bread	48.9%	26.9%	+22.0%
Legumes	15-16 oz. Can Bean	23.1%	17.4%	+5.7%
	16 oz. Bag Dry Peas or Beans	13.2%	7.4%	+5.8%
	18 oz. Jar Peanut Butter	63.7%	75.2%	-11.5%
Juice <sup>1</sup>	12 oz. Frozen Concentrate	20.2%	30.6%	-10.4%
	46 oz. Can or Plastic Single Strength	25.4%	20.5%	+4.9%
	48 oz. Plastic Single Strength Juice	54.1%	48.3%	+5.8%

<sup>1</sup> This Juice Category does not include 64oz. Juice.

1. MI-WIC & EBT

2. Program Management

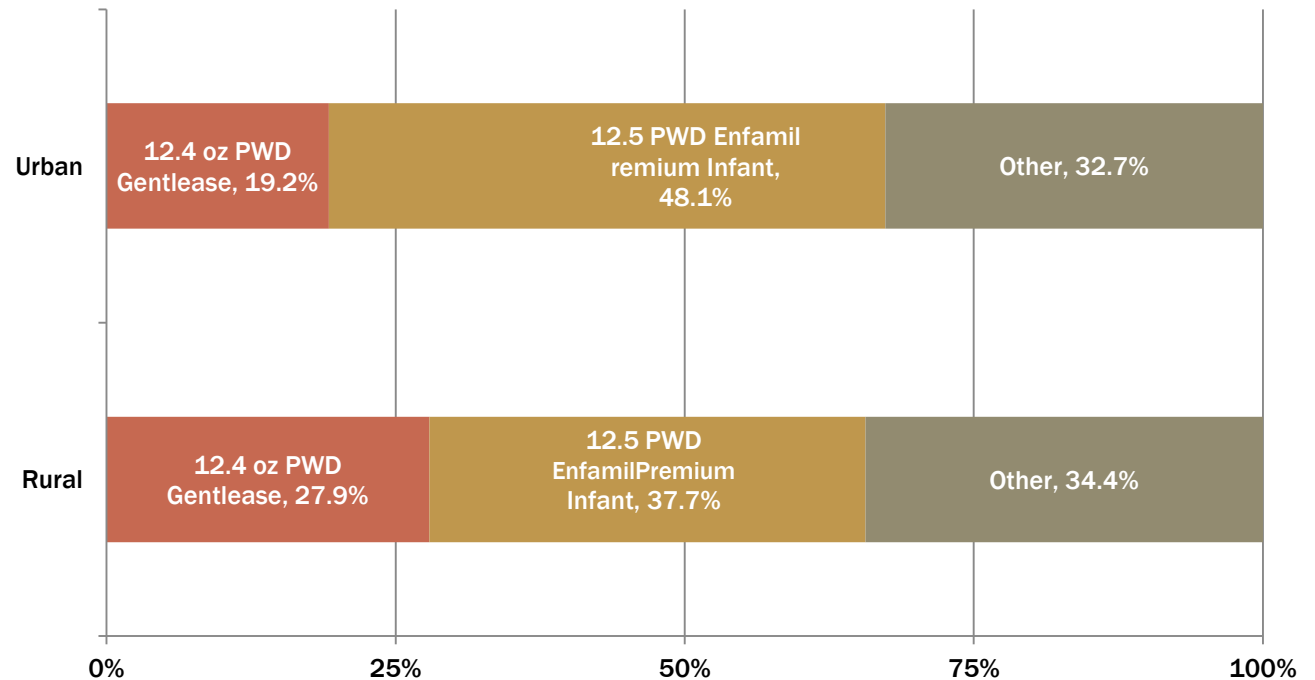
**3. Vendor Management**

4. Client Redemption Patterns

5. Program Integrity

# Impact of Inventory Variations

## Infant Formula



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4. Client Redemption Patterns

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# Impact of Inventory Variations

1. MI-WIC & EBT

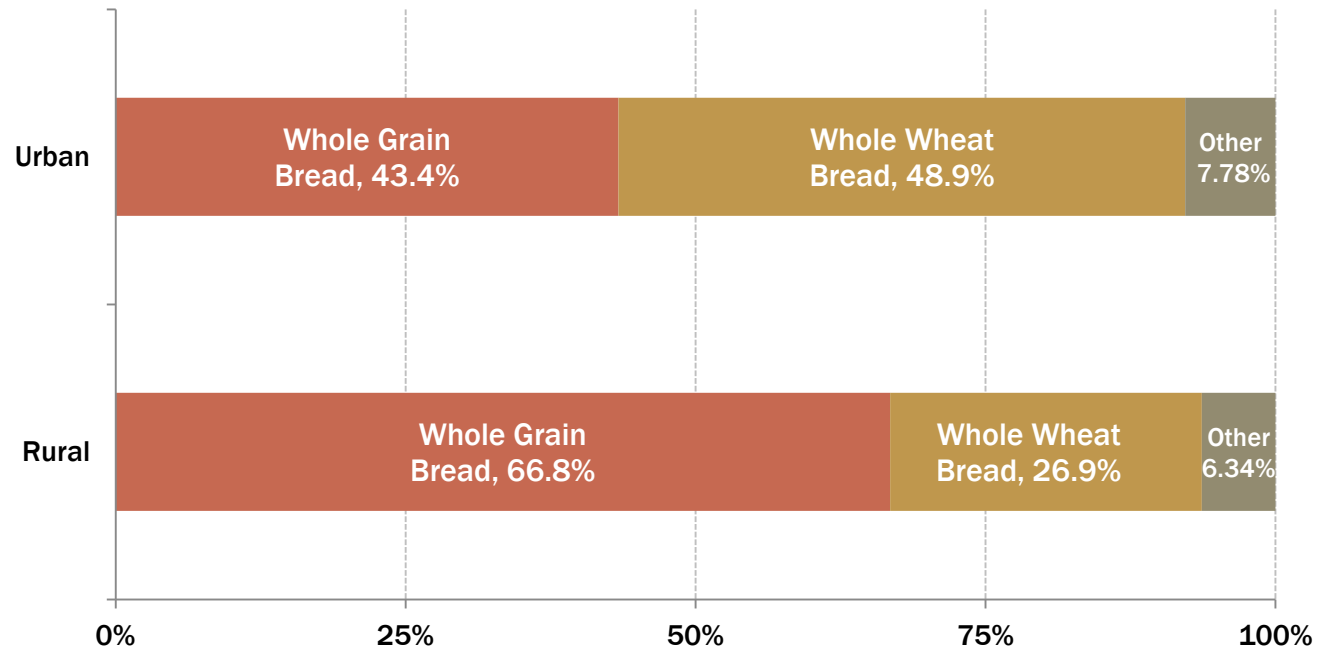
2. Program Management

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4. Client Redemption Patterns

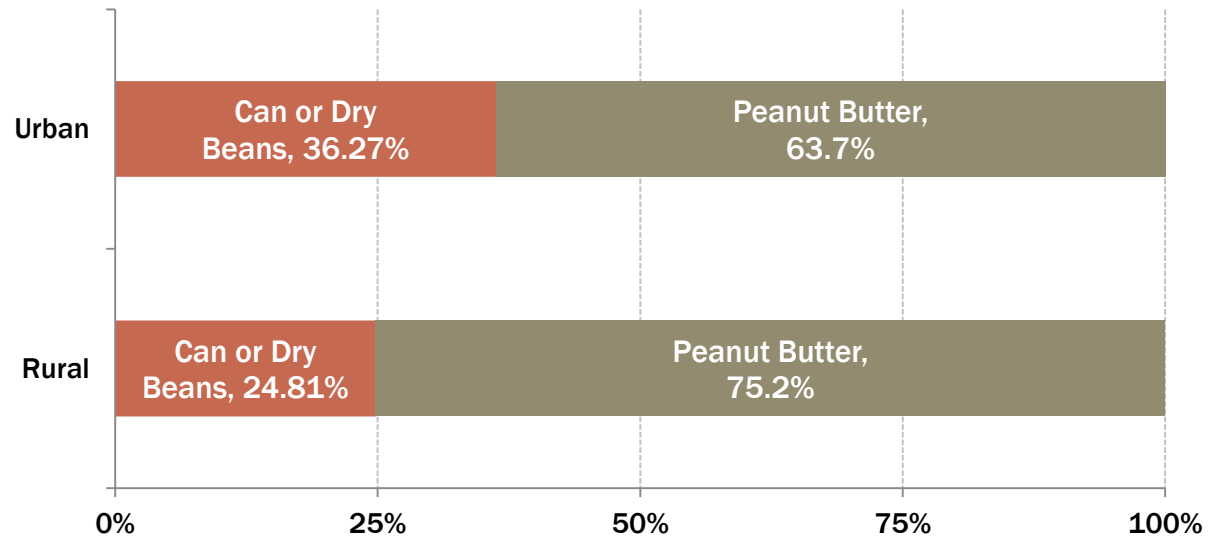
5. Program Integrity

## Whole Grains



# Impact of Inventory Variations

## Legumes



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# Impact of Inventory Variations

1. MI-WIC & EBT

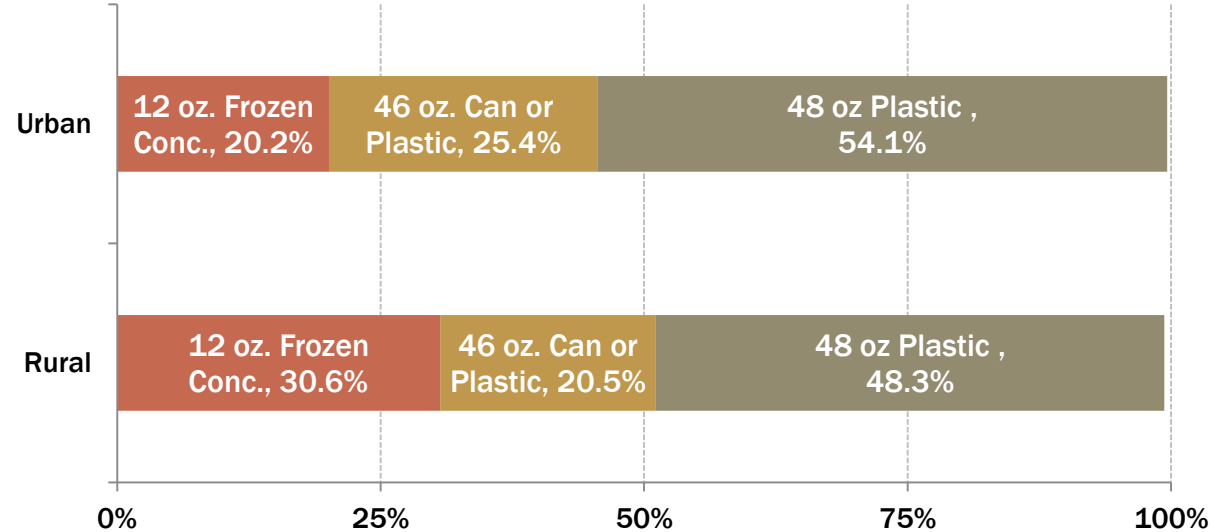
2. Program Management

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### Juice



\*Note: This juice category does not include 64 oz. varieties.

# Client Redemption Patterns

1. MI-WIC & EBT

2. Program Management

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## 4. Client Redemption Patterns

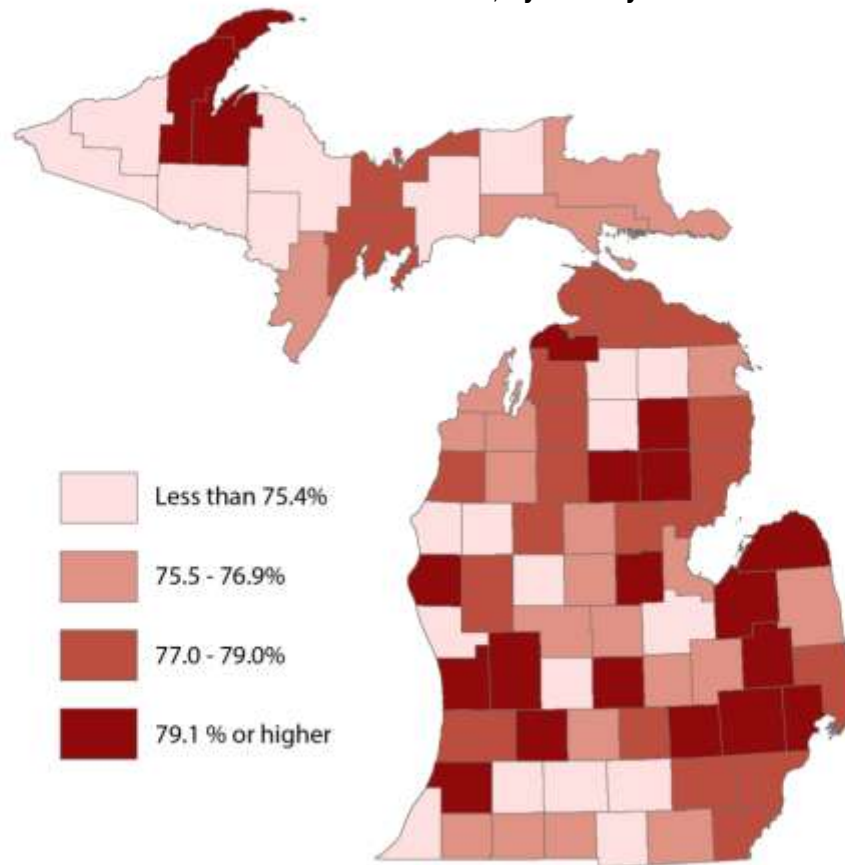
5. Program Integrity

- Having the ability to look at client redemption patterns allows us to better understand our client preferences and needs.
- Areas of interest include:
  - Geographic variations in redemptions
  - Client obstacles
  - Popularity of specific product types

# Geographic Redemption Patterns

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- 4. Client Redemption Patterns**
- 5. Program Integrity

Fresh Fruits & Vegetable Redemptions  
1<sup>st</sup> Half of 2013, by County



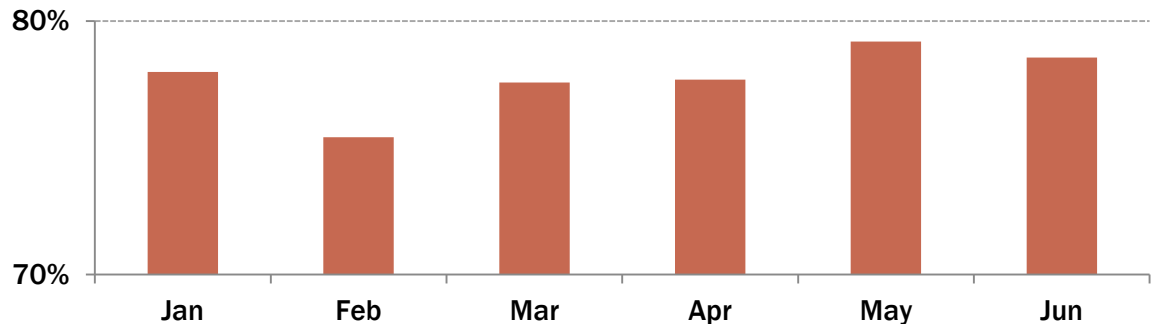
# Geographic Redemption Patterns

## Top 10 / Bottom 10 Counties

<b>Top 10</b>	Houghton	83.6%
	Ottawa	82.0%
	Huron	81.7%
	Macomb	81.6%
	Lapeer	81.3%
	Charlevoix	80.7%
	Kent	80.6%
	Baraga	80.3%
	Keweenaw	80.2%
	Van Buren	80.2%

<b>Bottom 10</b>	Montmorency	73.9%
	Calhoun	73.4%
	Schoolcraft	73.0%
	Berrien	72.9%
	Iron	72.7%
	Muskegon	72.7%
	Crawford	72.4%
	Mecosta	71.2%
	Gogebic	70.6%
	Ontonagon	69.2%

## Monthly Fresh Fruits & Vegetable Redemptions, 2013



1. MI-WIC & EBT

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**4. Client  
Redemption  
Patterns**

5. Program Integrity

# Driving Distances for Clients

## Sample Client's Travel Patterns

Jan 01, 2013 - Sep 05, 2013

1. MI-WIC & EBT

2. Program Management

3. Vendor Management

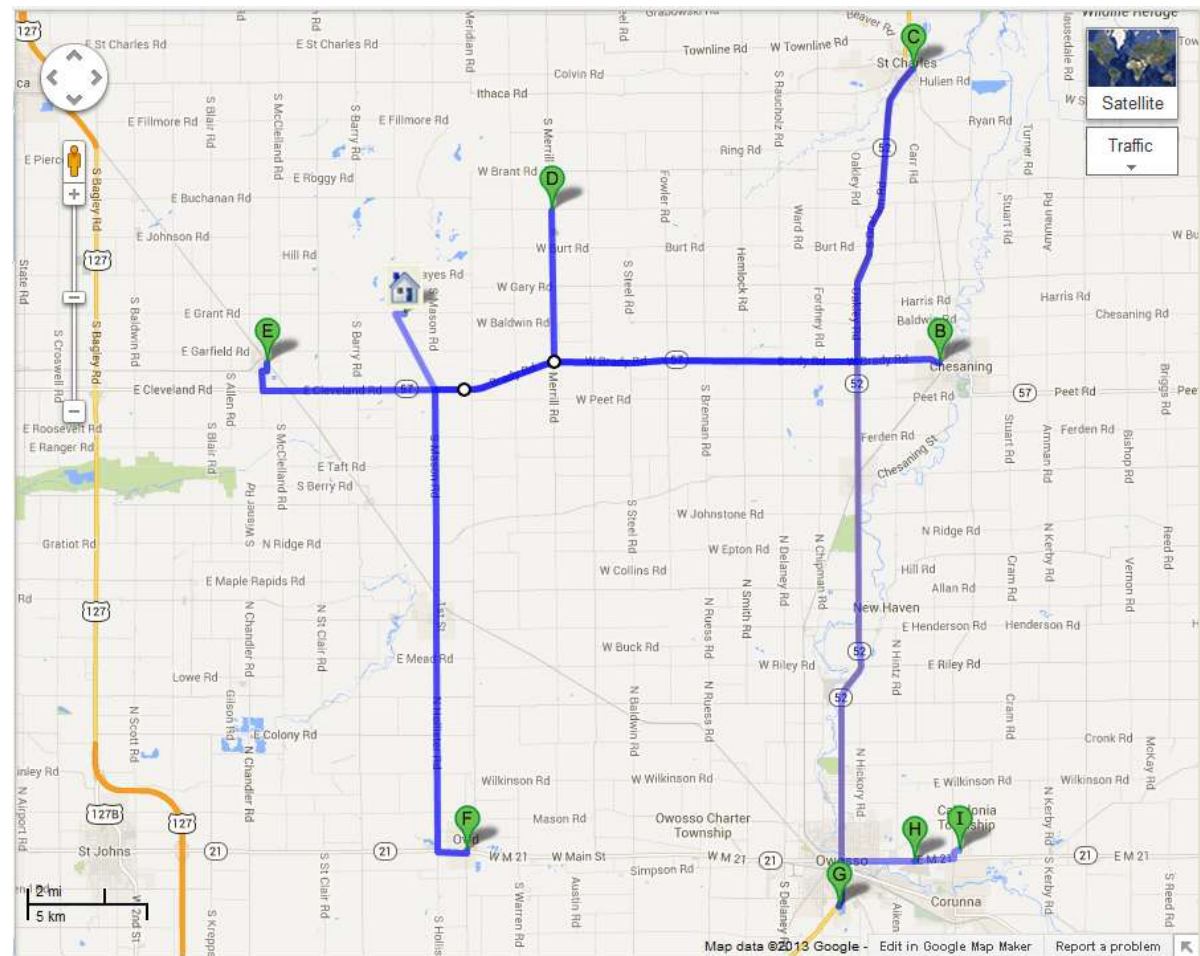
### 4. Client Redemption Patterns

5. Program Integrity

Family Details				Vendor Details			Distance to Vendor	Trips	Total Miles Traveled to Vendor
ID	Address	City	Zip	Address	City	Zip			
				1045 W BROAD ST	CHESANING	48616	15.8	32	506
				115 E BELLE AVE	ST CHARLES	48655	21.6	9	194
				12025 S MERRILL RD	BRANT	48614	7.1	13	92
				128 S STERLING	ASHLEY	48806	4.9	23	113
				1315 E MAIN STREET	OWOSSO	48867	28.4	51	1,448
				1341 N M-52	Owosso	48867	28	1	28
				1621 E M-21	OWOSSO	48867	28.8	1	29
				2591 E M21	CORUNNA	48817	29.1	14	407
				501 S MAIN ST	OVID	48866	15.3	12	184
<b>Total</b>								<b>156</b>	<b>3,001</b>

# Driving Distances for Clients

## Routes to Client's Nearby Stores



1. MI-WIC & EBT

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Redemption  
Patterns

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# Client Preferences

## Infant Fruits & Vegetables by UPC First Half of 2013

	UPC	Product	# Sold
<b>Top 5</b>	0015000004354	Gerber Bananas Infant Fruit	460,118
	0015000004316	Gerber Applesauce Infant Fruit	372,352
	0015000004187	Gerber Sweet Potatoes Infant Vegetables	328,247
	0015000004347	Gerber Pears Infant Fruit	304,624
	0015000004279	Gerber Apple Strawberry Banana Infant Fruit Combo	272,218
<b>Bottom 5</b>	0013000000161	Natures Goodness Mixed Vegetables	3
	0013000000529	Natures Goodness Carrots Infant Vegetables	2
	0013000000505	Natures Goodness Pears Infant Fruit	1
	0013000000574	Natures Goodness Squash Infant Vegetables	1
	0013000000536	Natures Goodness Sweet Potatoes Infant Vegetables	1
<b>Total</b>			<b>1,737,559</b>



- 1. MI-WIC & EBT
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# Program Integrity

1. MI-WIC & EBT

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4. Client Redemption  
Patterns

**5. Program  
Integrity**

- Identify abnormal issuance activity, which may point to potential fraud at the clinic level.
- Inventory audit for vendors based on abnormal redemptions that may indicate possible fraud.
- Unusual activity at the client level.

# Track Benefit Over-Issuances by Local Staff

## MI-WIC Benefit Over-Issuance Report

Local Agency, March 2013

Staff User Name	Family ID	Client ID	Benefit Start Date	No. of Months Benefits Generated
BROOKSS1	2103743	300906937	3/2/2013	2
IGNASIAKL2000	9453998	301113255	3/18/2013	2
SHEPARDJ1	9022987	301133573	3/17/2013	2
LARAY	9041503	301052485	3/6/2013	2
STANCLED2	2103743	300906937	3/2/2013	2
STANCLED2	2103743	300974697	3/2/2013	2
TRIICKA	9022987	301133573	3/17/2013	2
BROOKSS1	2103743	300974697	3/2/2013	2
JAMESP2000	9041503	301052485	3/6/2013	2
AMYS	9453998	301113255	3/18/2013	2
<b>Total Clinic Over-Issuances</b>				<b>10</b>

1. MI-WIC & EBT

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# Track Compliance with WIC Rules & Regulations

1. MI-WIC & EBT

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## Redemptions of Non-Rebate Formulas

Local Agency, July 2013

### Local Agency Special Formula Report

Generated Date: 09/05/2013

Year: 2013

Month: July

LA	Formula Name	Size/Form	Sub Cat	Total Qty	Total Dollars
01	12.6 oz PWD Nutramigen Enflora LGG	12.6 Oz Powder	248	146	\$ 3,492.43
01	12.8 oz PWD Enfacare	12.8 Oz Powder	235	33	\$ 554.82
01	12.8/13.1 oz PWD SIMILAC NEOSURE	13.1 Oz Powder	232	36	\$ 603.54
01	14.1 oz Pwd Elecare Infant DHA/ARA	14.1 Oz Powder	244	28	\$ 1,370.88
01	16 OZ POWDER SIMILAC ALIMENTUM	1 Lb Powder	101	3	\$ 82.32
01	8 oz Boost Kid Essentials 1.5 Cal	8 Oz Ready-To-Use	245	108	\$ 312.12
01	or BOTTLE 8 FL OZ PEDIASURE	8 Oz Ready-To-Use	218	684	\$ 1,133.14

**Total Special Formula:** 7

**Total Units:** 1038

**Total Amount:** \$ 7,549.25

# Using EBT to Identify High Risk Vendors

1. MI-WIC & EBT

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Patterns

**5. Program  
Integrity**

- EBT data can be used to identify vendors with redemption patterns that indicate possible fraud.
- By identifying patterns of redemptions that are indicative of fraud, Michigan is better able to allocate resources and have an increased conviction rate.
- This process is used currently and it is still being refined.

# Identify Parameters of High Risk Behavior

1. MI-WIC & EBT

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Patterns

**5. Program  
Integrity**

Determine how we would identify vendors who have an abnormally high redemption of high risk foods.

- High risk foods tend to be those foods that either expire quickly, have a high redemption value, or more likely used for fraud.
  - Formula
  - Gallon sized milk
  - $\frac{1}{2}$  gallon sized milk

# EBT Data

- Michigan WIC used EBT data to determine each vendor's:
  - Total quarterly WIC redemptions
  - Quantity and dollar amount redeemed for infant formula and milk.
  - Percent of each high risk food dollar amount of total quarterly WIC redemptions

1. MI-WIC & EBT

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Patterns

## 5. Program Integrity

Peer Group	Vendor#	Vendor Name	Total Qtrly WIC Redemption	Enfamil Qtrly Redeemed	Enfamil Qtrly Redemption	Percent of Qtrly Redemptions
21	Num_1	Alias_1	\$194,669.92	2,818	\$43,196.64	22.19%
32	Num_2	Alias_2	\$314,049.54	4,803	\$111,758.97	35.59%
21	Num_3	Alias_3	\$252,819.03	4,358	\$66,782.64	26.42%
21	Num_4	Alias_4	\$168,226.76	2,654	\$39,491.52	23.48%
21	Num_5	Alias_5	\$217,973.94	3,594	\$55,047.72	25.25%

# EBT Data

- Investigators determined that vendors with a redemption percentage of 40% above the peer group mean would be considered high risk.
- This value was calculated for formula and milk by peer group.

Peer Group	Peer Group Mean	40% over
22	9.35%	13.09%
23	19.30%	27.02%
31	10.91%	15.27%
32	12.27%	17.18%
42	14.69%	20.57%
51	14.90%	20.86%
52	18.69%	26.17%
53	15.20%	21.28%
55	19.08%	26.71%
56	32.19%	45.07%
63	14.33%	20.06%
64	25.94%	36.32%

1. MI-WIC & EBT

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Integrity**



# Identifying Vendors Exhibiting High Risk Patterns

1. MI-WIC & EBT

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Patterns

**5. Program  
Integrity**

- Michigan decided to initially use infant formula to gage effectiveness of high risk indicators.
  - 12.5 oz. Enfamil Premium redemption data
- Three step procedure
  - Identify vendors with a formula redemption percentage 40% above the peer group mean.
  - Identify the top 10 total dollar redeemers within each peer group.
  - Select highest dollar redeemers for inventory audit.

# Conduct Inventory Audit

## Monetary Claim Against Vendor Prior 3 Months

Category Description	Inventory Purchased	Quantity Redeemed	Unsubstantiated Qty	Per Unit Charge to WIC	WIC \$ Claim
Enf. Premium Powder (lipil)	1,392	5,065	3,673	\$24.99	\$91,788.00
Enfamil AR	42	164	122	\$25.99	\$3,170.80
Enfamil Prosoabee	120	281	161	\$25.99	\$4,184.39
Enfamil Gentlease	66	310	244	\$25.99	\$6,341.56
Similac Expert Care - Allimentum	0	54	54	\$44.19	\$2,386.30
Nutramigen with Enflora LGG	18	59	41	\$39.99	\$1,639.60
Boost Kids Essentials 1.5 cal	0	108	108	\$5.49	\$592.92
Enfamil Prosoabee Conc.	0	31	31	\$7.49	\$232.19
Pediasure w/ fiber	96	108	12	\$2.99	\$35.88

**Cost of Formula Exceeding Vendor's Inventory: \$110,371.84**

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# Client & Vendor Fraud

## List of Top Redeemers at Vendor Being Investigated by USDA OIG

1. MI-WIC & EBT

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5. Program  
Integrity

Family ID	First Name	Last Name	Birth Date	Street Address	City	Zip	Total Settled Price	Count Of Card Usage	Avg. Settled Price
2541708	First_Name_1	Last_Name_1	17-May-81	Address_1	Dearborn	48126	\$20,278.01	48	\$422.46
1234515	First_Name_2	Last_Name_2	18-Apr-79	Address_2	Dearborn	48126	\$16,379.69	40	\$409.49
9033807	First_Name_3	Last_Name_3	18-Feb-76	Address_3	Detroit	48210	\$9,239.95	87	\$106.21
2514531	First_Name_4	Last_Name_4	29-Sep-77	Address_4	Detroit	48210	\$8,905.26	39	\$228.34
2549073	First_Name_5	Last_Name_5	12-Aug-84	Address_5	Sterling Heights	48310	\$8,288.87	46	\$180.19
1198462	First_Name_6	Last_Name_6	06-May-76	Address_6	Detroit	48209	\$6,928.33	60	\$115.47
2621615	First_Name_7	Last_Name_7	09-Jul-74	Address_7	Detroit	48205	\$6,644.35	20	\$332.22
2419580	First_Name_8	Last_Name_8	28-Apr-87	Address_8	Detroit	48210	\$6,324.42	47	\$134.56
1197726	First_Name_9	Last_Name_9	15-Jan-86	Address_9	Detroit	48210	\$5,866.07	51	\$115.02
2577777	First_Name_10	Last_Name_10	11-Feb-85	Address_10	Detroit	48209	\$5,158.06	18	\$286.56

# WIC EBT MAKES A DIFFERENCE

