

26% of children in Washtenaw County, ages 2-17 years, are overweight or obese <sup>i,ii</sup>.

Obesity is a significant health issue in the United States. Being overweight or obese in childhood puts individuals at risk of obesity and other chronic diseases in adulthood.

Rate of overweight and obesity in Washtenaw County Children, ages 2-17 yrs (2013).	
Demographic Group	% overweight or obese
<b>Sex</b>	
Female	25%
Male	26%
<b>Age group</b>	
2 to 4 yrs	19%
5 to 7 yrs	22%
8 to 10 yrs	27%
11 to 13 yrs	31%
14 to 17 yrs	30%
<b>Race and Ethnicity</b>	
White or Caucasian (non-Hispanic)	23%
Black or African American (non-Hispanic)	37%
Asian (non-Hispanic)	16%
Other	26%
Hispanic (all races)	31%
<b>Health Insurance</b>	
Commercial	23%
Medicaid	35%
<b>Washtenaw County Overall</b>	<b>26%</b>
18,595 children from Washtenaw County were analyzed for this report.	
Data source: Washtenaw Child BMI Dataset (2013) <sup>iii</sup>	

### This report describes the weight status of children living in Washtenaw County.

Analysis focused on the children who are currently overweight or obese. Factors known to affect the risk of childhood obesity were examined, including poverty, minority racial or ethnic status, and age group. In addition, differences in communities across the County are explored, since where children live, play and learn matters.

Community leaders, clinicians, schools and many other organizations and individuals are working to improve the health of children. By highlighting the groups of children who are most at risk of being overweight, local interventions can be focused on those who need them to help all achieve the healthiest weight possible. Future data will allow us to track our progress and further focus our efforts.

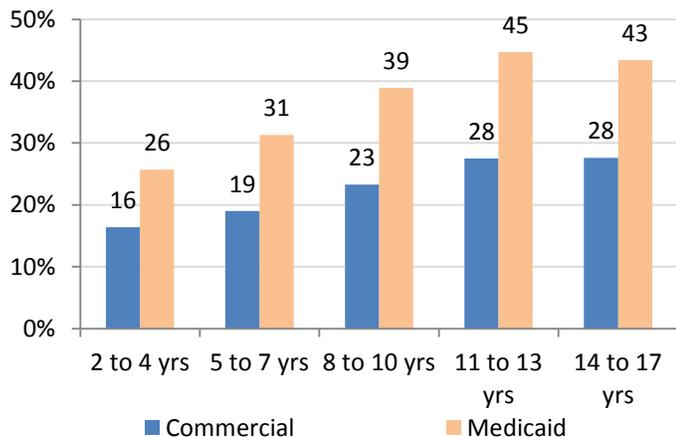
<sup>i</sup> **Body Mass Index (BMI)** is a measure of body fat based on height and weight. BMI in children is interpreted using age and sex, and a percentile is assigned using standardized CDC growth curves. In children, overweight is defined by having a BMI greater than 85<sup>th</sup> percentile. Obesity is defined as a BMI greater than 95<sup>th</sup> percentile.

<sup>ii</sup> In order to account for differences in proportions of different age groups in each community, these data have been age-adjusted by taking the average of rates of five age groups indicated in the table.

<sup>iii</sup> **St. Joseph Mercy Health System** and the **University of Michigan Health System** contributed electronic health records of Washtenaw County children who had their height and weight measured in 2013. Washtenaw County Public Health created the Washtenaw Child BMI Dataset and performed the analysis for this report.

# Children who grow up in poverty are more likely to be overweight

**Overweight and Obesity Rates by Age and Health Insurance Coverage**  
Washtenaw County (2013)



Data Source: Washtenaw Child BMI Dataset (2013) <sup>iii</sup>

Medicaid coverage is an indicator of poverty, and poverty is a known cause of obesity disparities. As children get older, their risk of overweight and obesity increases. This effect is compounded by poverty.

- 22% of children in the dataset are covered by Medicaid.
- Children who are covered by Medicaid experience higher risk of obesity at each age, compared to children who are covered by commercial health insurance. The difference in overweight risk is significant for each age group in Washtenaw County ( $p < 0.001$ ).

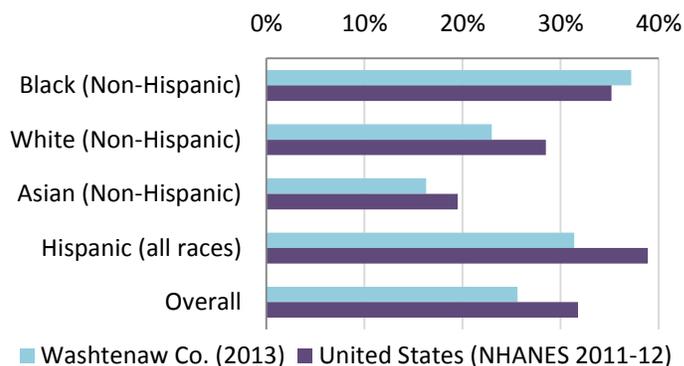
## Some minorities experience higher risk

In the United States, race and ethnicity can play a role in increased risk of overweight and obesity in children<sup>1</sup>.

- Children of African American descent, and those who belong to Hispanic or Latino ethnic groups, have the highest risk of being overweight or obese. These national trends also are reflected in Washtenaw County (ages 2-17 years).
- Children in Washtenaw County as a whole have a lower rate of overweight compared to their national counterparts. However, children of African American descent surpass national rates.

**Overweight and Obesity by Race**

Washtenaw County, MI and the United States (ages 2-19 yrs)



Data Sources: Washtenaw Child BMI Dataset (2013)<sup>iii</sup>, NHANES 2011-12<sup>1</sup>

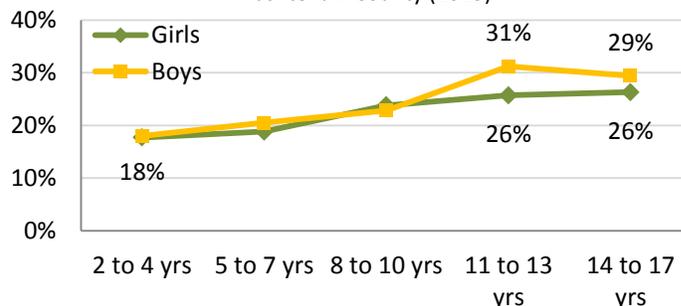
## Children in different races and ethnicities age with distinct risk patterns

### White

- 71% of children in the dataset are white or of Caucasian descent. The overall overweight and obesity rate is 23% in these children.
- Caucasian boys and girls show a similar pattern of increasing overweight and obesity until they reach adolescence.
- Caucasian teenage boys have a higher risk than girls of being overweight. This difference is significant in middle-school children (11 to 13 years;  $p < 0.003$ )

**Overweight and Obesity By Age in White Children**

Washtenaw County (2013)

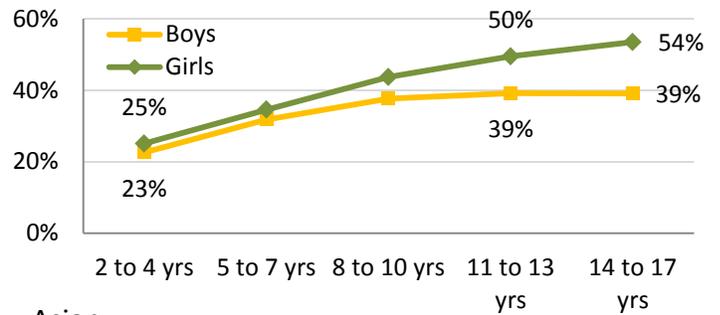


## African American

- 11% of children in the dataset are black or of African American descent. The overall overweight and obesity rate is 37% in these African American children.
- Rates of overweight increase in both African American boys and girls as they age.
- African American girls experience higher rates of overweight and obesity in all age groups compared to boys. This difference is significant above 11 years ( $p < 0.03$ )

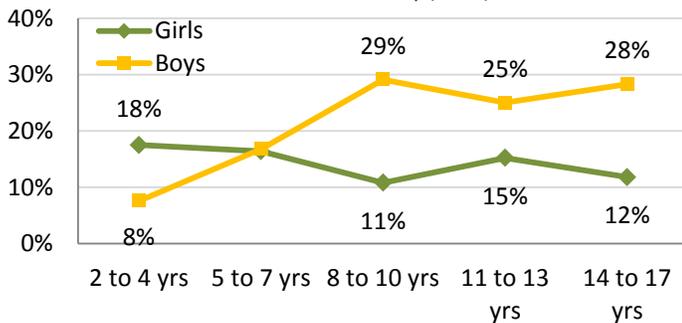
## Overweight and Obesity by Age in African American Children

Washtenaw County (2013)



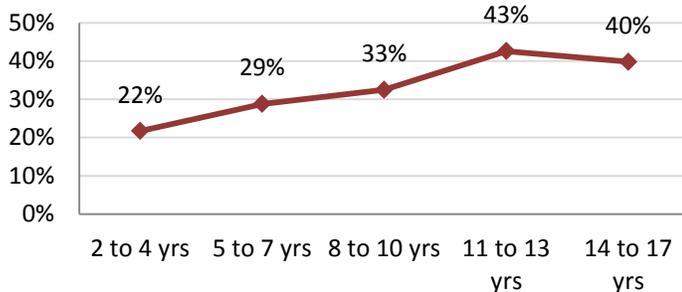
## Overweight and Obesity by Age in Asian Children

Washtenaw County (2013)



## Overweight and Obesity by Age in Hispanic Children

Washtenaw County (2013)



Data Source: Washtenaw Child BMI Dataset (2013)<sup>iii</sup>

## Asian

- 5% of children in the dataset are of Asian descent. The overall overweight and obesity rate is 16% in these Asian children. This is the lowest rate of all racial groups in Washtenaw County.
- Asian 2 to 4 year old boys have the lowest risk of overweight of any racial group (8%). As these boys age, the rate of overweight increases to almost equal the rate in 14 to 17 year boys in Washtenaw County overall (28% in Asian boys compared to 31% overall).
- Asian girls have a higher risk of being overweight or obese at young ages, compared to Asian boys. However, these girls are the only group where the rate of obesity decreases with age.

## Hispanic

- 5% of children in the dataset are Hispanic or Latino ethnicity. The overall overweight and obesity rate is 31% in these Hispanic children.
- Rates of overweight increase in Hispanic children as they age. Due to the small number of Hispanic children in the dataset, differences in rates between boys and girls cannot be calculated accurately.

## Where a child lives can affect risk of being overweight

Growing up in poverty and belonging to a minority racial group are factors that increase risk of being overweight. Even if those factors are removed in order to look at the children who should have the lowest risk, the area where a child lives can increase or decrease the risk of being overweight or obese <sup>ii</sup>.

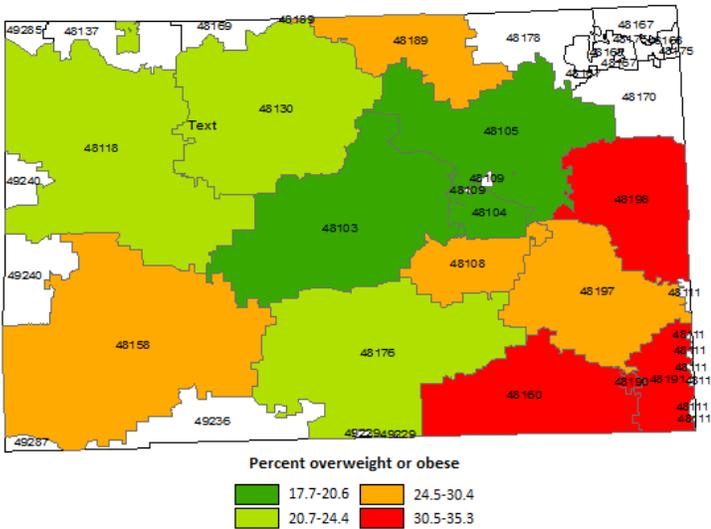
Data Source: Washtenaw Child BMI Dataset (2013)<sup>iii</sup>

## Overweight and Obesity by Community

White children with Commercial Insurance (2013)



## Overweight or obesity by Zip Code, children ages 2-17 Washtenaw County (2013)



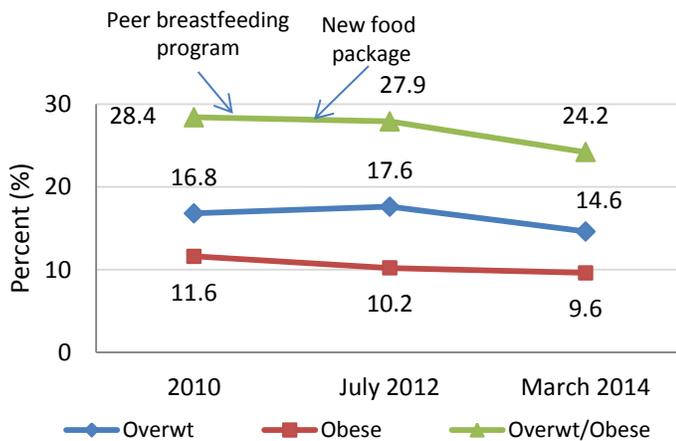
Data Source: Washtenaw Child BMI Dataset (2013)<sup>iii</sup>

Differences in rates of overweight and obesity exist across Washtenaw County.

- Factors of the community such as walkability and access to grocery stores and safe parks and recreational areas can affect risk of being overweight.
- Ann Arbor zip codes show lower rates of overweight compared to the southeast region of Washtenaw County, especially Ypsilanti (48197 and 48198), Milan (48160), Whittaker (48190) and Willis (48191).

## Good progress is being made in low-income WIC children

### Rates of Overweight or Obesity in WIC children, ages 2-4 yrs Washtenaw County (2010-2014)



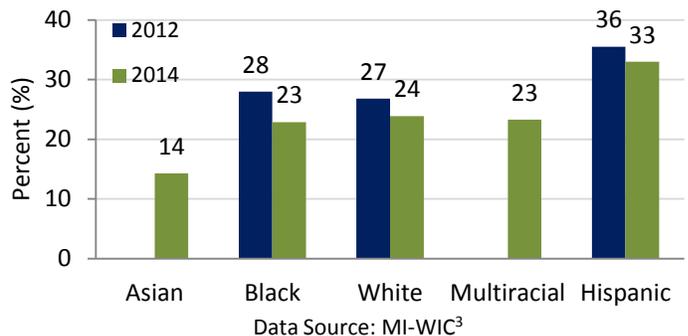
Data Source: MI-WIC<sup>3</sup>

- Implementation of a breastfeeding program in 2011 and a new, healthier food package in 2012 have helped in the marked decrease in rate of overweight and obese children in WIC, across all racial and ethnic groups.
- The HIP goal is to lower the overall overweight and obesity rate in Washtenaw County WIC children to 20% by 2020.

Women, Infants and Children (WIC) offers low-income women and their children resources and counseling so that they can maintain and improve their health<sup>2</sup>.

- Women are eligible for WIC throughout their pregnancy and up to a year after the pregnancy ends. Their children are covered up to their 5<sup>th</sup> birthday.
- These kids are measured and weighed several times a year in order to monitor growth. Because these women and children are a vulnerable population, Washtenaw County Health Improvement Plan (HIP) has collaborated with WIC to track the rates in these children.

### Rate of Overweight and Obesity in WIC children by Race Washtenaw County



Data Source: MI-WIC<sup>3</sup>

#### References

1. Ogden, C. L., Carroll, M. D., Kit, B. K., & Flegal, K. M. (2014). Prevalence of childhood and adult obesity in the United States, 2011-2012. *JAMA*, 311(8), 806-814. doi: 10.1001/jama.2014.732
2. <http://www.fns.usda.gov/wic/>
3. MI-WIC [www.michigan.gov/mdch](http://www.michigan.gov/mdch)