

# MI-PNSS & PedNSS



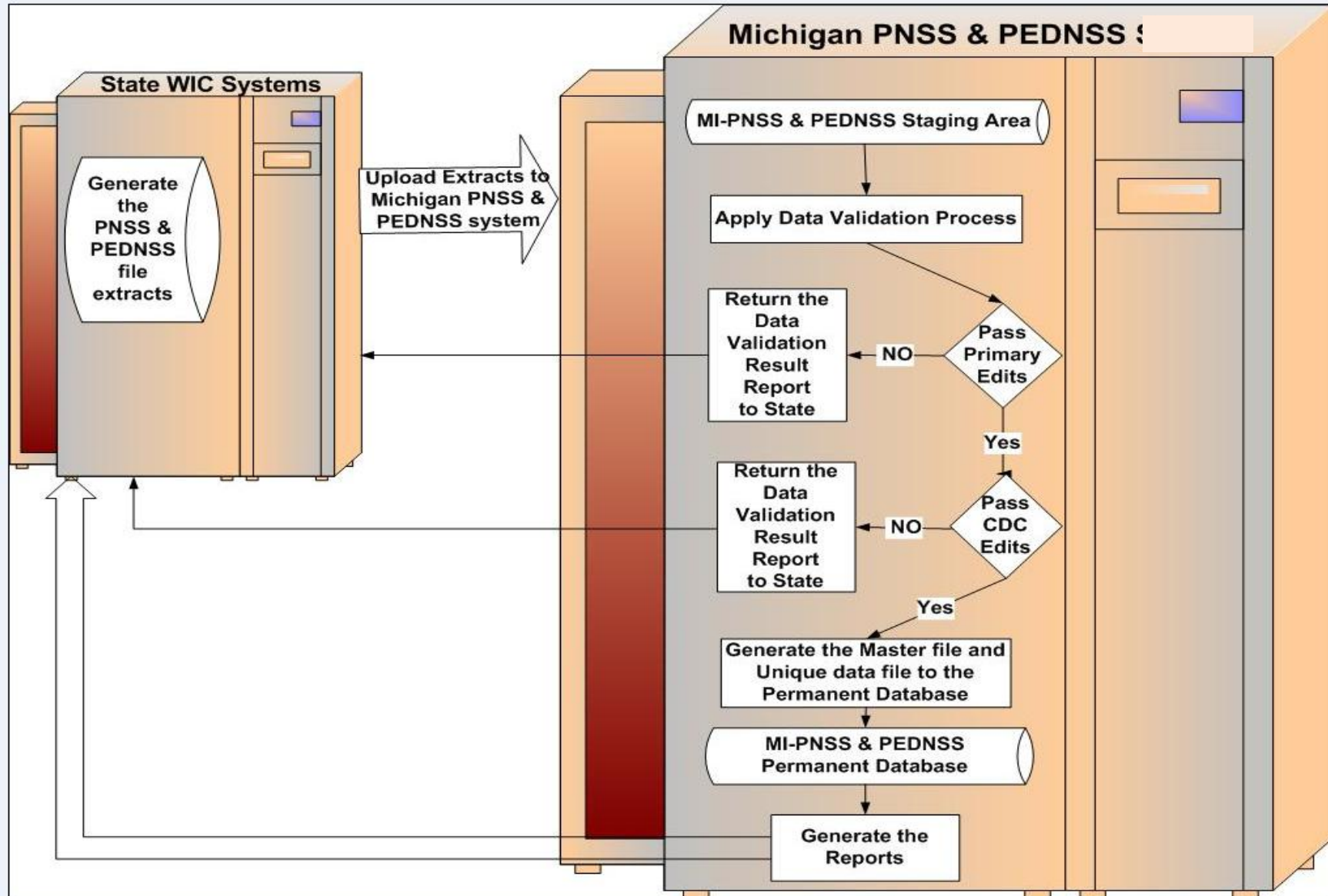
2015 NWA Technology Conference  
Kobra Eghtedary, PhD  
Director of Data, Research & Technology  
Michigan WIC Program  
Michigan Department of Health & Human Services

# Project Team

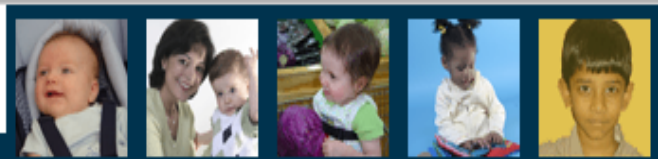


- ▶ Michigan WIC - Project Planning, Design & Implementation
  - ▶ Kobra Eghtedary, PhD
  - ▶ Bagya Kodur, MS
  
- ▶ Three Sigma Software - Design & Development Vendor
  - ▶ Kamalesh Bandanadham
  - ▶ Ramesh Balyam
  
- ▶ Bicoastal Hills Consulting - Project Consultant
  - ▶ Craig Hill
  
- ▶ Pilot States
  - ▶ MWR: Minnesota, Ohio, Wisconsin, Indiana, Illinois
  - ▶ Hawaii

# System Features



# MI - PNSS & PEDNSS



ADMIN

STATE

Many documents on this site are PDF files which require the use of the free Adobe Acrobat Reader.



## PNSS & PEDNSS - State

- Michigan
- Michigan**
- Minnesota
- Mississippi
- Missouri
- Montana
- Nebraska
- Nevada
- New Hampshire
- New Jersey
- New Mexico
- New York
- North Carolina
- North Dakota
- Ohio
- Oklahoma
- Oregon
- Palau
- Pennsylvania
- Puerto Rico
- Rhode Island
- South Carolina
- South Dakota
- Tennessee
- Texas

### NOTES & ALERTS

MI - PNSS & PEDNSS  
Login User: kodurb



Access to this system is restricted to authorized users only. Any unauthorized access or use of this system is prohibited.

By using this system, you expressly consent to the monitoring of all activities. Any logs, reports, e-mail, software, and other data generated by or residing upon this State of Michigan for any purpose.

# MI-PNSS & PedNSS

The screenshot shows a web browser window with the following elements:

- Address Bar:** <https://ssoqa.state.mi.us/dch-waps14/MIPPR/state/WebForms/Template.aspx?fiFAIyRDbGluaWNJZD1NSSZ> - Windows Internet Explorer
- Page Header:** MI - PNSS & PEDNSS (left), File, File Upload, Data Quality (center), Fri 5/15/2015 (right)
- Left Navigation Panel:** Three buttons: File Upload, Data Quality, and Logoff.
- Main Content Area:** A large light blue rectangle containing the text "MI - PNSS & PEDNSS" in the center.
- Page Footer:** Version: 7.0.0.1 (left), KODURB (center), Login State - MI (right), wicprs1 (far right)



# File Upload

- File Upload
- Data Quality
- Logoff

**File Upload:**

**State\*:** MI

**Year\*:**  **Quarter\*:**

**Select Activity\*:**  PNSS  PEDNSS

**File Type\*:**  Data File  Code File

**Select File to Upload\*:**

**Uploaded Files:**

	Date Uploaded	State	Year	Quarter	Activity	File Uploaded	File Renamed	File Status
	03/06/2015	MI	2009	Q1	PEDNSS	PEDNSS_01012009_0...	MI_PEDNSS_2009_Q1....	File Uploaded
	03/06/2015	MI	2009	Q1	PNSS	PNSS_01012009_033...	MI_PNSS_2009_Q1.dat	File Uploaded
	03/04/2015	MI	2014	Q3	PNSS	PNSS_07012014_093...	MI_PNSS_2014_Q3.dat	Data Quality Err...
▶	03/04/2015	MI	2014	Q2	PNSS	PNSS_04012014_063...	MI_PNSS_2014_Q2.dat	Data Quality Err...
	03/04/2015	MI	2014	Q1	PNSS	PNSS_01012014_033...	MI_PNSS_2014_Q1.dat	Data Quality Err...
	03/04/2015	MI	2014	Q4	PEDNSS	PEDNSS_1012014_12...	MI_PEDNSS_2014_Q4....	File Uploaded
	03/04/2015	MI	2014	Q3	PEDNSS	PEDNSS_712014_930...	MI_PEDNSS_2014_Q3....	File Uploaded
	03/04/2015	MI	2014	Q2	PEDNSS	PEDNSS_412014_630...	MI_PEDNSS_2014_Q2....	File Uploaded
	03/04/2015	MI	2014	Q1	PEDNSS	PEDNSS_112014_331...	MI_PEDNSS_2014_Q1....	Data Quality Err...
	06/11/2014	MI	2013	Q4	PNSS	PNSS_10012013_123...	MI_PNSS_2013_Q4.dat	Reports Generat...
	06/11/2014	MI	2013	Q3	PNSS	PNSS_07012013_093...	MI_PNSS_2013_Q3.dat	Reports Generat...
	06/11/2014	MI	2013	Q2	PNSS	PNSS_04012013_063...	MI_PNSS_2013_Q2.dat	Reports Generat...

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# Data Quality Summary

https://ssoqa.state.mi.us/dch-waps14/MIPPR/state/WebForms/Template.aspx?fiFAlyRDbGluaWNJZD1NSSZ - Internet Explorer  
https://ssoqa.state.mi.us/dch-waps14/MIPPR/state/WebForms/Template.aspx?fiFAlyRDbGluaWNJZD1NSSZTdGF0ZT1NSSZVc2VyVG9rZW49MjAwMTI0NyZVc2VyTmFtZT1CQUxZQU1SMTIzNH4hQCMk

**MI - PNSS & PEDNSS**      **File**      **File Upload**      **Data Quality**      **Reports**      **Help**      **Fri 5/15/2015**

**Data Quality Summary**

**State\*:** MI      **Activity\*:** PEDNSS      **Year\*:** 2013      **Quarter\*:** Q4      **Go**

**File Information:**

**File Date:** 1/31/2014  
**Uploaded File Name:** PEDNSS\_10012013\_12312013.txt  
**Renamed File Name:** MI\_PEDNSS\_2013\_Q4.dat  
**File Status:** Reports Generated  
**Total Records:** 92789

**Error Code Summary:**

	Error Description	Field Count
	No Errors Identified	0
▶	Missing Data	3
	Completion Code and Record Linkage Errors	0
	Mis-coded Data	0
	BIV (Biologically implausible values)	0
	Cross-check Errors	0
	Unusual Data Distributions	0
	Low or High Standard Deviations	0

**Export**      **Display**      **Submit to Master**      **Cancel**

**Version: 7.0.0.1**      **BALYAMR1234**      **Login State - MI**      **wicprs1**

# Data Quality Details

Internet Explorer  
https://ssoqa.state.mi.us/dch-waps14/MIPPR/state/WebForms/Template.aspx?fiFAlyRDbGluaWNJZD1NSSZ - Internet Explorer  
https://ssoqa.state.mi.us/dch-waps14/MIPPR/state/WebForms/Template.aspx?fiFAlyRDbGluaWNJZD1NSSZTdGF0ZT1NSSZVc2VyV9rZW49MjAwMTI0NyZvc2VyTmFtZT1CQUxZQU1SMTIzNH4hQCMk

**MI - PNSS & PEDNSS**    File    File Upload    **Data Quality**    Reports    Help    Fri 5/15/2015

**Data Quality Details**

State: **MI**    Activity: **PEDNSS**    Year: **2013**    Quarter: **Q4**

**Error Code: Missing Data**

	Field Name	Number of Records	Threshold %	% Found
▶	BIRTHWEIGHT_ENGLISH	61560	20	
	LENGTH_OF_TIME_BREASTFED	70094	20	
	MONTHLY_HOUSEHOLD_INCOME	34590	20	

**Display**

**Detail Record:**

	STATE	SUBSTATE	CLINIC	ZIP_CODE	SOURCE_...	RECORD_...	DATE_OF...	CHILDS_...	DATE_OF...
	MI	8	000004601	49221	1	S	11182013	300493262	03102009
	MI	8	000000650	48858	1	S	10032013	300493269	03182009
	MI	8	000008151	48198	1	S	12032013	300493271	03172009
	MI	8	000003850	49203	1	S	10212013	300493300	03192009
	MI	8	000008258	48141	1	S	10232013	300493345	02132009
	MI	8	000009080	48206	1	S	10012013	300493353	03052009
	MI	8	000008903	48205	1	S	12092013	300493362	03182009

←    **Export**    **Cancel**

**Version: 7.0.0.1**    Only first 50 records are displayed out of 61560.    BALLYAMR1234    Login State - MI    wicpprs1



# Reports

The screenshot shows a web browser window displaying a report generation interface. The browser's address bar shows the URL: <https://ssoqa.state.mi.us/dch-waps14/MIPPR/state/WebForms/Template.aspx?fiFAlyRDdBGluaWNJZD1NSSZ>. The application header features a navigation menu with the following items: **MI - PNSS & PEDNSS**, **File**, **File Upload**, **Data Quality**, **Reports** (which is currently selected and has a dropdown menu open), and **Help**. The date **Fri 5/15/2015** is displayed in the top right corner. The dropdown menu under **Reports** includes the following options: **PNSS** (with a right-pointing arrow), **PEDNSS** (with a right-pointing arrow), **State**, **Local Agency**, **County**, **Clinic**, **Metro Area**, and **Region**. On the left side of the page, there are three buttons: **File Upload**, **Data Quality**, and **Logoff**. The main content area is a large light blue rectangle with the text **MI - PNSS & PEDNSS** centered within it. The footer of the page contains the following information: **Version: 7.0.0.1**, **BALYAMR1234**, **Login State - MI**, and **wicprs1**.

# Reports – PNSS 2014

Table 1C  
2014 Pregnancy Nutrition Surveillance (1)  
Michigan  
Summary of Demographic Indicators (2)

Run Date: 04/09/2015

Total Records	Number	%
Complete Records	49,060	74.5
Prenatal Records	4,243	6.4
Postpartum Records	12,568	19.1
<b>Total Records Accepted</b>	<b>65,871</b>	

Source of Data	Number	%
WIC	65,871	100.0
Maternal Health	0	0.0
Other	0	0.0
<b>Total</b>	<b>65,871</b>	<b>100.0</b>
<i>Excluded Unknown: 0 0.0</i>		

Race/Ethnic Distribution	Number	%
White, Not Hispanic	36,682	56.0
Black, Not Hispanic	18,468	28.2
Hispanic	6,395	9.8
American Indian/Alaska Native	230	0.4
Asian/Pacific Islander	1,325	2.0
Multiple Races	2,390	3.6
All Other	0	0.0
<b>Total</b>	<b>65,490</b>	<b>100.0</b>
<i>Excluded Unknown: 376 0.6</i>		

Age Distribution	Number	%
< 15 Years	102	0.2
15 - 17 Years	2,221	3.4
18 - 19 Years	5,981	9.1
20 - 29 Years	41,835	63.6
30 - 39 Years	14,516	22.1
>= 40 Years	1,098	1.7
<b>Total</b>	<b>65,753</b>	<b>100.0</b>
<i>Excluded Unknown: 118 0.2</i>		

Education Distribution	Number	%
> High School	20,739	32.0
High School	28,721	44.3
< High School	15,301	23.6
<b>Total</b>	<b>64,761</b>	<b>100.0</b>
<i>Excluded Unknown: 1,110 1.7</i>		

Poverty Level	Number	%
0 - 50	35,090	65.9
51 - 100	14,284	26.8
101 - 130	2,712	5.1
131 - 150	382	0.7
151 - 185	264	0.5
186 - 200	66	0.1
> 200	166	0.3
Adjunctive Eligibility	263	0.5
<b>Total</b>	<b>53,227</b>	<b>100.0</b>
<i>Excluded Unknown: 12,644 19.2</i>		

Program Participation (3)	Number	%
WIC	53,303	100.0
SNAP	53,229	55.3
Medicaid	53,203	86.0
TANF	53,255	8.5
Excluded Unknown:		
WIC:	0	0.0
SNAP:	0	0.0
Medicaid:	0	0.0
TANF:	0	0.0

Migrant Status	Number	%
Yes	517	0.8
No	65,354	99.2
<b>Total</b>	<b>65,871</b>	<b>100.0</b>
<i>Excluded Unknown: 0 0.0</i>		

(1) Reporting period is January 1 through December 31

(2) Excludes records with unknown data errors.

(3) Prenatal program participation

\* Percentages are not calculated if <100 records are available for analysis after exclusions

# 2014 PNSS Trends Report



Table 19C  
**2014 Pregnancy Nutrition Surveillance** (1)  
 Michigan  
 Summary of Trends in Infant Health Indicators

Run Date: 05/12/2015

Summary of Trends in Infant Health Indicators (2)									
Year	Birthweight			Preterm (5)		Full Term LBW (6)		Ever Breastfed	
	Number	Low (3)	High (4)	Number	%	Number	%	Number	%
		%	%						
<b>2014</b>	57,572	9.0	7.0	59,292	11.8	50,471	3.8	57,574	63.6
<b>2013</b>	58,028	8.7	7.2	59,882	11.5	50,981	3.7	58,101	63.1
<b>2012</b>	58,368	8.8	7.3	60,111	12.1	50,877	3.7	58,753	61.2
<b>2011</b>	58,040	8.6	7.1	59,523	11.7	50,780	3.6	58,401	60.5
<b>2010</b>	56,075	8.5	7.2	57,799	12.0	48,927	3.6	56,127	59.8

# PedNSS 2014- Michigan

**Table 1C**  
**2014 Pediatric Nutrition Surveillance (1)**  
**Michigan**  
**Summary of Demographic Indicators (2,3)**  
**Children Aged < 5 Years**

Run Date: 05/04/2015

Total Records	Number
Total Records (All Visits)	411,777
Individual Children	250,091

Source of Data	Number	%
WIC	250,091	100.0
EPSDT	0	0.0
Child Health-MCH	0	0.0
Child Health-HMO	0	0.0
HeadStart	0	0.0
School Health	0	0.0
Other	0	0.0
Total	250,091	100.0
Excluded Unknown:	0	0.0

Race/Ethnic Distribution	Number	%
White, Not Hispanic	123463	49.4
Black, Not Hispanic	67270	26.9
Hispanic	33587	13.4
American Indian/Alaska Native	783	0.3
Asian/Pacific Islander	4551	1.8
Multiple Races	20157	8.1
All Other	51	0.0
Total	249,862	100.0
Excluded Unknown:	229	0.1

Age Distribution (4)	Number	%
3 - 4 Years	71,991	28.8
24 - 35 Months	38,641	15.5
12 - 23 Months	52,872	21.1
6 - 11 Months	31,189	12.5
0 - 5 Months	55,398	22.2
Total	250,091	100.0

% of Poverty Level	Number	%
0 - 50	175,908	71.1
51 - 100	64,258	26.0
101 - 130	4,477	1.8
131 - 150	1,167	0.5
151 - 185	1,115	0.5
186 - 200	257	0.1
Over 200	351	0.1
Adjunctive Eligibility	0	0.0
Total	247,533	100.0
Excluded Unknown:	2,558	1.0

Program Participation	Number	%
WIC	250,091	100.0
SNAP	248,883	55.7
Medicaid	247,290	80.6
TANF	249,155	6.8
Excluded Unknown		
WIC	0	0.0
SNAP	1,208	0.5
Medicaid	2,801	1.1
TANF	936	0.4

Migrant Status	Number	%
No	248,303	99.3
Yes	1,788	0.7
Total	250,091	100.0
Excluded Unknown:	0	0.0

(1) Reporting period is January 1 through December 31

(2) Analyses based on one record per child

(3) Excludes records with unknown data errors

(4) Records rejected if date of birth and date of visit unknown

\* Percentages are not calculated if <100 records are available for analysis after exclusions

# MI-PNSS & PedNSS

## Phase One - Pilot



- Demonstrate the ability to process and generate PNSS & PedNSS data & reports
- Evaluate the effectiveness of MI-PNSS & PedNSS
- Evaluate the operation cost of the project

\*\*\*\*\*

- Minnesota, Ohio, Wisconsin, Indiana, Illinois, & Hawaii
- Other states requesting to join the project- Arkansas, Colorado, Wyoming, South Dakota, North Dakota, Florida, Maryland, Oregon



# Progress Report



- Pilot phase started with MWR States (Minnesota, Ohio, Illinois, Indiana, Wisconsin) & Hawaii
- MOUs/data sharing agreements were signed with all participating states.
- Access to MI-PNSS & PedNSS was granted through the State secure “Single Sign On”
- Processed 2010, 2011 & 2012 data from MW Regional States (Minnesota, Ohio, Indiana, Illinois, Wisconsin) & Hawaii
- Reports were generated for States that submitted their data and UAT completed from all participating States
- Data quality reports and Master files were generated for the years data was submitted for all participating States



# Progress Report



- Michigan, Minnesota, Wisconsin & Ohio:
  - 2010, 2011, 2012, 2013 & 2014  
PNSS & PedNSS
- Indiana:
  - 2010, 2011, 2012 & 2013  
PNSS & PedNSS
- Hawaii:
  - 2010, 2011, 2012, 2013 & 2014  
PedNSS
  - 2010, 2011 PNSS



# Data Sharing Agreement/MOU

|  
State of Michigan  
Department of Community Health, WIC Division  
Data Sharing Agreement

The Michigan WIC program is requesting State WIC participant data for the years 2010 - 2016 and information for the following reasons:

## I. TITLE OF PROJECT

Michigan Pregnancy and Pediatric Nutrition Surveillance System (MI PNSS – PedNSS) Pilot

## II. PURPOSE OF AGREEMENT

To replicate the Pregnancy Nutrition Surveillance System (PNSS) and Pediatric Nutrition Surveillance System (PedNSS) data collection and reporting for Midwest Region WIC programs that have been discontinued by the Centers for Disease Control and Prevention (CDC). These two surveillance systems are described as follows:

1. PNSS is a nutrition surveillance system developed by the CDC. PNSS monitors risk factors associated with infant mortality and poor birth outcomes among low-income pregnant women who participate in federally funded public health programs. The system is intended to characterize trends and patterns in key indicators of maternal and infant health. This information can be used for program planning and targeting. The indicators monitored by PNSS include demographics, maternal health indicators such as pre-pregnancy weight status, prenatal weight gain, parity, inter-pregnancy intervals and anemia. Data on maternal behaviors include medical care, WIC enrollment, smoking and drinking. Data on infant health include birth weight, preterm births, full term low birth weight and breastfeeding initiation.
2. PedNSS is a nutrition surveillance system developed by the CDC. PedNSS monitors the general health and nutritional status of low-income U.S. children up to the age of 18 years who participate in federally funded public health programs. The system is intended to characterize trends and patterns in key indicators of nutritional status. This information can be used for program planning and targeting. The indicators monitored by PedNSS include demographics, birth weight, weight, height/length, anemia and breastfeeding. Also included are supplemental indicators such as TV watching and smoking in household.

The Michigan WIC program agrees that the participant data and information provided will be used for:

1. Replicating the PNSS and PedNSS data collection and reporting systems in Midwest Region WIC programs for use in the respective WIC program and their agencies' programs;
2. Evaluating the MI PNSS and PedNSS process, cost and effectiveness; and
3. Providing recommendation for a national model for continuation of PNSS and PedNSS.
4. Any other uses including studies, publications and presentations of Participant Data require prior written approval from the State WIC Program.

## III. RESPONSIBILITIES

The Michigan WIC program assures that it:

1. Will not charge or be charged any fees for these services. Both parties shall bear their own costs associated with this Agreement;
2. Will not release or allow access to these data in full or in part to any third person party or program;
3. Will provide the State WIC Program with test scripts for guiding the participating States through UAT of the MI PNSS – PedNSS System
4. Will not present or publish data in a manner in which any individual can be identified;
5. Will send a copy of any report or article produced as a result of use of these data to the respective participating WIC program;
6. Will provide PNSS and PedNSS Master file, PedNSS Unique Master file for the years extracts were submitted upon request ; and
7. Upon destruction of submitted data from the MI PNSS – PedNSS system, the participating states will no longer be able to access their data or reports from the system. In order for the data to be destroyed by December 31, 2017, Michigan will require a written notice from the participating State requesting for their data to be destroyed.

# Michigan De-duplicated Enrollment by Race, FY 2014



Race	Category		Total	% Enrolled
	I/C	W		
White	178,799	77,777	256,576	62.1
Black or African American	81,766	33,267	115,033	27.9
Multi-Racial	26,971	4,613	31,584	7.6
Asian	5,080	2,444	7,524	1.8
American Indian/Alaskan Native	1,307	634	1,941	0.5
Native Hawaiian/Other Pacific Islander	169	106	275	0.1
<b>Total</b>	<b>294,092</b>	<b>118,841</b>	<b>412,933</b>	<b>100.0</b>

12.5% of total de-duplicated enrollees are Hispanic:

I/C 39,483  
W 11,834  
Total 51,317

91.4 % of PG women enrolled return to WIC postpartum

# Michigan WIC Top Ten List



Indicators	2004	2014	Progress Direction
First Trimester Entry into WIC	31.3	35.8	
Birth weight: • LBW <2500 g	7.7	9.1	
• Full Term LBW	--	3.8	
• HBW >4000 g	8.3	7.0	
• % Preterm Infants	--	11.8	
Breastfeeding: • Initiation	50.5	63.6	
• 6 Months Duration	14.6	17.7	
Prenatal Weight Gain: • <Ideal	26.0	17.3	
• >Ideal	48.9	52.3	
Body weight: • 85th-<95th%, ≥2yrs	16.1	16.7	
• ≥95th%, ≥2yrs	13.2	14.2	
Anemia, Low Hg, 3 <sup>rd</sup> Trimester	30.4	39.5	
Anemia, Low Hg, 6 months - 5 yrs.	13.1	19.0	
Prenatal Smoking, Last Trimester	23.0	16.4	
First Trimester Prenatal Care	74.1	79.6	
Prepregnancy: • Overweight/Obese	51.7	56.2	
• Underweight	4.8	4.3	

# Michigan WIC Five-year-plan

The Health Outcome Indicators

January 2014 To December 2018

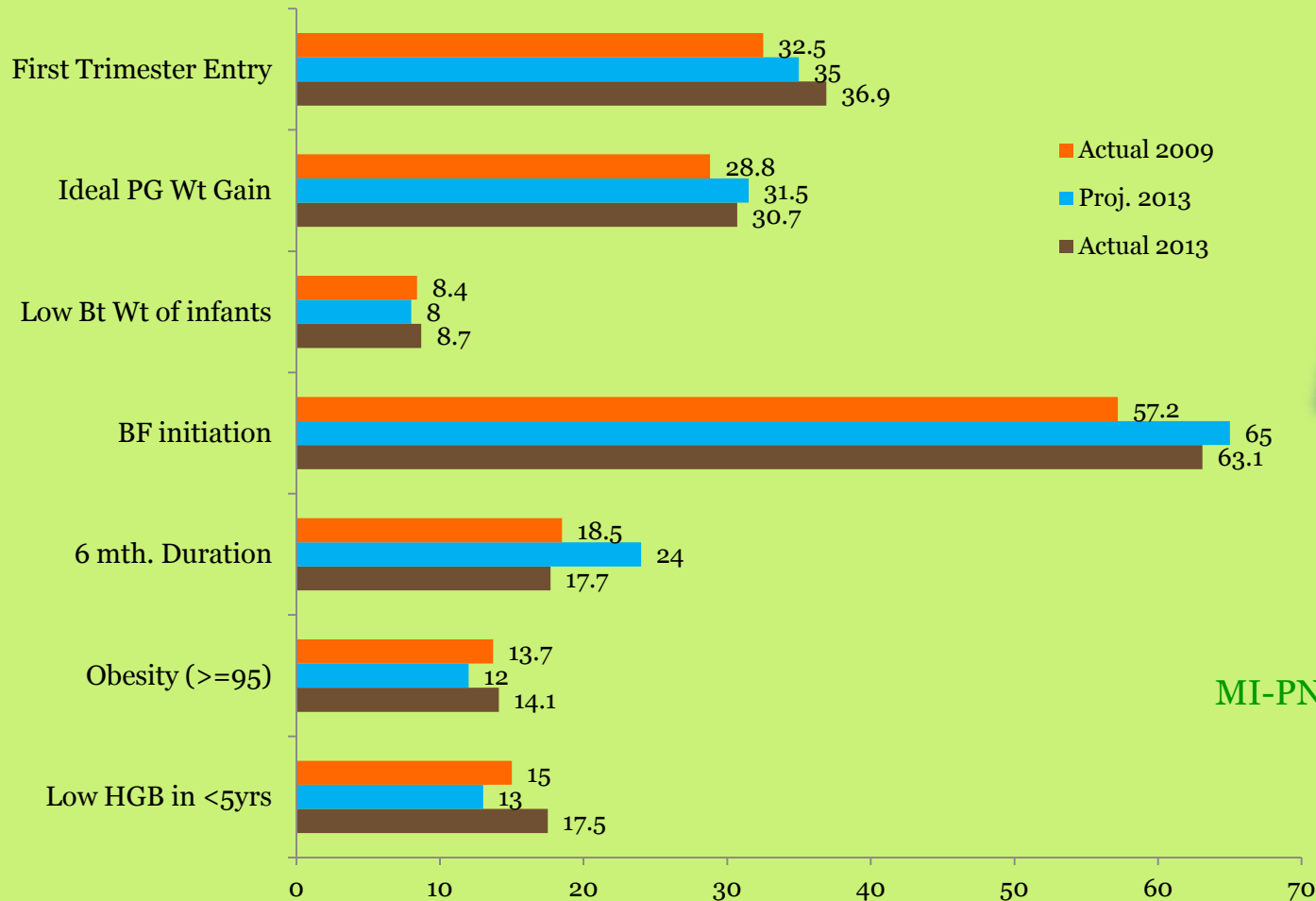


- Increase first trimester entry into the WIC program from 35.8% to 40.0%.
- Increase ideal prenatal weight gain from 30.4% to 33.5% among Michigan WIC mothers.
- Reduce the percent of low birth weight infants born to women enrolled in Michigan WIC from 9.1% to 8.5%.
- Increase breastfeeding initiation rate from 63.6% to 67.0% and the six-month duration rate from 17.7% to 20.5%.
- Decrease the prevalence of early childhood obesity, in children 2 to 5 years of age, from 14.2% to 13.5%.
- Decrease the prevalence of low hemoglobin level from 19.0% to 17.0% among children less than five years of age.

The projections are based on the 2004-2014 trend data from MI-PNSS & PedNSS. 2014 data is used as the baseline for a five-year-plan from Jan. 2014 to Dec. 2018.

Update: March 2014, KE

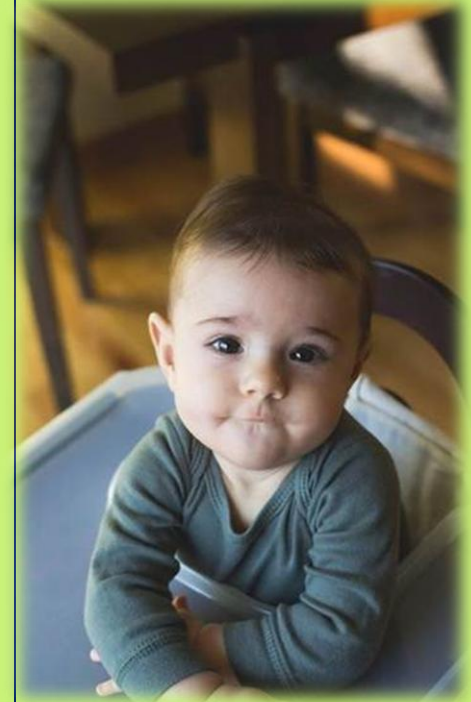
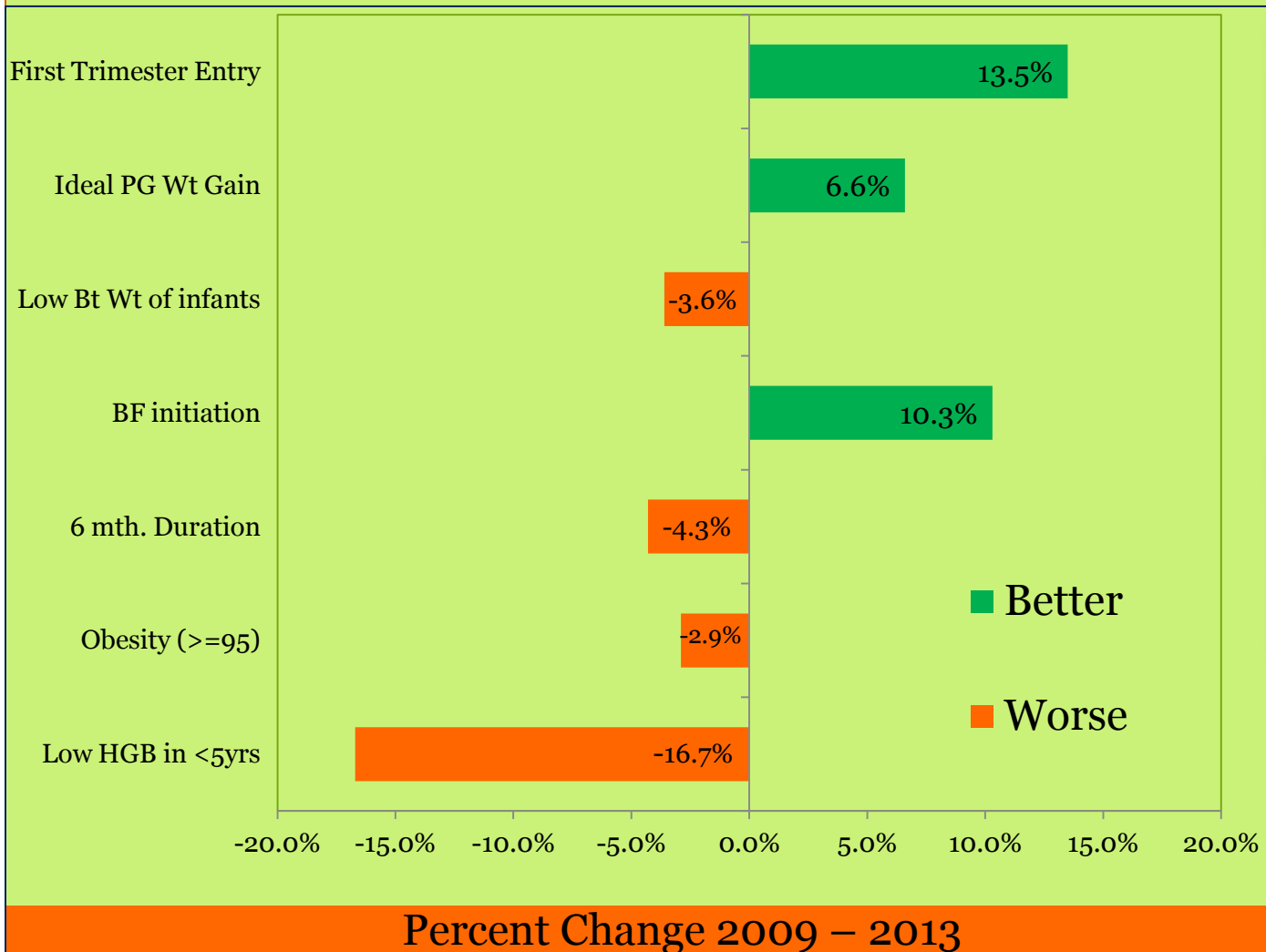
# Health Progress Review 2009 -2013 Five Year Plan



MI-PNSS & PedNSS



# Health Progress Review 2009 -2013 Five Year Plan



MI-PNSS & PedNSS

# An Average Day in the Michigan WIC Program



**54%**

Of babies born in Michigan enroll in WIC.

WIC families purchase over

**\$504,114**

in healthy foods.

**90.3%**

Of WIC families live below 150% of poverty.

**35.8%**

Of pregnant mothers enroll in WIC during their first trimester.

**11,426**

Clients are served.

WIC Families redeem

**77.9%**

of their fresh fruits and vegetables benefits.

**56.2%**

Of WIC mothers are overweight or obese pre-conception.

**16.7%** of children are overweight and **14.2%** are obese.

**9.1%**

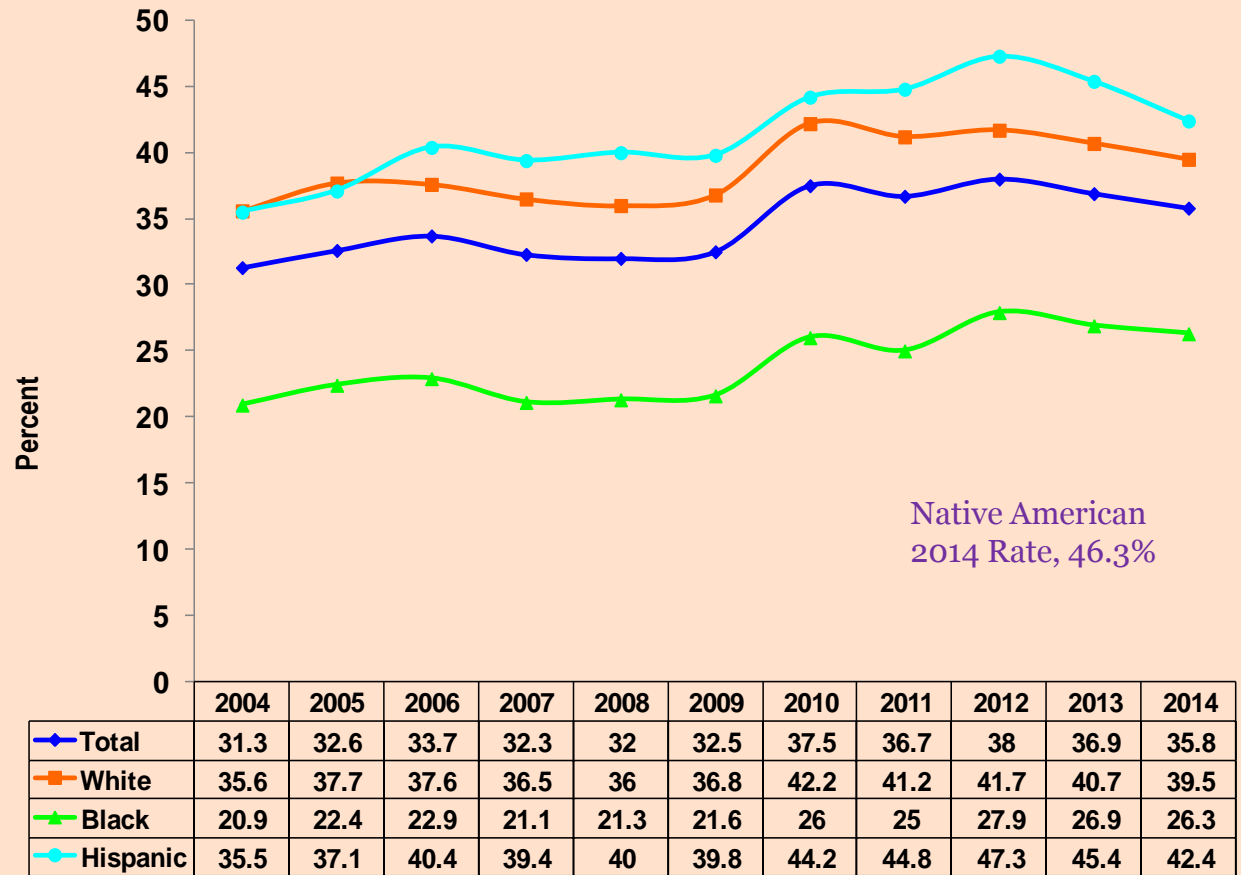
Of infants are born at a low birth weight.

**63.6%**

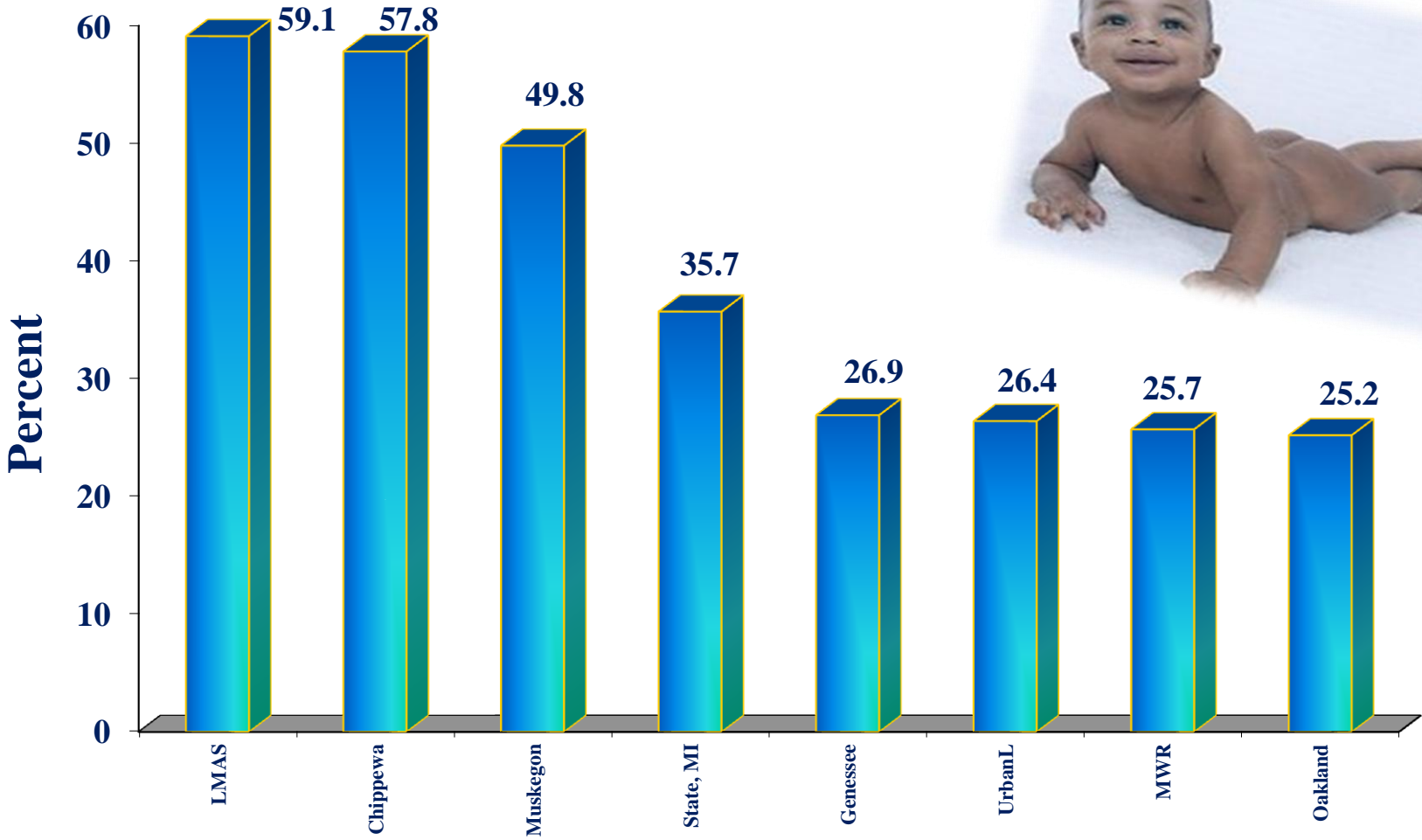
Of infants are breastfed.



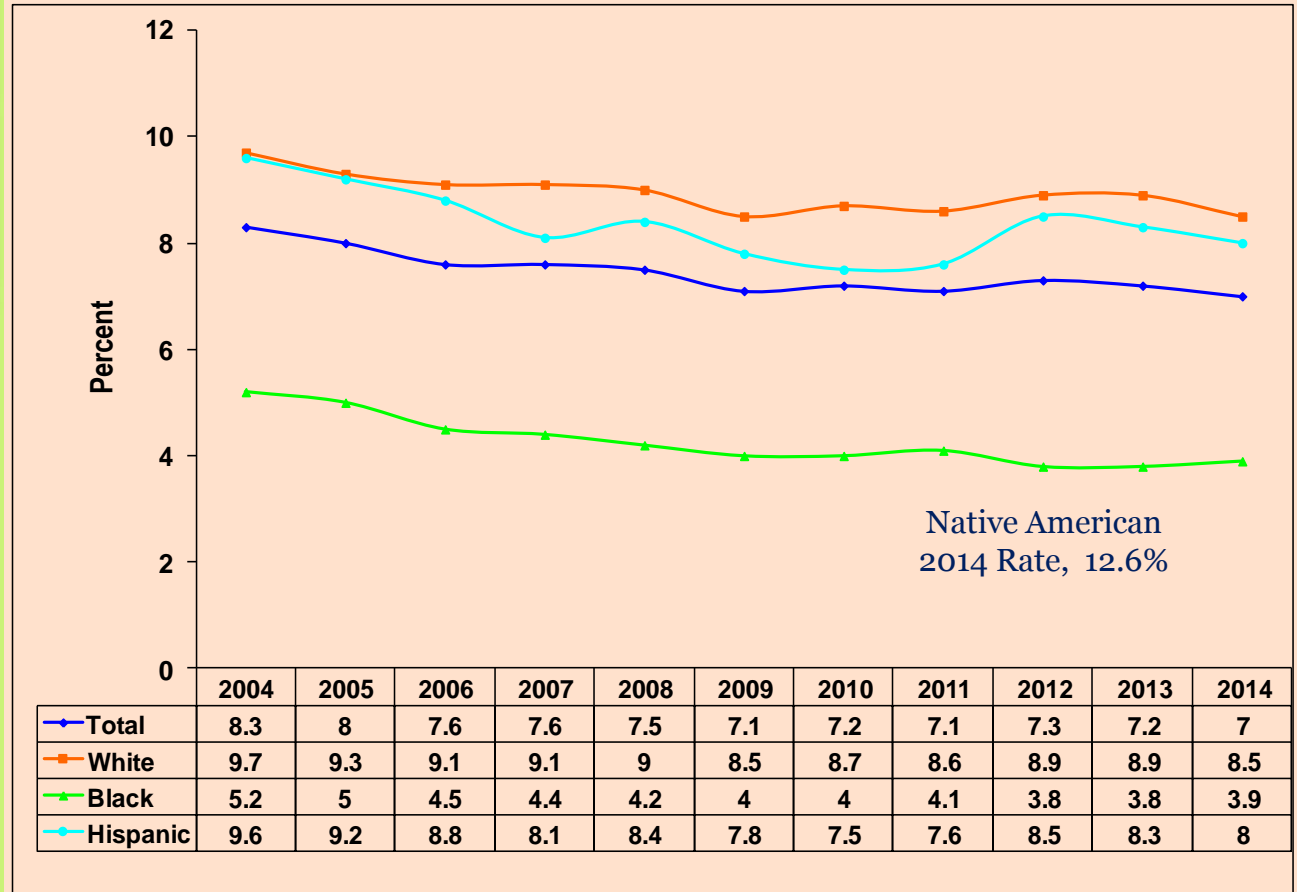
# Trends in 1<sup>st</sup> Trimester Entry into WIC Program by Race/Ethnicity



# First Trimester Entry into WIC by Local WIC Agencies

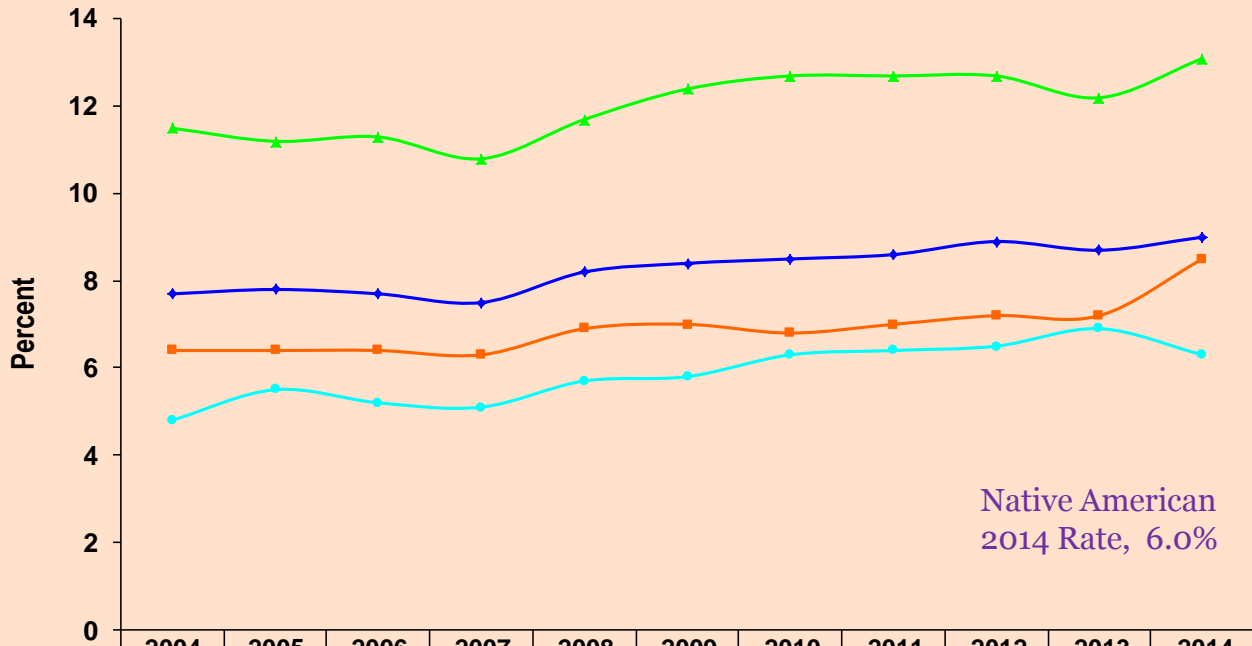


# Trends in High Birth Weight by Race/Ethnicity



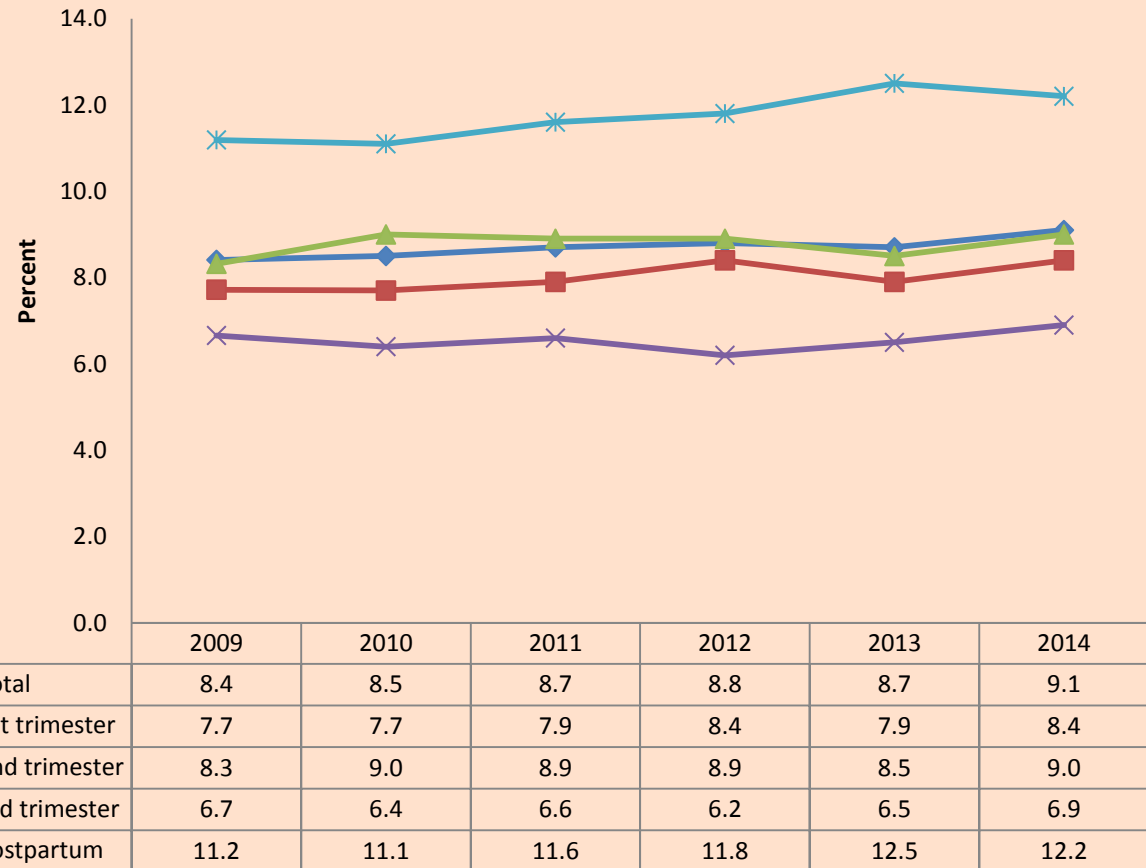
# Trends in Low Birth Weight by Race/Ethnicity

In 2012, approximately 15% of babies born worldwide (more than 20 million) had low birthweight (<2500 g). Subsequent complications included impaired immune function, higher risk for infant and childhood morbidity and mortality, and higher risk for diabetes and cardiovascular disease in adulthood.

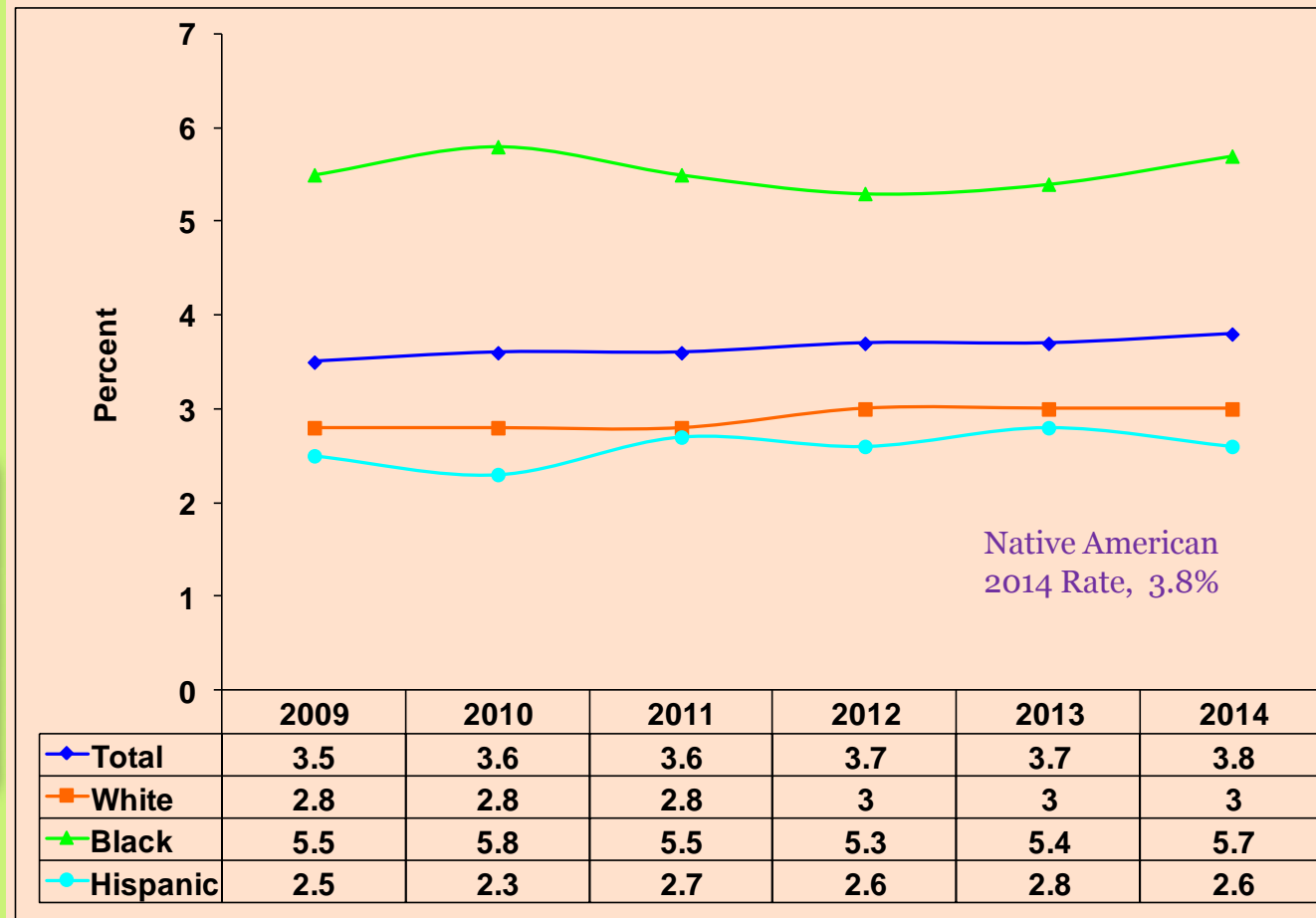




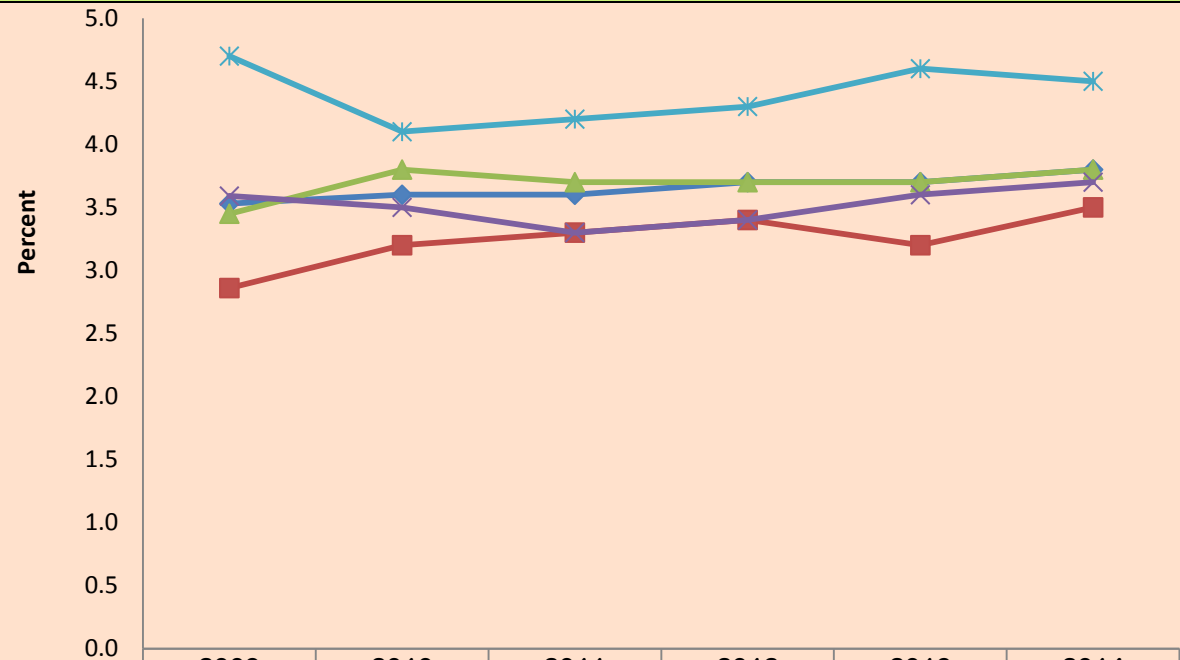
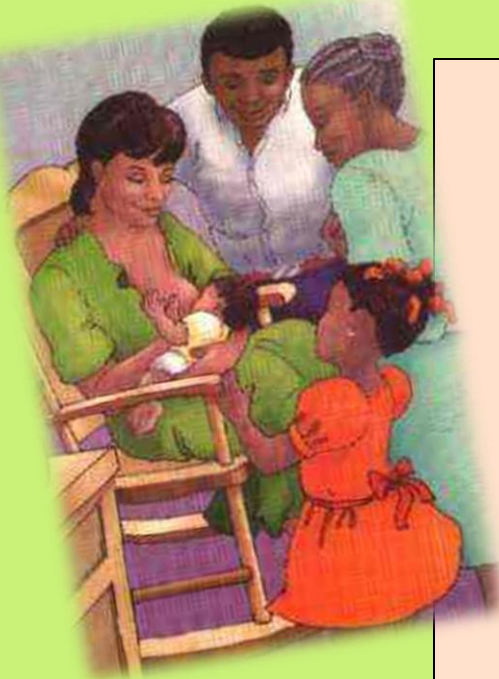
# Trends in Low Birth Weight by Trimester Entry



# Trends in Full Term Low Birth Weight by Race/Ethnicity

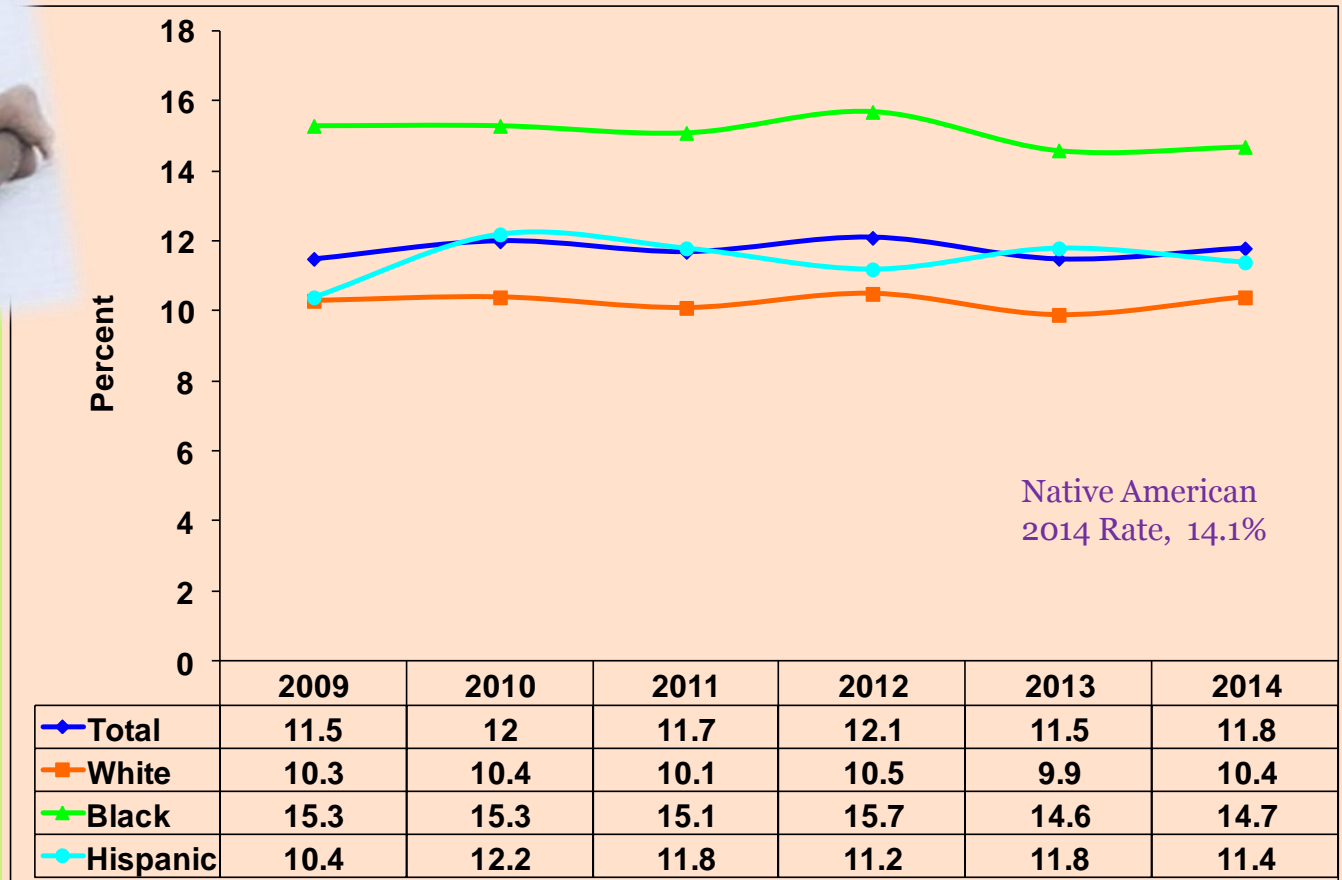


# Trends in Full Term Low Birth Weight by Trimester Entry

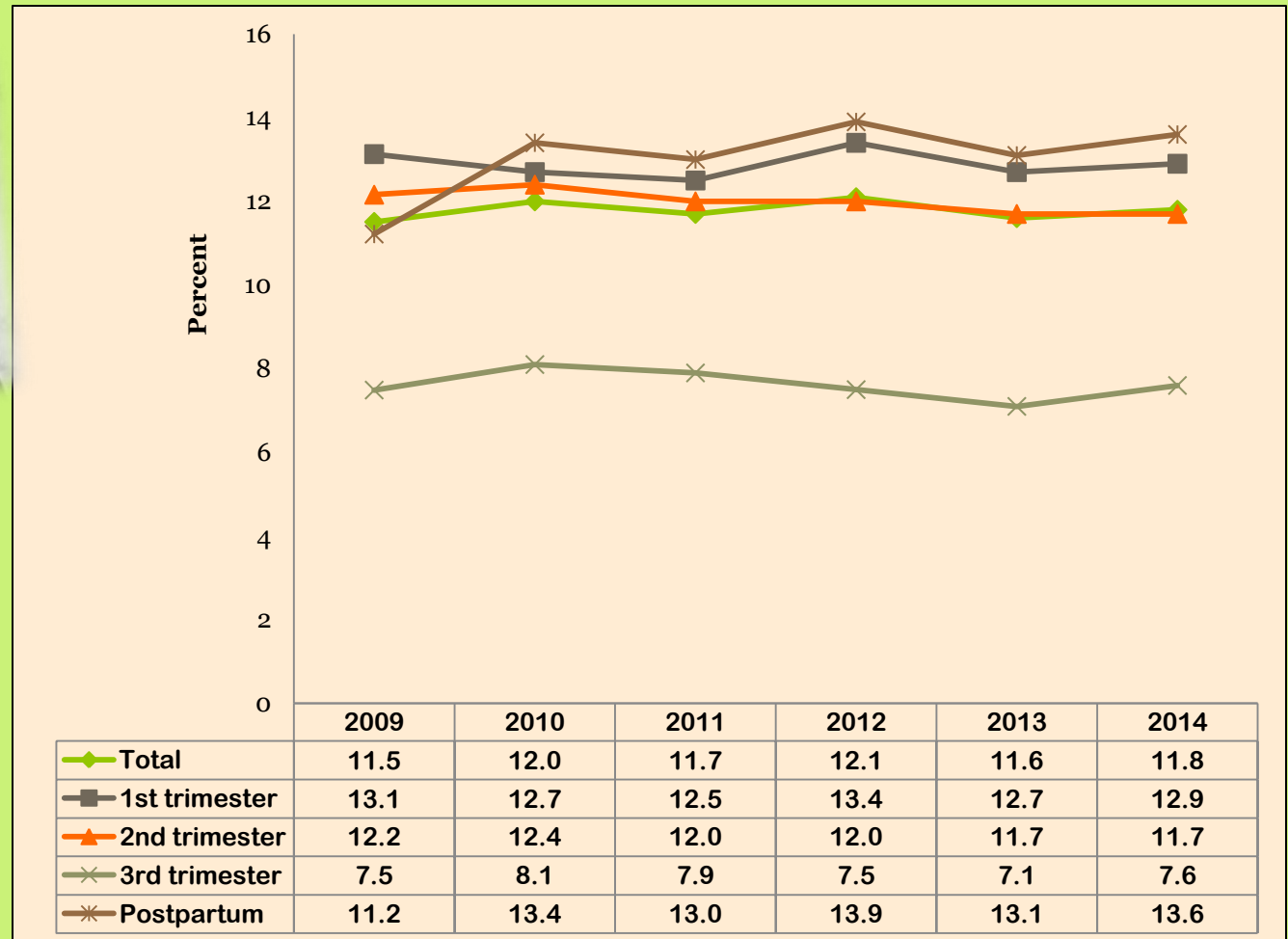


	2009	2010	2011	2012	2013	2014
◆ Total	3.5	3.6	3.6	3.7	3.7	3.8
■ 1st trimester	2.9	3.2	3.3	3.4	3.2	3.5
▲ 2nd trimester	3.5	3.8	3.7	3.7	3.7	3.8
× 3rd trimester	3.6	3.5	3.3	3.4	3.6	3.7
* Postpartum	4.7	4.1	4.2	4.3	4.6	4.5

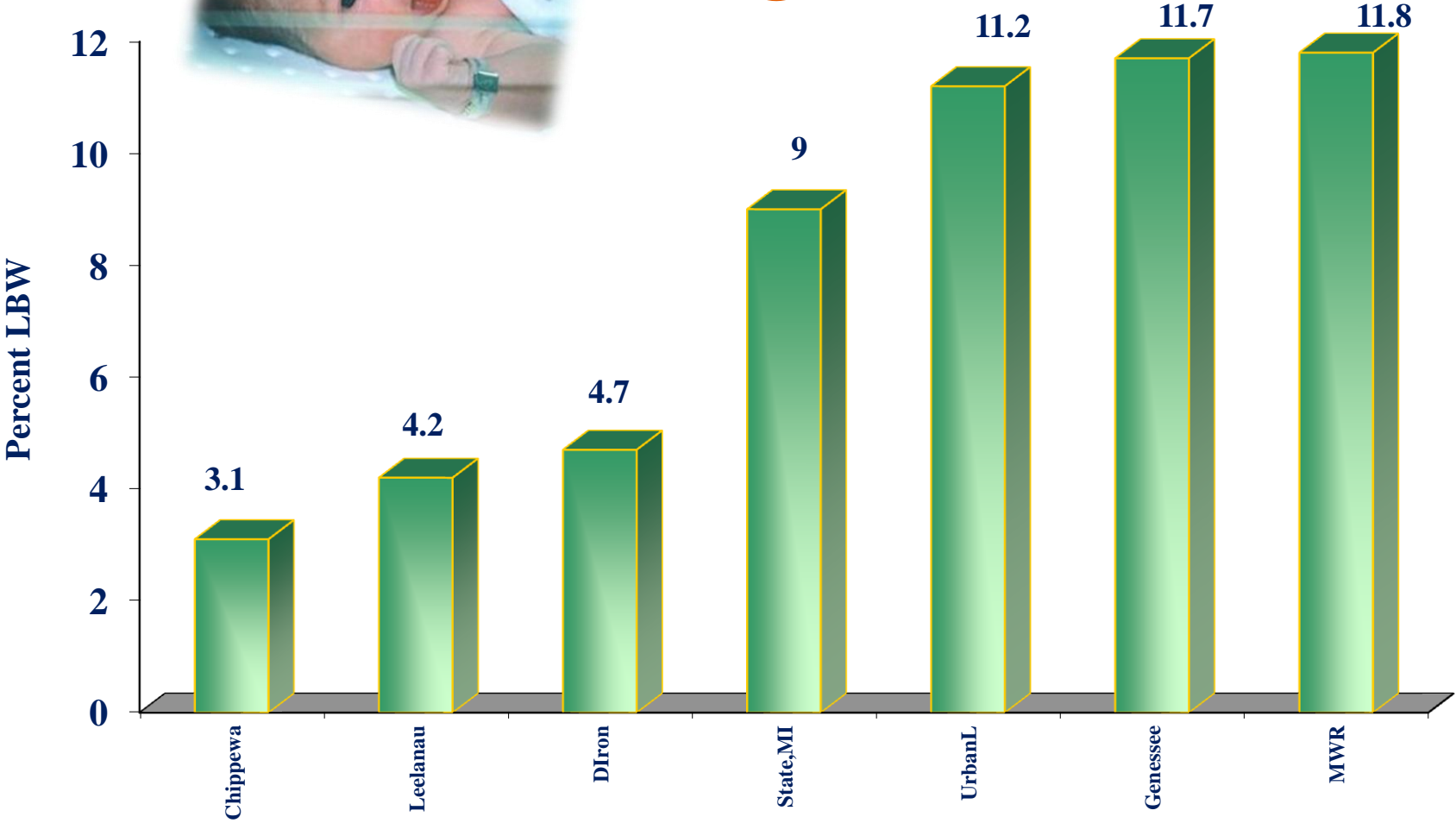
# Trends in Premature Birth by Race/Ethnicity



# Trends in Preterm Birth by Trimester Entry

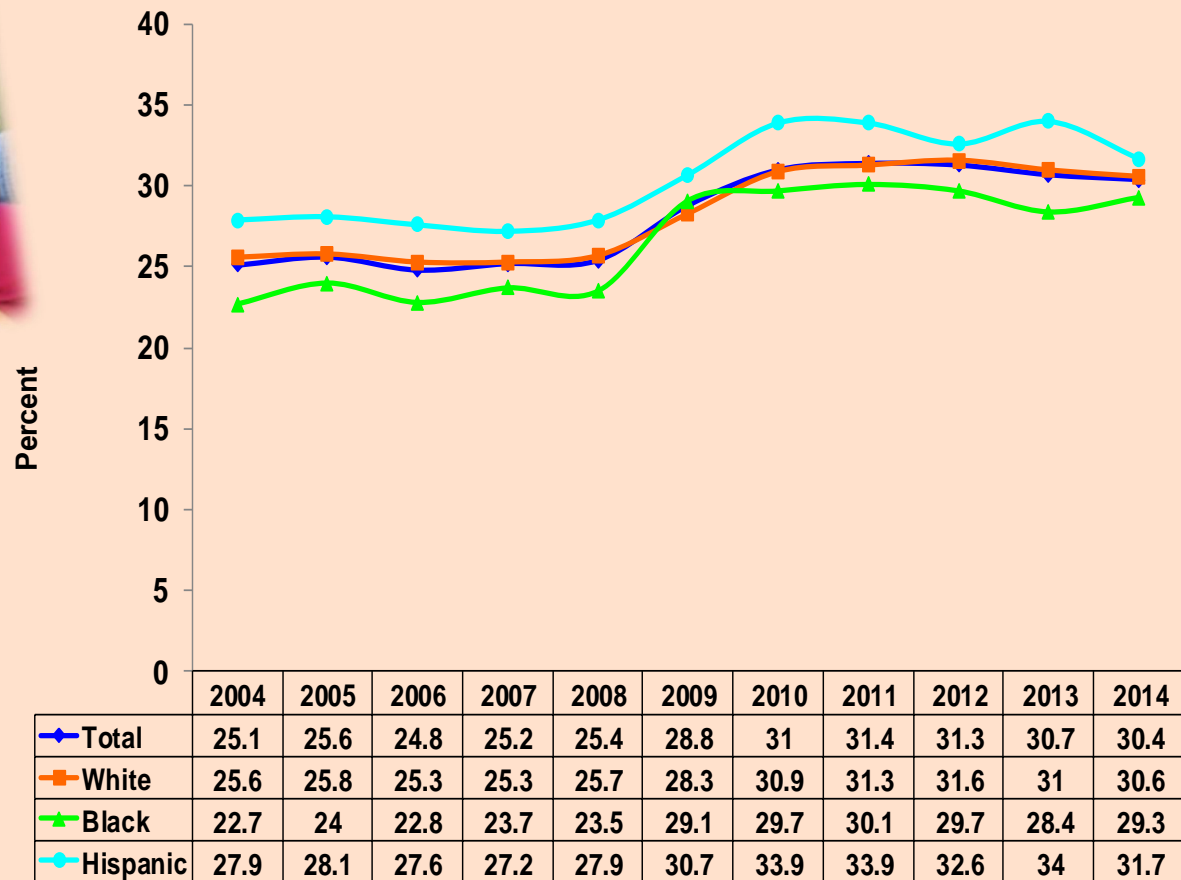


# Prevalence of LBW by Local WIC Agencies

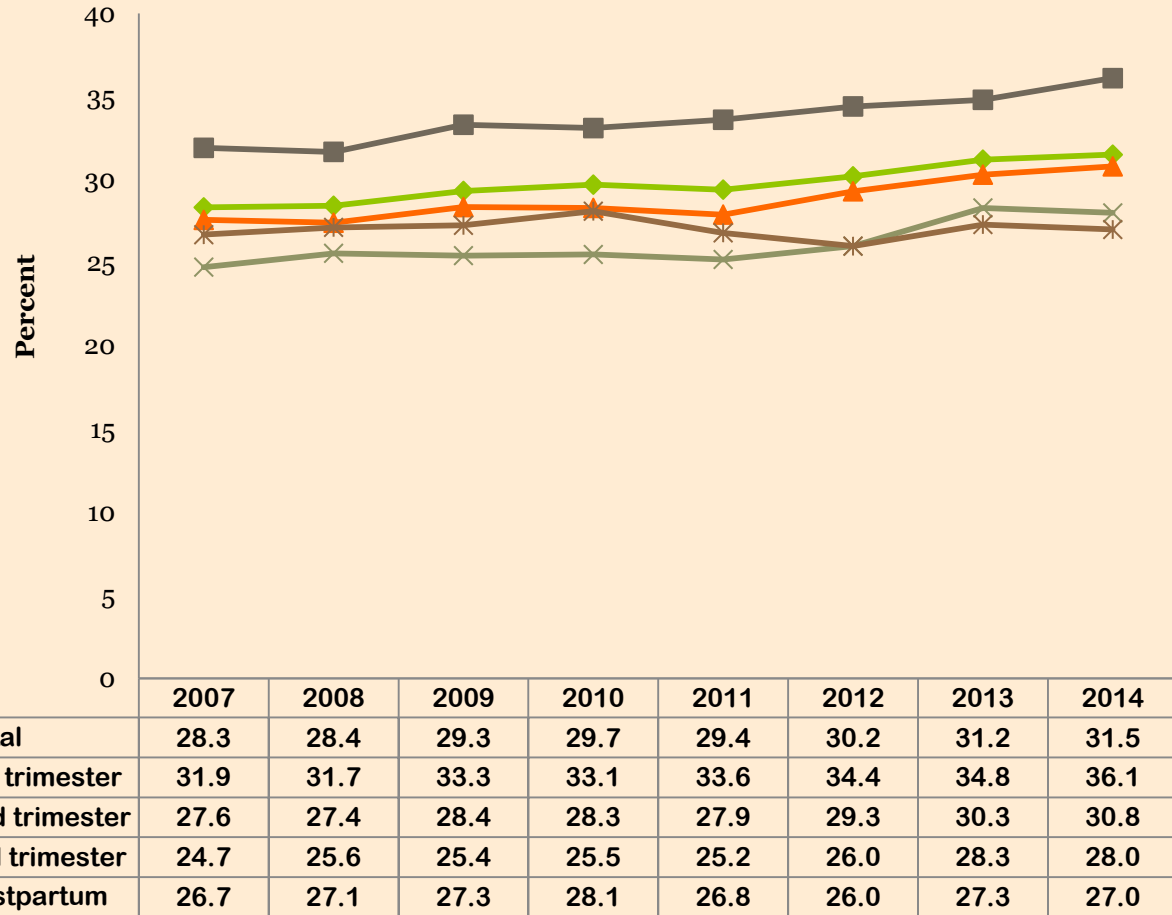




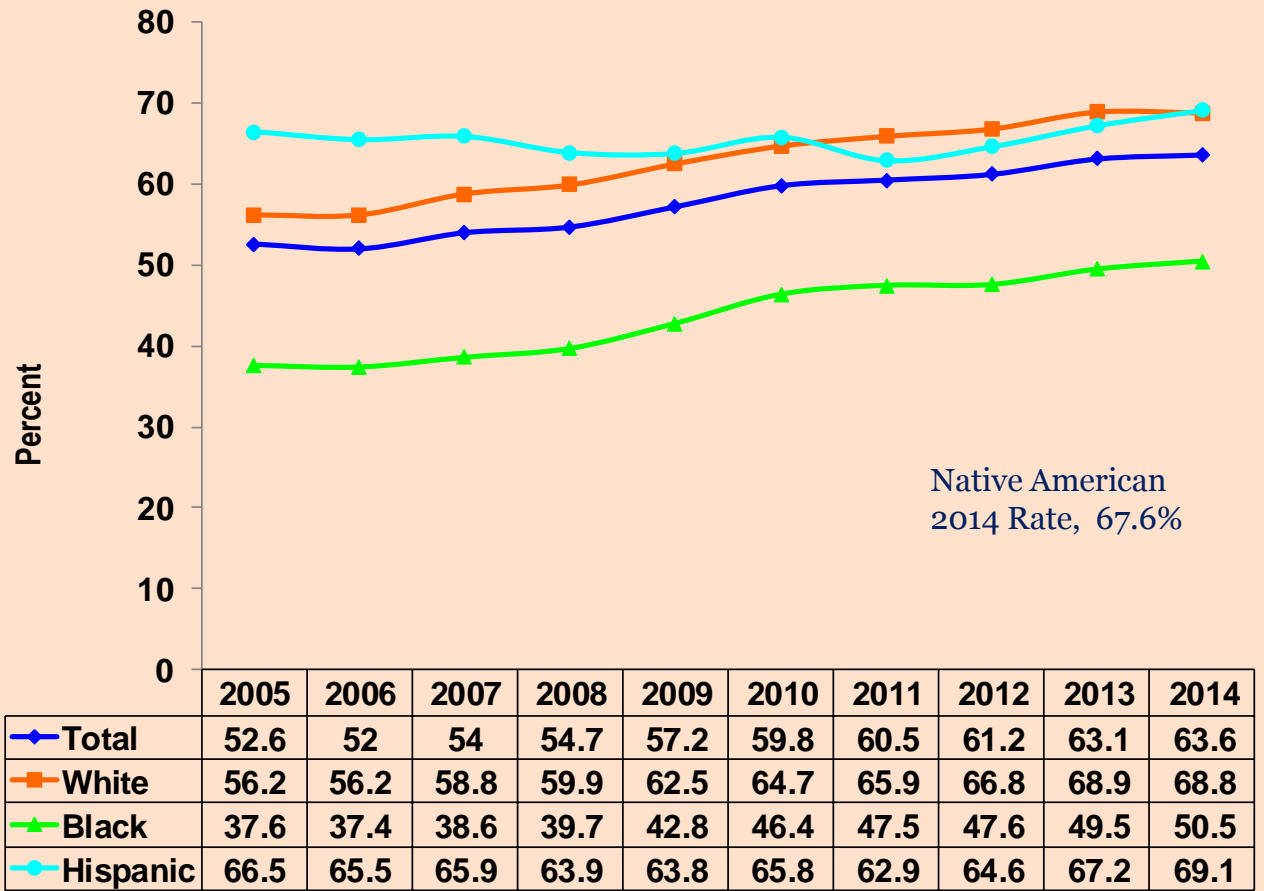
# Trends in Ideal Prenatal Weight Gain by Race/Ethnicity



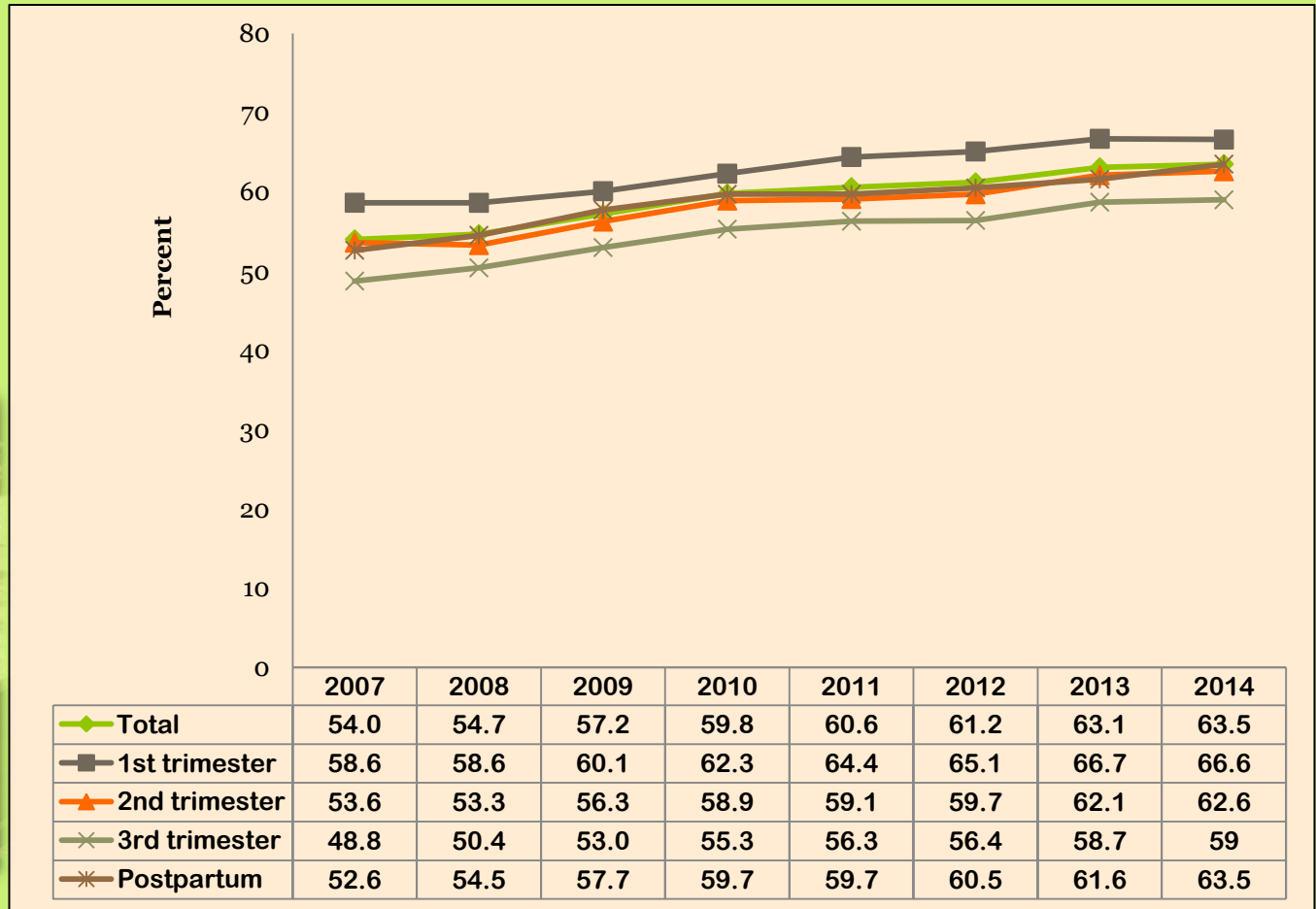
# Prepregnancy Obesity by Trimester Entry



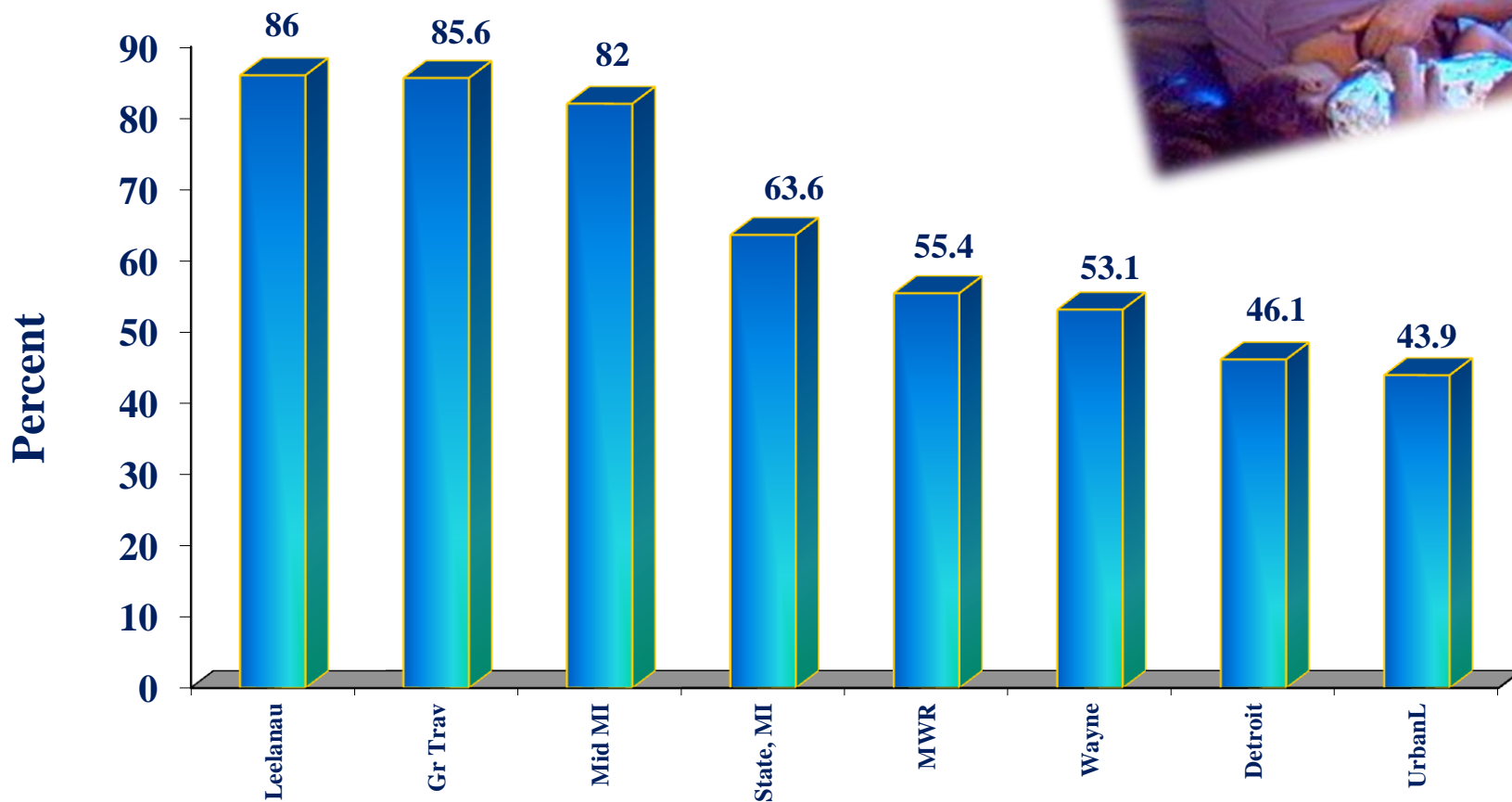
# Trends in Breastfeeding Initiation by Race/Ethnicity



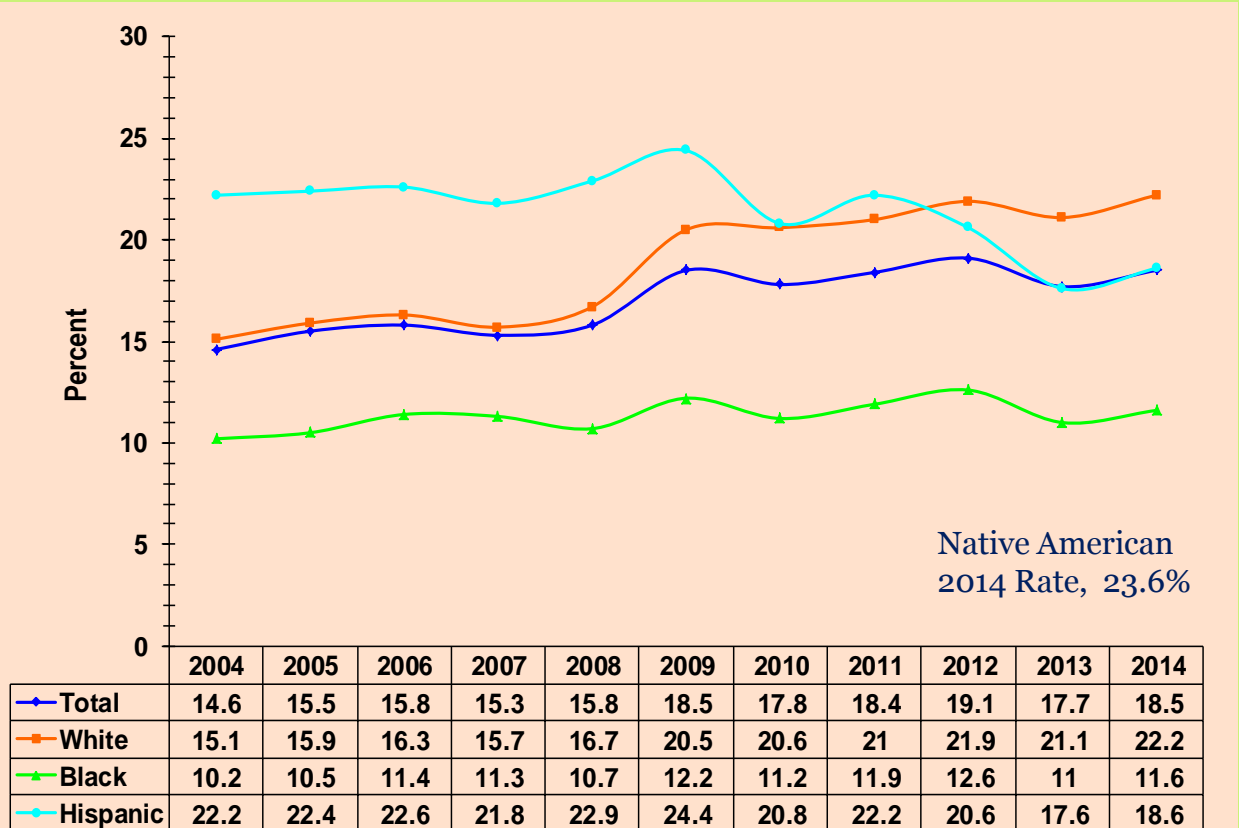
# Trends in Breastfeeding Initiation by Trimester Entry



# Breastfeeding Initiation by Local WIC Agencies

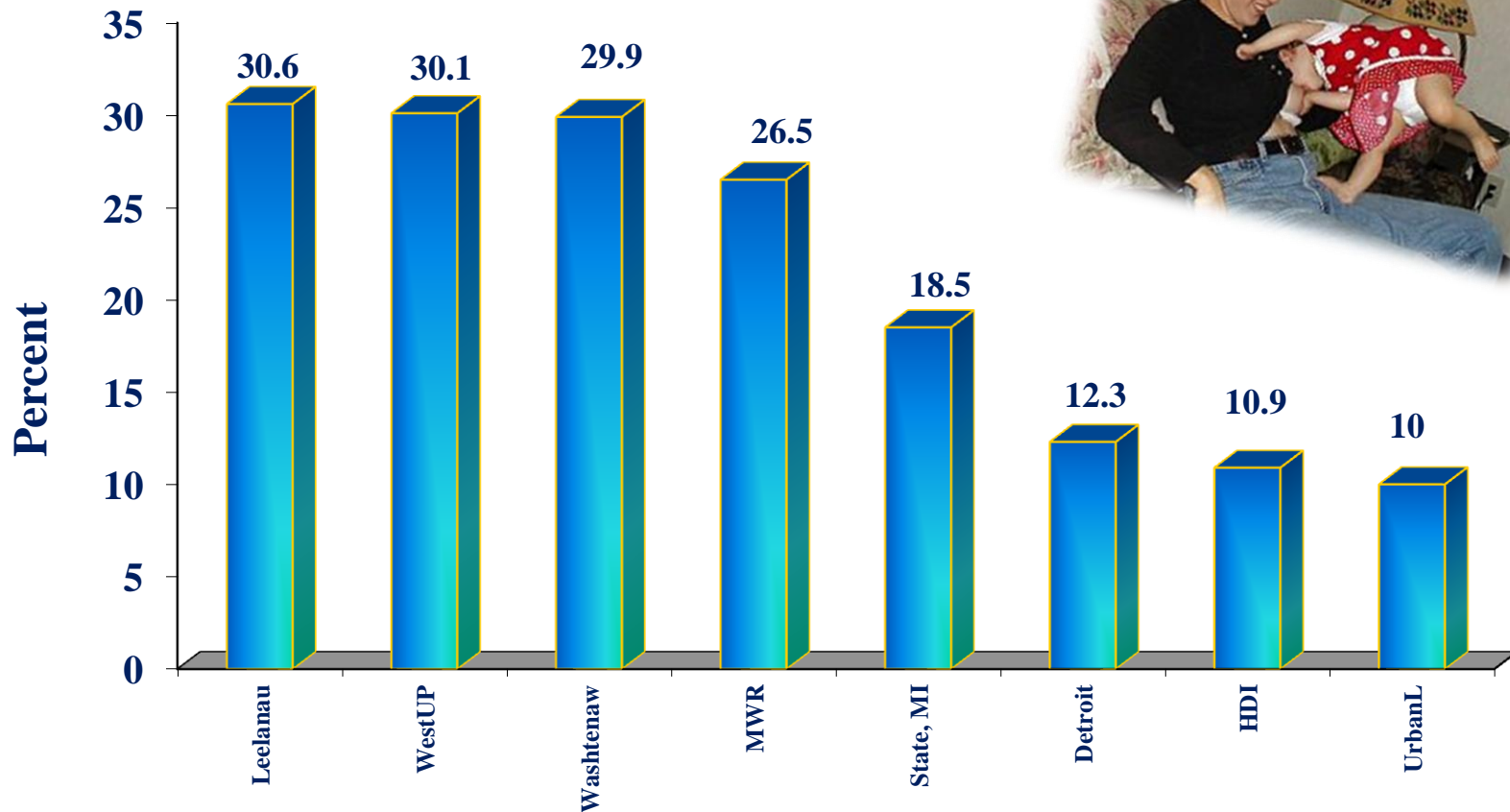


# Infants Breastfed for at Least 6 Months by Race/Ethnicity

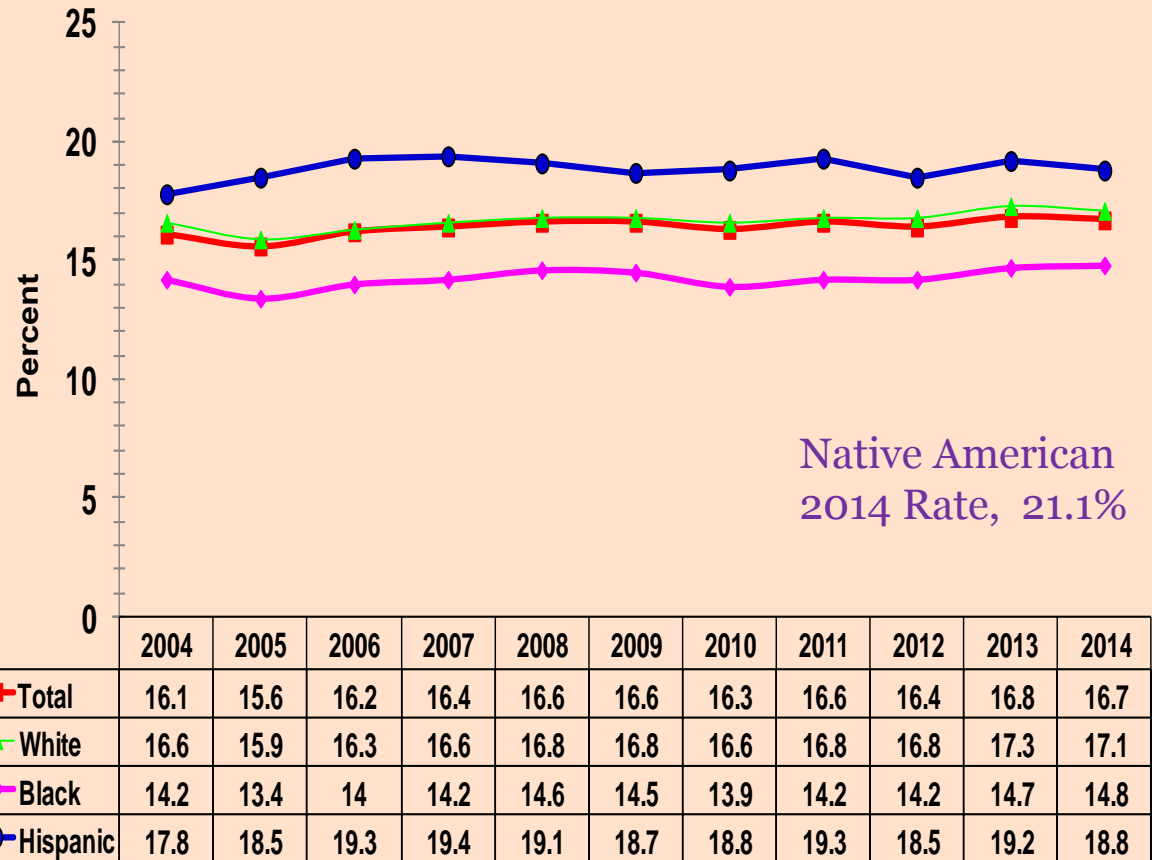




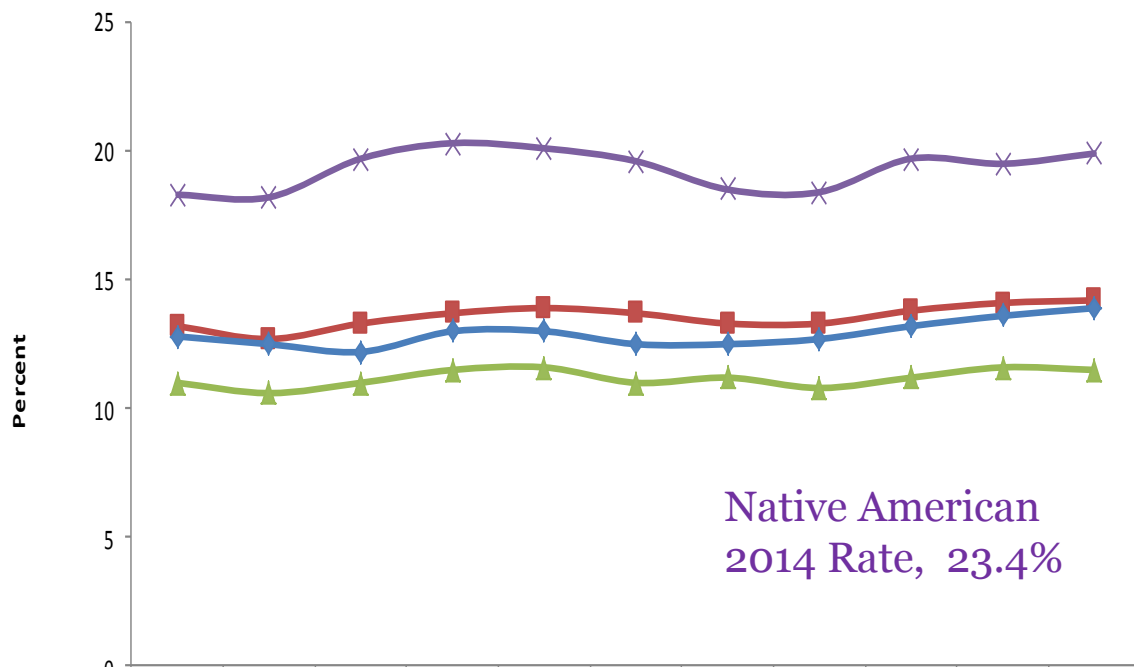
# Six Months Breastfeeding Duration by Local WIC Agencies



# Trends in Overweight (85<sup>th</sup>-<95<sup>th</sup>) by Race/Ethnicity among Michigan WIC Children Two to Five Years Old



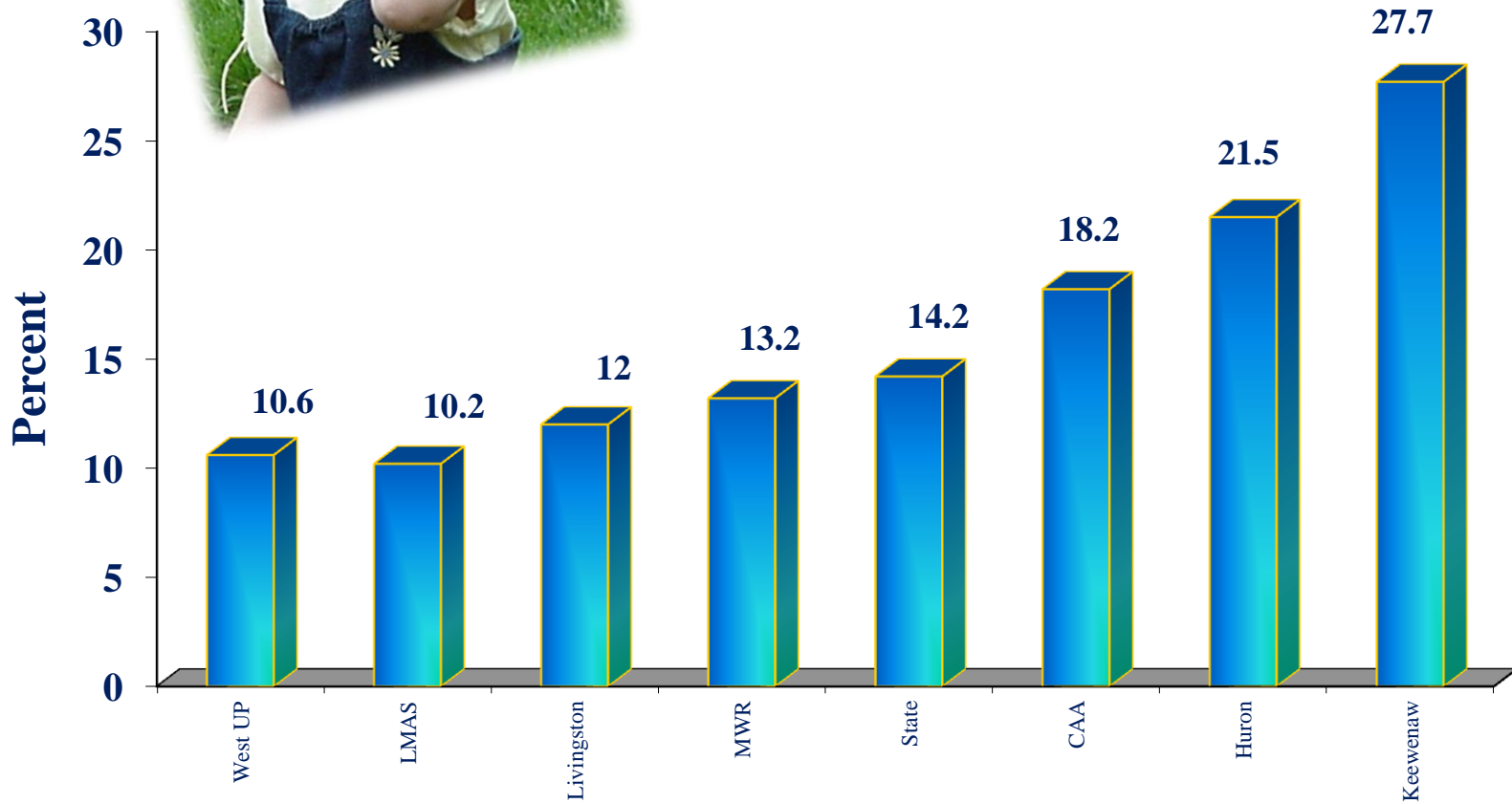
# Trends in Obesity (= > 95th) by Race/Ethnicity among Michigan WIC Children Two to Five Years Old



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
■ Total	13.2	12.7	13.3	13.7	13.9	13.7	13.3	13.3	13.8	14.1	14.2
◆ White	12.8	12.5	12.2	13	13	12.5	12.5	12.7	13.2	13.6	13.9
▲ Black	11	10.6	11	11.5	11.6	11	11.2	10.8	11.2	11.6	11.5
✕ Hispanic	18.3	18.2	19.7	20.3	20.1	19.6	18.5	18.4	19.7	19.5	19.9



# Early Childhood Obesity by Local WIC Agencies



# BMI Percentile & Breastfeeding Rates among Michigan WIC Children Two to Five Years Old



BMI Percentile	Initiation	Duration				
		1 Week	6 Weeks	3 Months	6 Months	11+ Months
<85%	63.1	35.0	24.9	19.5	11.7	5.3
>=85 % - <95%)	61.3	33.6	23.5	18.3	10.7	4.7
>=95%	58.4	33.4	21.9	16.2	9.0	3.7

# Native American Health Indicators

Health Indicator	State	White	Black	Hispanic	American Indian/ Alaskan Native	
	%	%	%	%	%	N
First Trimester Entry Into WIC	35.8	39.5	26.3	42.4	46.3	227
Ideal Prenatal Weight Gain	30.4	30.6	29.3	31.7	22.1	140
> Ideal Prenatal Weight Gain	52.3	53.8	52.3	46.3	54.3	140
Low Birth Weight	9	7.4	13.1	6.3	6	182
High Birth Weight	7	8.5	3.9	8	12.6	182
Full Term Low Birth Weight	3.8	3	5.7	2.6	3	170
Premature Birth	11.8	10.4	14.7	11.4	14.1	192
Breastfeeding Initiation	63.1	68.9	49.5	67.2	67.6	193
Breastfed at least 6 months	17.1	21.1	11	17.6	23.6	123
Overweight (85 <sup>th</sup> - <95 <sup>th</sup> %) ≥2yrs	16.7	17.1	14.8	18.8	21.1	350
Obesity (≥95 <sup>th</sup> %) ≥2yrs	14.2	13.9	11.5	19.9	23.4	350
Low Hemoglobin(< 5 Yrs)	19	14	30.1	16.4	20.6	466

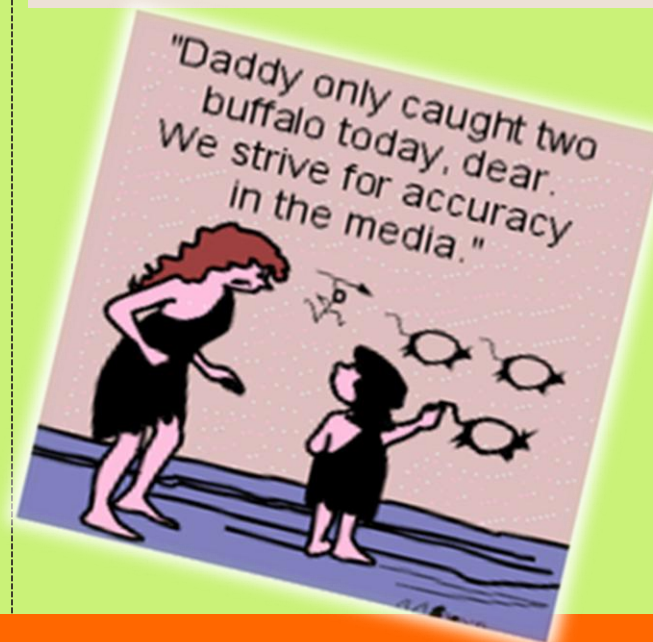


# Data Quality

Checking data validity and identifying questionable data items:

- Completeness:
  - ✦ No missing data
- Accuracy:
  - ✦ Correctly reflects what it is describing
- Consistency:
  - ✦ Agreement between data items

- Below & Above Acceptable Range
- Biologically Implausible Values (BIVs)
- Unknown values, Missing data
- Cross-Check Errors, Data inconsistencies



# “Known” Data Quality Issues



Missing Data for PNSS for Q2 2014		
Total No. of records	17,182	
Error Description	Record Count	% Missing
MULTIVITAMIN_PRIOR_TO_PREG	1,366	7.95
PREPREG_WEIGHT	2,553	14.86
CURRENTLY_BREASTFED	969	5.64
HOUSEHOLD_SMOKING_POSTPARTUM	1,203	7.00
CIGARETTES_PRIOR_TO_PREG	1,431	8.33
DRINKS_PRIOR_TO_PREG	1,476	8.59
HOUSEHOLD_SMOKING_PRENATAL	3,339	19.43

# Discussion



- Expanding the Pilot to other States
- Transition to USDA
- How the data is used in program management
- Improvements to current system

