

# The Health of Women, Infants, and Children: A Life Course Approach among Medicaid and Comparative Populations

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#OMAS2015

# Outline

- Objectives
- Background and context
- Brief description of methods
- Results—Focus on Medicaid and Age groups
  - 2015 snapshot
  - Time trends
  - Health behaviors
- Conclusions

# Objectives

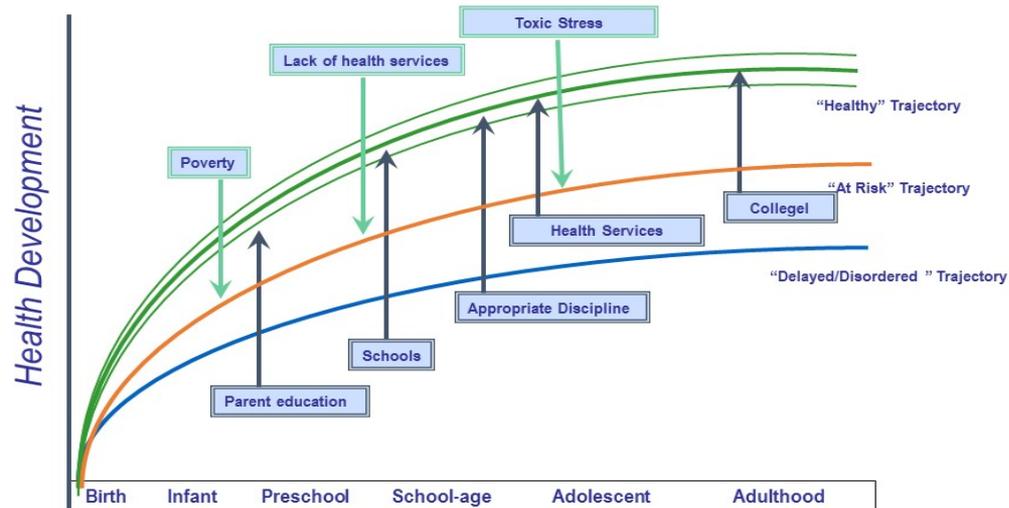
- Determine the current (i.e., 2015) health outcomes (health status, health services utilization, access) of Ohio women, infant and children, overall and by age and health insurance, controlling for region, race/ethnicity, and poverty status.
- Determine how the health outcomes (health status, health services utilization, access) of Ohio's women, infant and children have changed over the last decade, overall and by age and health insurance, controlling for region, race/ethnicity, and poverty status.
- Using obesity and smoking as behaviors of interest, demonstrate how a life course approach can influence our understanding of prevention and health promotion.

# Background and Context

- Desire to improve health of Ohio's women, infants, and children.
- Research has provided a new paradigm for understanding health, rooted in a life course approach that links midlife chronic disease with risk and protective factors over the life course.
- Ohio experienced significant economic changes during the study period: 2004 to 2015.
- Affordable Care Act (ACA) and the State's Medicaid expansion.
- Health care delivery system is undergoing unprecedented change, with a major shift towards prevention and wider financial access to care.

# Life Course Model\*

## Life Course Health Development: Reducing Risk & Optimizing Protective Factors



\*Adapted from Halfon & Hochstein (2002). Life course health development: an integrated framework for developing health, policy, and research. *Milbank Q.* 80(3), p. 433-4789.

# Methods

## **SAMPLE & DATA SOURCES:**

- **OMAS/OFHS:** The OMAS (and earlier versions entitled the Ohio Family Health Survey (OFHS)) were used. Data from five rounds were used: 2004 (N=39,953), 2008 (N=50,944), 2010 (N=10,278), 2012 (N=22,929), and 2015 (N=42,876).
- **Ohio Birth Certificates (OBC):** OBC from 2006 and 2014 were used. Because Ohio adopted the 2003 revised National Center for Health Statistics birth certificate in 2006, 2006 was selected as the baseline year for these analyses.
- **National Survey of Children's Health (NSCH):** The National Survey of Child Health (NSCH), 2012, was used in these analyses. These data were of the greatest interest because they contained conditions, Adverse Childhood Experiences scores (ACEs), and protective factors. Data in the NSCH provide more in-depth information on child and family conditions. By supplementing the OMAS with these data we fill gaps in key child health-related outcomes.

## **MEASURES:**

Health outcomes examined are health status, health conditions, health behaviors (overweight/obesity, smoking), utilization (emergency room, well child visit), and access (usual source of care).

Demographics considered in the analysis were: age, race/ethnicity, geographic region, poverty status, and health insurance type.

# Methods

- **Descriptive Statistics:** Prevalence estimates and standard errors were calculated for each of the major variables. Because of the life course approach, we focus on reporting results by ages, and because of the Medicaid focus, report results by insurance type.
- **Methods for the cross-sectional analyses:** Linear and logistic regression models were used to examine demographic and socioeconomic variables on outcomes.
- **Methods for the time trends:** Logistic regression was used to estimate the odds of the outcomes (e.g., Fair/Poor child health) in later years relative to the odds of the outcome in earlier years (e.g., 2004).

# Results

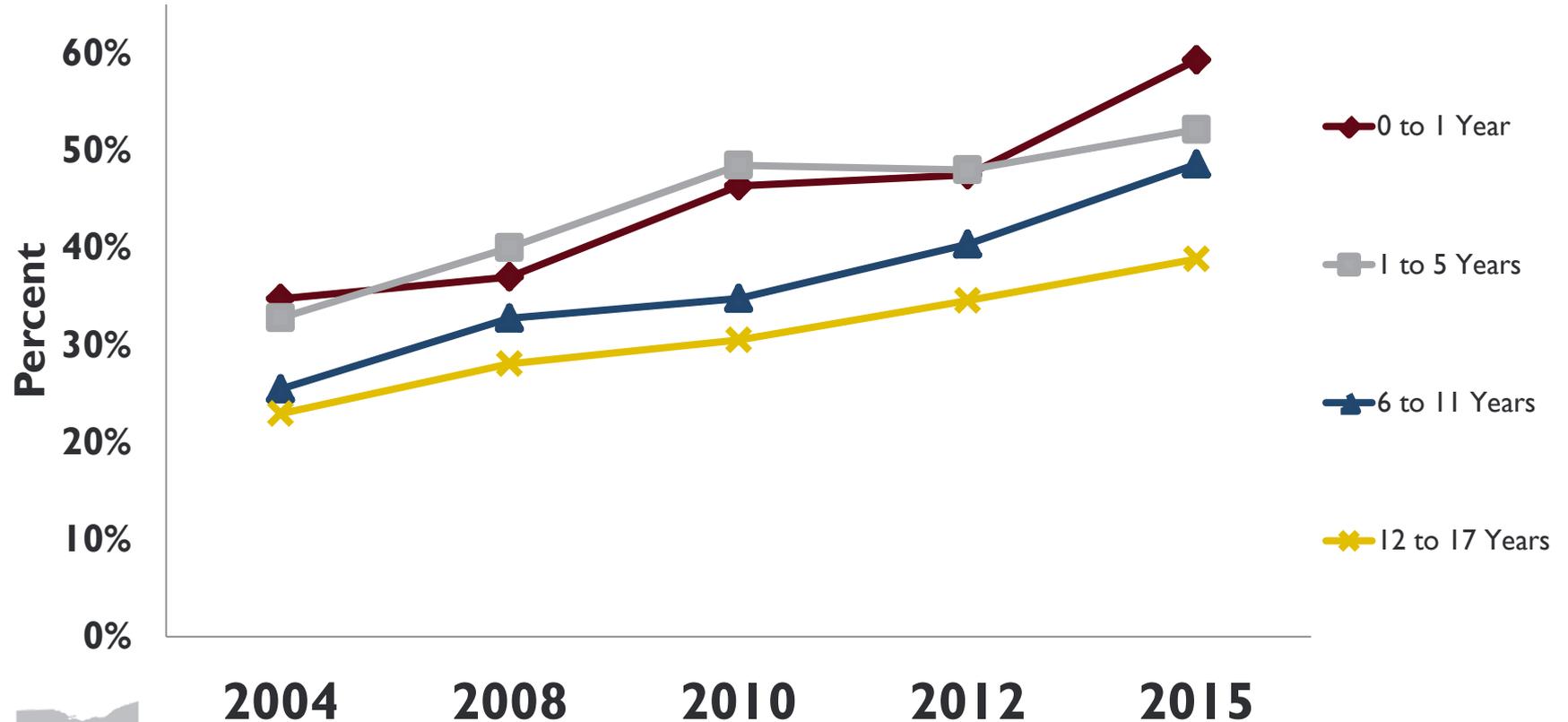
## Child Outcomes

# Key findings—Outline of Topics

**6 Areas of Interest** were examined, current and over time. These were:

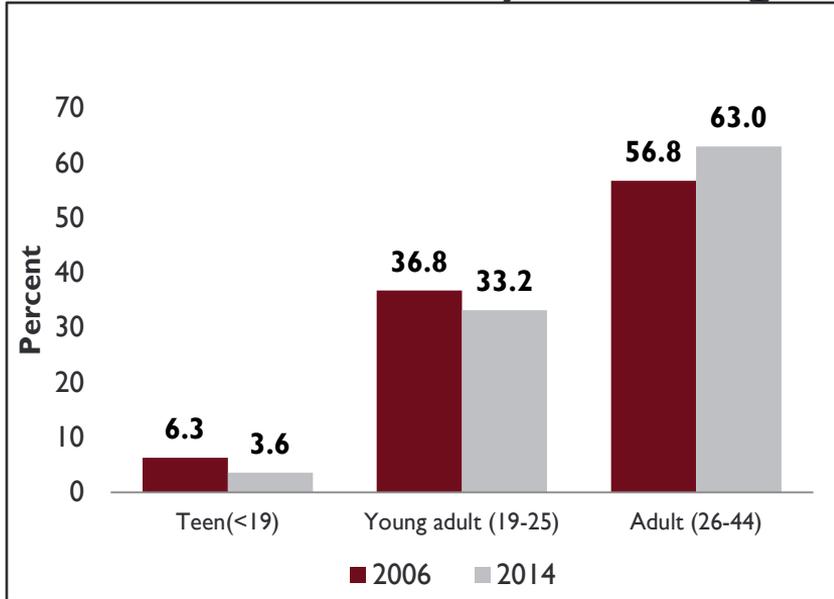
- 1. Medicaid-insurance status;**
- 2. General Health of Newborns;**
- 3. Health of children 0 to 17 years, overall and for Medicaid-insured children;**
- 4. Health Care Utilization:** Well child visits and emergency room use over the last 12 months;
- 5. Access:** Usual source of care; and
- 6. Risk and Protective factors:** Protective factors were safe school, safe neighborhood, safe community, sleep well every night, physical activity at least 4 days. The Adverse Childhood Experiences (ACEs) results from NSCH, 2012.

# Medicaid Enrollment by Year and Age

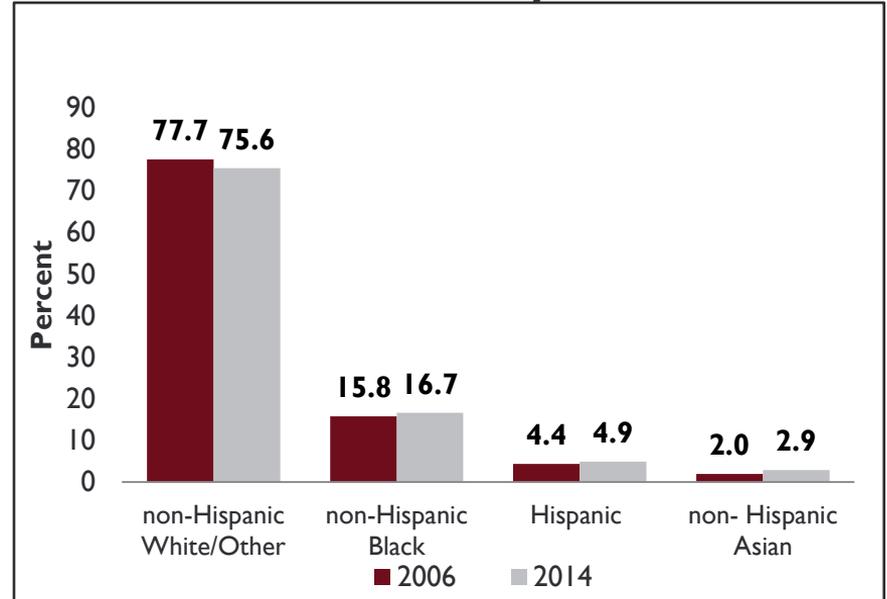


# Maternal Characteristics at Birth 2014 and 2006

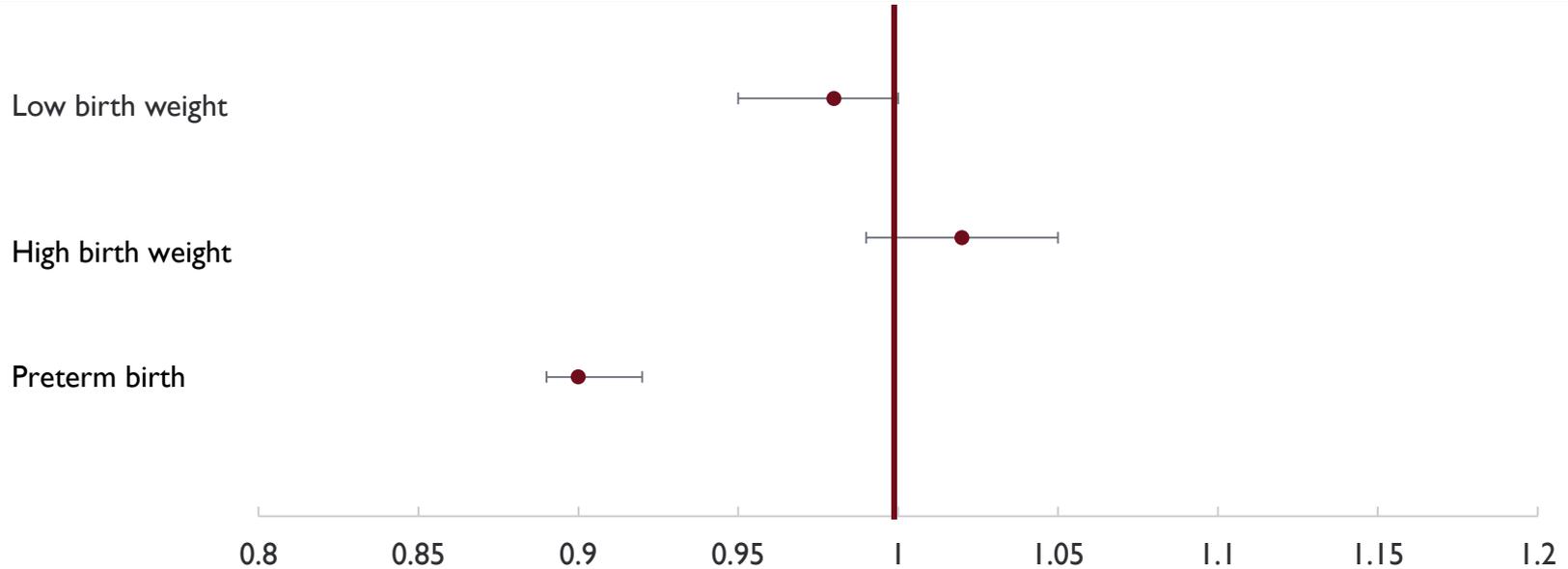
## Distribution of births by mother's age



## Distribution of births by mother's race



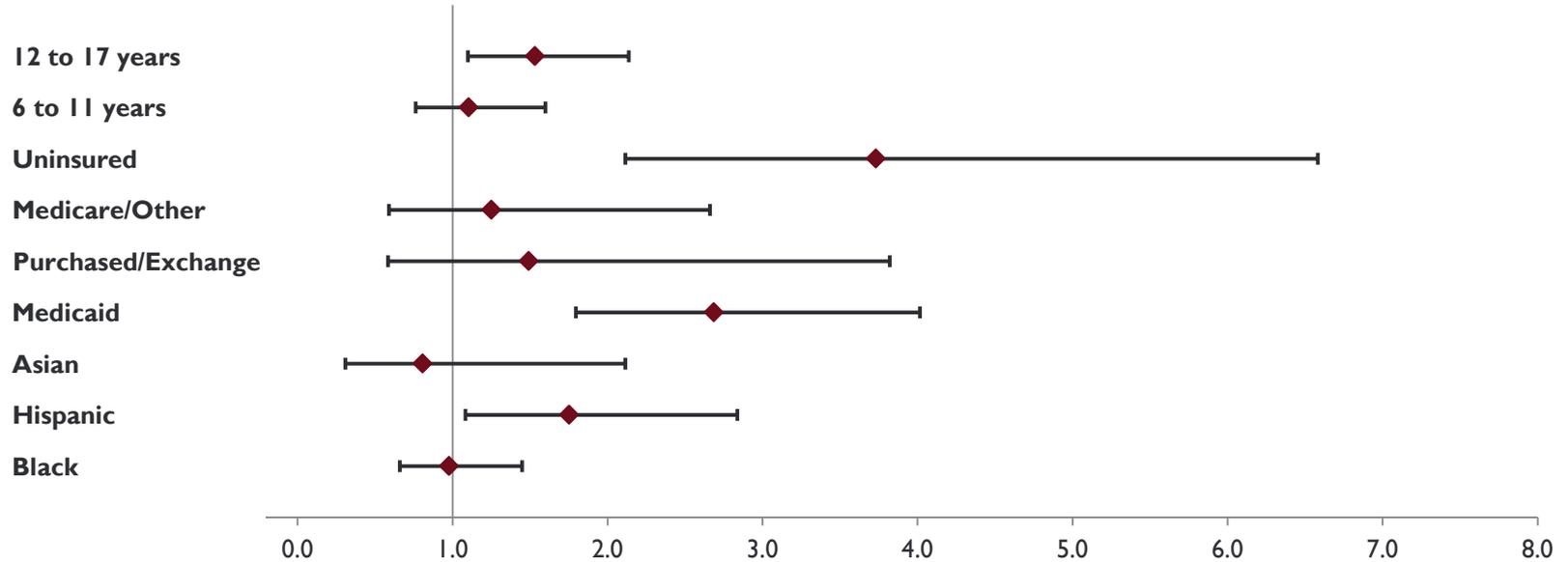
# Adverse Birth Outcome: 2014 Versus 2006\*



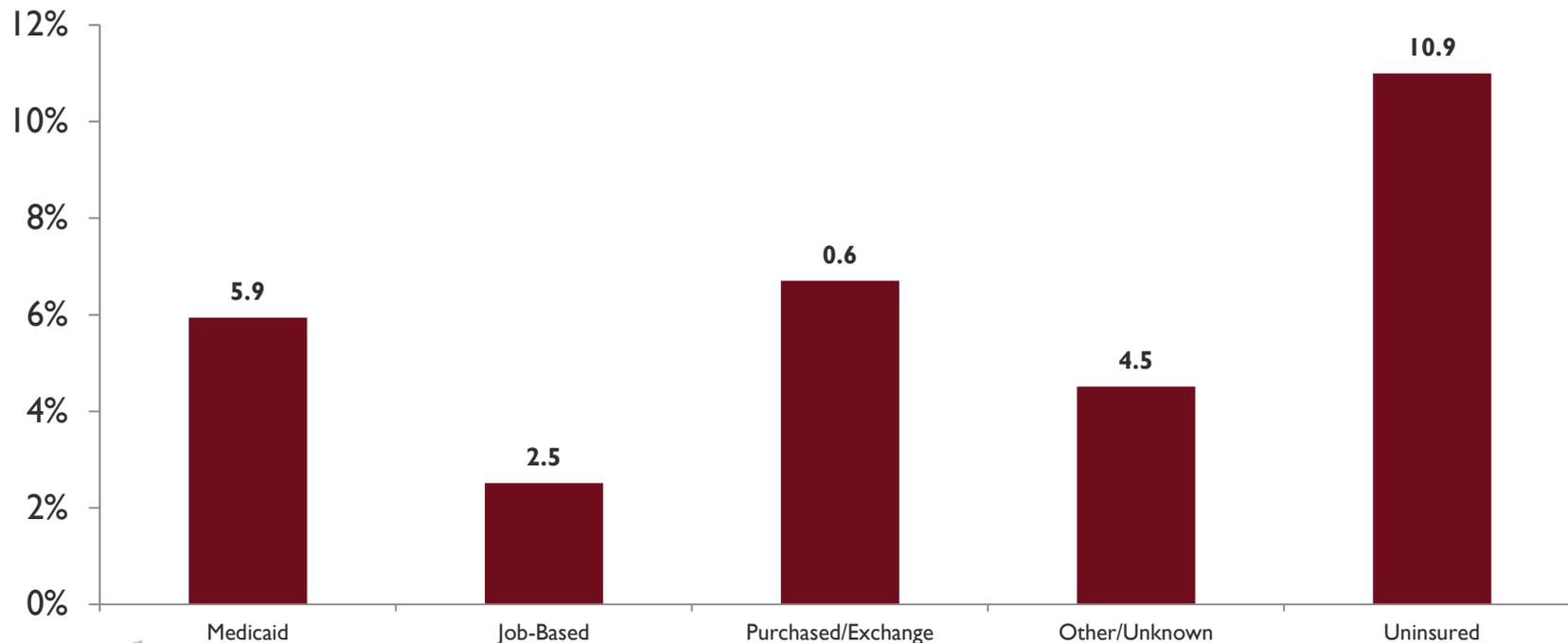
\*Odds ratios from logistic regression controlling for region, race/ethnicity, mother's age and education

Data source: OBC 2006, 2014

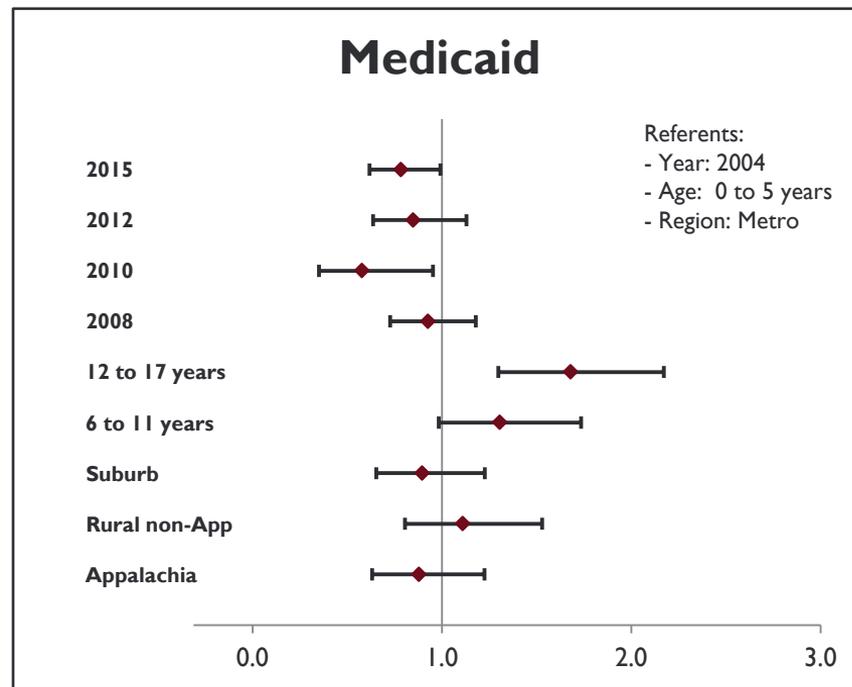
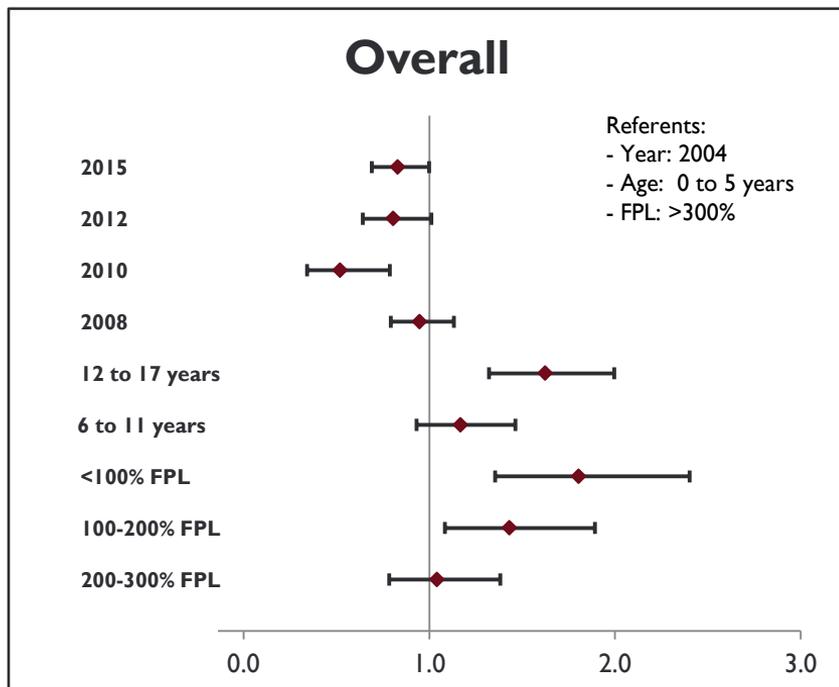
# Child Health 2015: Association of Fair/Poor Health<sup>a</sup> Rating with Demographics\*



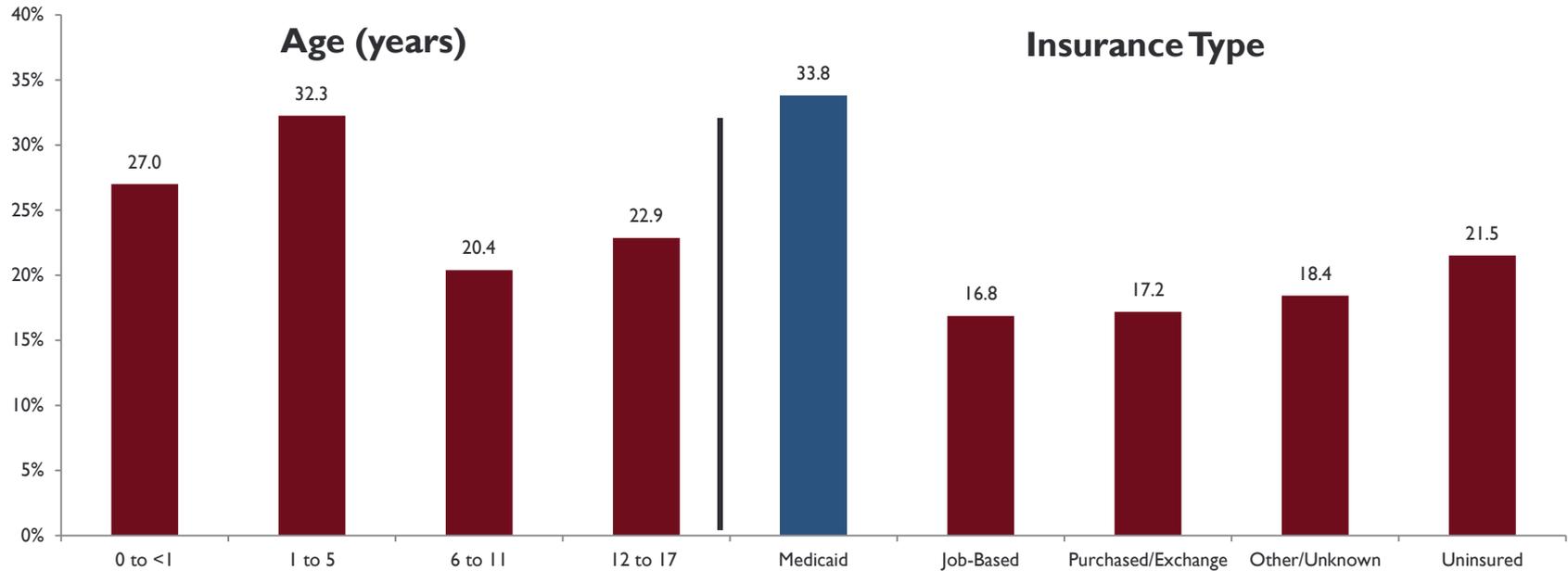
## 2015 Snapshot of Fair/Poor Child Health\* Rating among Children Income-Eligible for Medicaid by Insurance Type



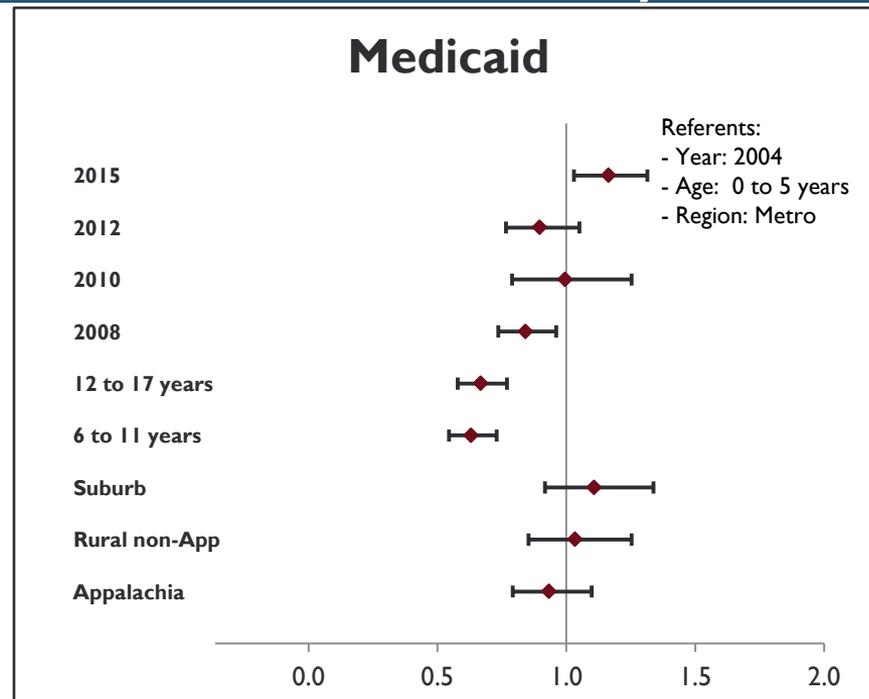
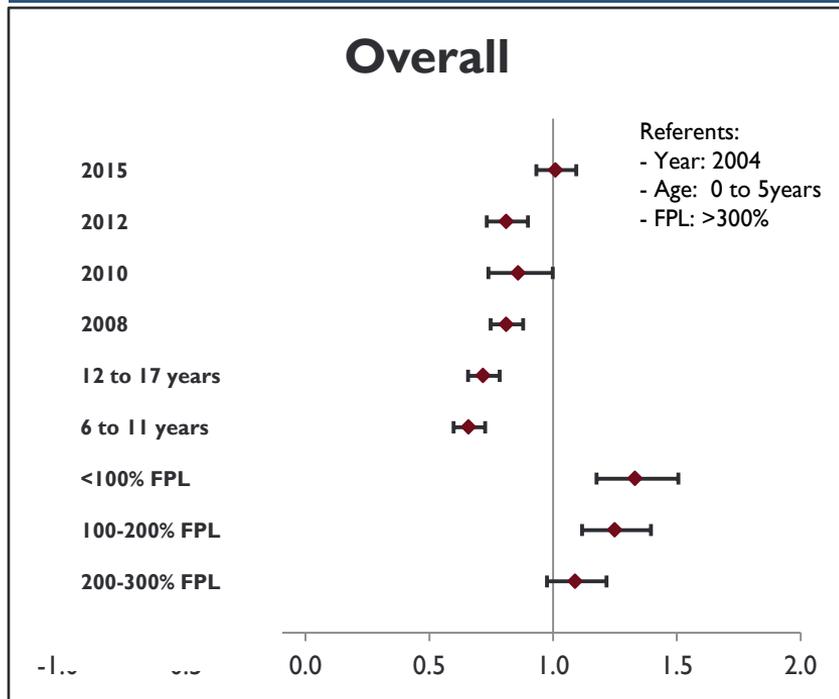
# Fair/Poor Health Rating: Overall and Medicaid-Insured Children Only\*



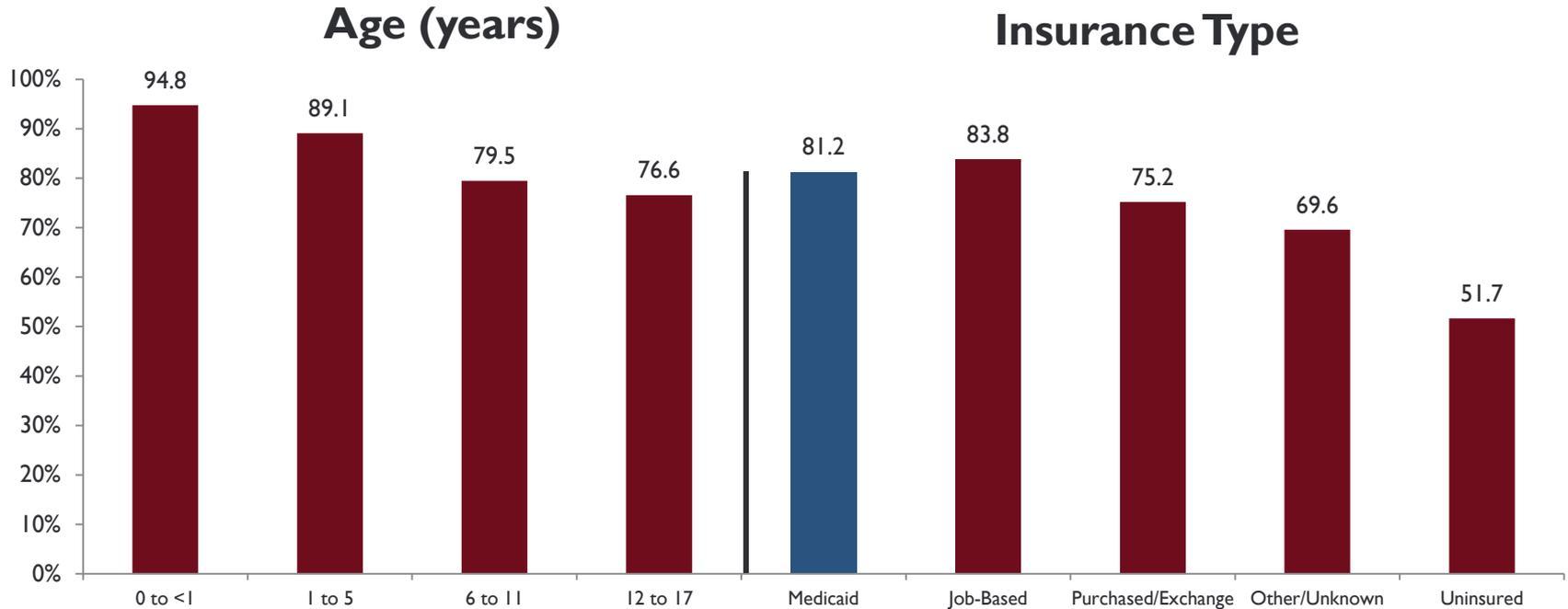
# 2015 Snapshot of Child Health: Emergency Room (ER) Utilization\* by Age and Insurance Type



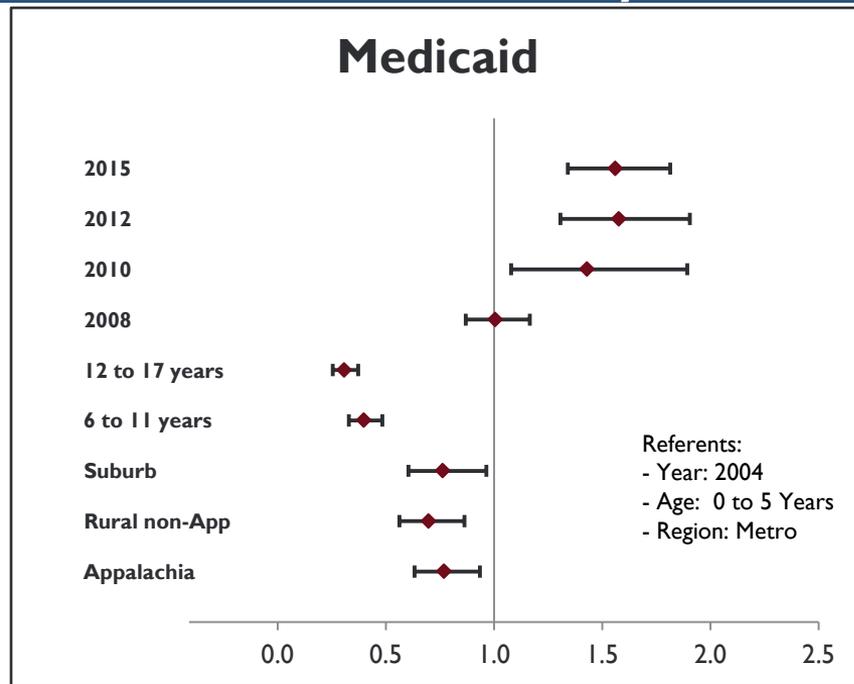
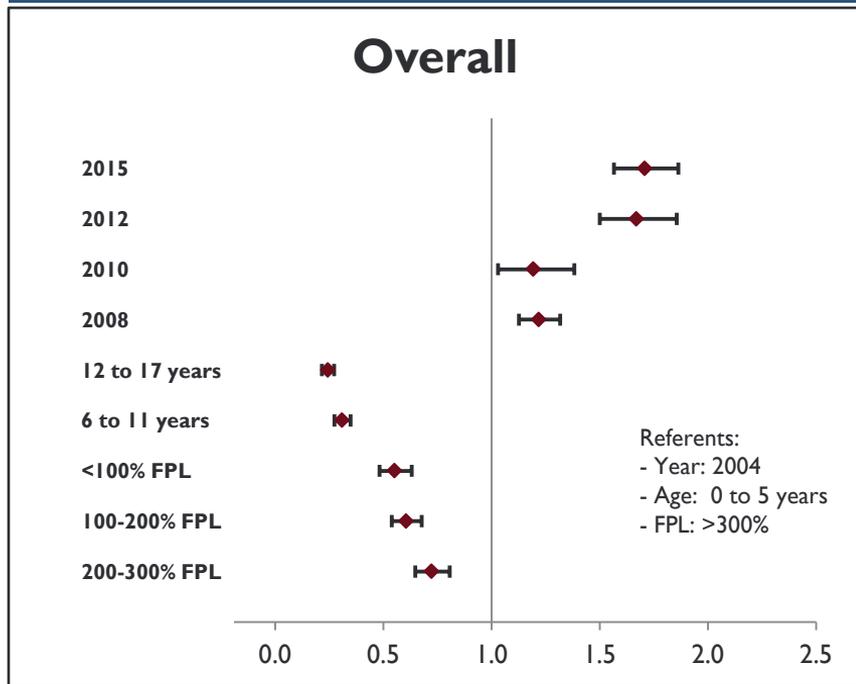
# ER Visits by Year, Age, and Insurance Type: Overall and Medicaid-Insured Children Only\*



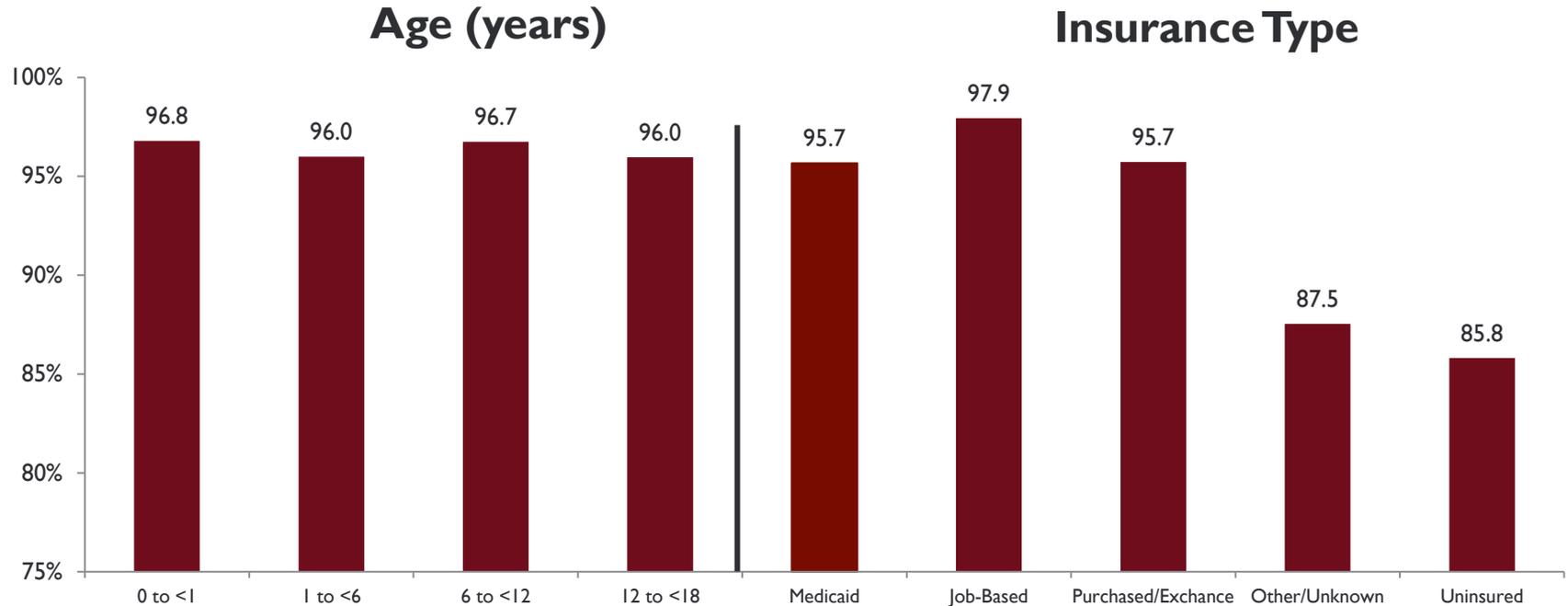
# 2015 Snapshot of Child Health: Well Child Visit by Age and Insurance Type



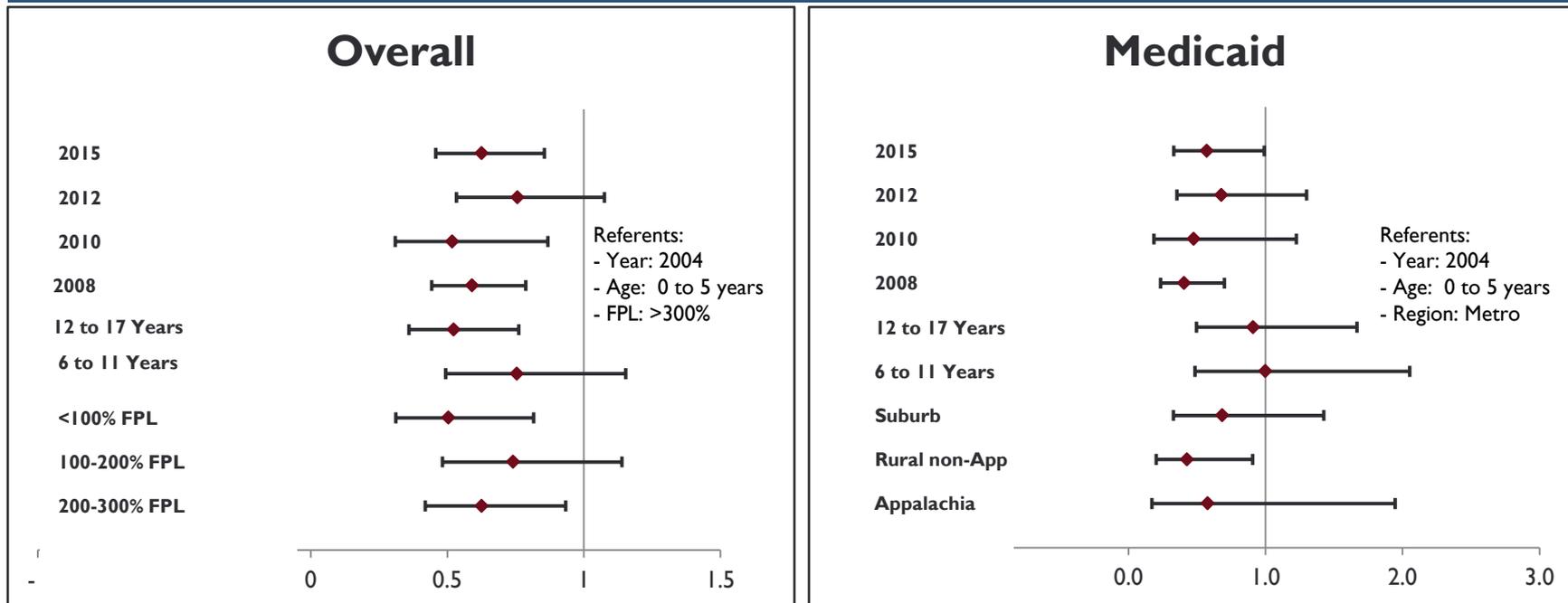
# Well Child Visit by Year, Age and Poverty Status: Overall and Medicaid-Insured Children Only\*



# 2015 Snapshot of Child Health: Usual Source of Care by Age and Insurance Type



# Time Trend: Usual Source of Care by Year, Age, and Insurance Type\*

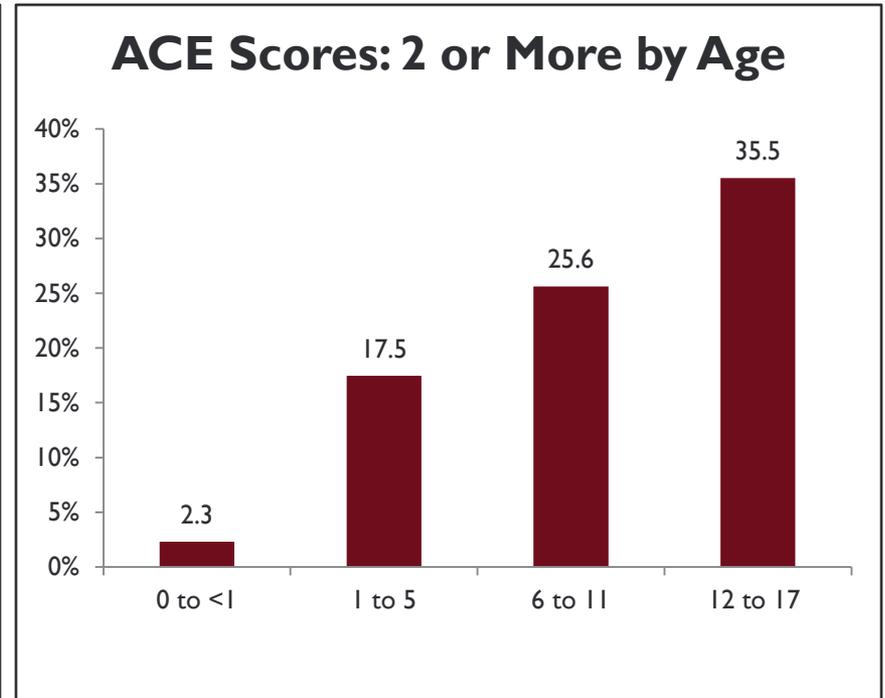
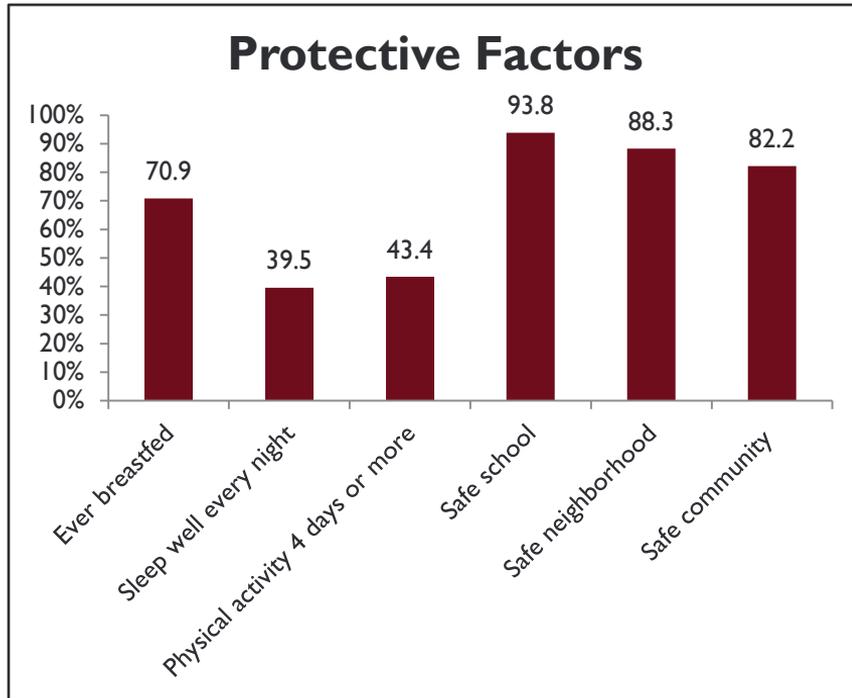


\* Odds ratios from logistic regression models controlling for region, race/ethnicity, age, FPL, Data Source: OMAS 2004-2015

# NSCH 2012: Select Health Conditions by Age

Health Conditions - Yes	Overall		0 to <1 Years		1 to 5 Years		6 to 11 Years		12 to 17 Years	
	%	SE%	%	SE %	%	SE %	%	SE %	%	SE %
ADHD	10.3	1.2			2.1	1.2	12.3	2.1	13.5	2.0
Anxiety disorder	3.8	0.7			1.6	1.1	2.7	0.9	6.1	1.4
Asthma	8.5	1.0			7.3	1.7	9.8	1.9	9.3	1.6
Autism	2.1	0.4			0.1	0.1	3.4	1.0	2.1	0.7
Behavior Problems	4.0	0.7			1.6	0.8	5.1	1.3	4.6	1.4
Depression	3.2	0.7			0.2	0.2	2.6	1.1	5.6	1.4
Developmental Delay	3.7	0.7			3.0	1.3	4.5	1.2	3.4	0.9
Learning disability	10.0	1.2			1.7	0.9	8.2	1.7	15.5	2.2
Muscular-Skeletal	2.6	0.6	2.7	2.4	0.6	0.3	1.1	0.7	5.4	1.3
Speech	4.7	0.7			5.4	1.7	6.2	1.4	2.9	0.9

# Children's Contexts by Protective Factors and ACE\* Scores



# Key findings: Children

**Medicaid-insured Children:** 45% of children were insured through Medicaid in 2015; 2.3% of children were uninsured. Of children income-eligible for Medicaid in 2015, 74% were enrolled in Medicaid.

**General Health of Newborns:** In 2014, infants were less likely to be born preterm than in 2006. No difference noted in low birth weight or high birth weight in 2014 when compared to 2006.

**Health of children 0 to 17 years** shows that overall and Medicaid-insured children were in better health in 2015 than in 2004. In 2015, Hispanic children experienced fair/poor health more frequently than the other race/ethnicity groups and Medicaid and uninsured children were more likely to be in fair/poor health than children insured through a job-based plan. Prevalence of various health conditions, overall and by age groups, was explored using the NSCH data. These results suggest that ADHD, learning disabilities and asthma were the three most common conditions reported.

**Health Care Utilization:** Well child visits were more likely in 2015, 2012 and 2010 than in 2004, both within Medicaid-only and the overall group. Well child care was more likely in younger children when compared with adolescents. ER visits were mixed, with reduced use in 2008 and 2012 and no difference in 2010 for both overall and Medicaid-insured children; there was increased ER use in Medicaid-insured children in 2015.

**Access: Usual source of care:** Children in 2015, 2010, and 2008 were less likely to have a usual source of care than in 2004. Older children were less likely to have an usual source of care. These patterns were similar for Medicaid-insured children, with Medicaid-insured children less likely to have a usual source of care in 2015 and 2008 compared to 2004.

**Risk and Protective factors:** The protective factors showed suboptimal levels for the health promoting behaviors of sleep well every night and physical activity at least 4 days. The ACEs (Adverse Childhood Experiences) results showed that as children age, they “accumulated” more risk so that by age 12 to 17 years over 35% have experienced 2 or more adverse events, placing them at high risk for a wide range of possible adverse health conditions.

**Note on Age Groups:** These results, taken together, suggest that adolescents are most at risk for increased ACEs exposure, fewer well child visits, and worse health.

# Results

## Outcomes for Women

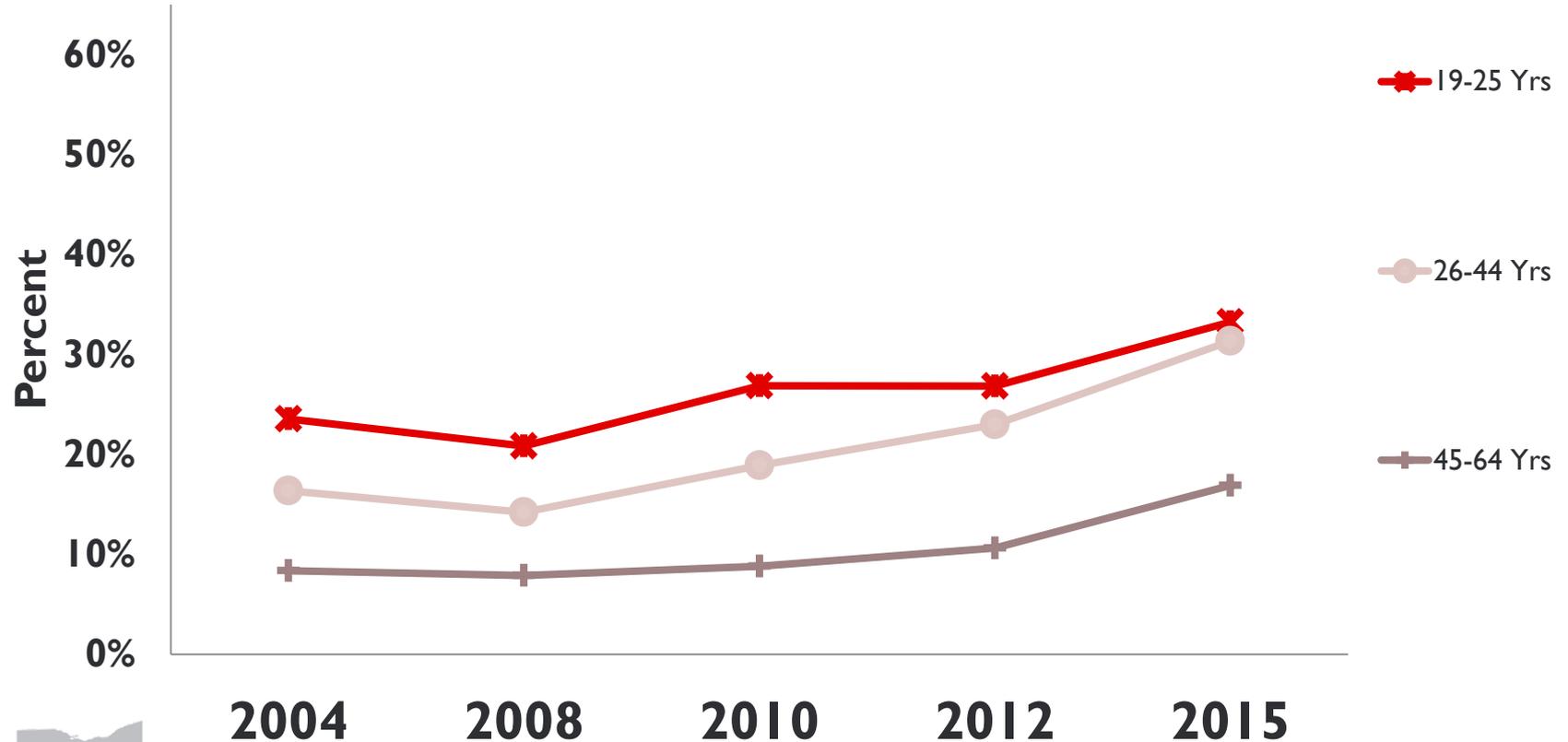
# Key findings—Outline of Topics

**5 Areas of Interest** were examined, current and over time.

These were:

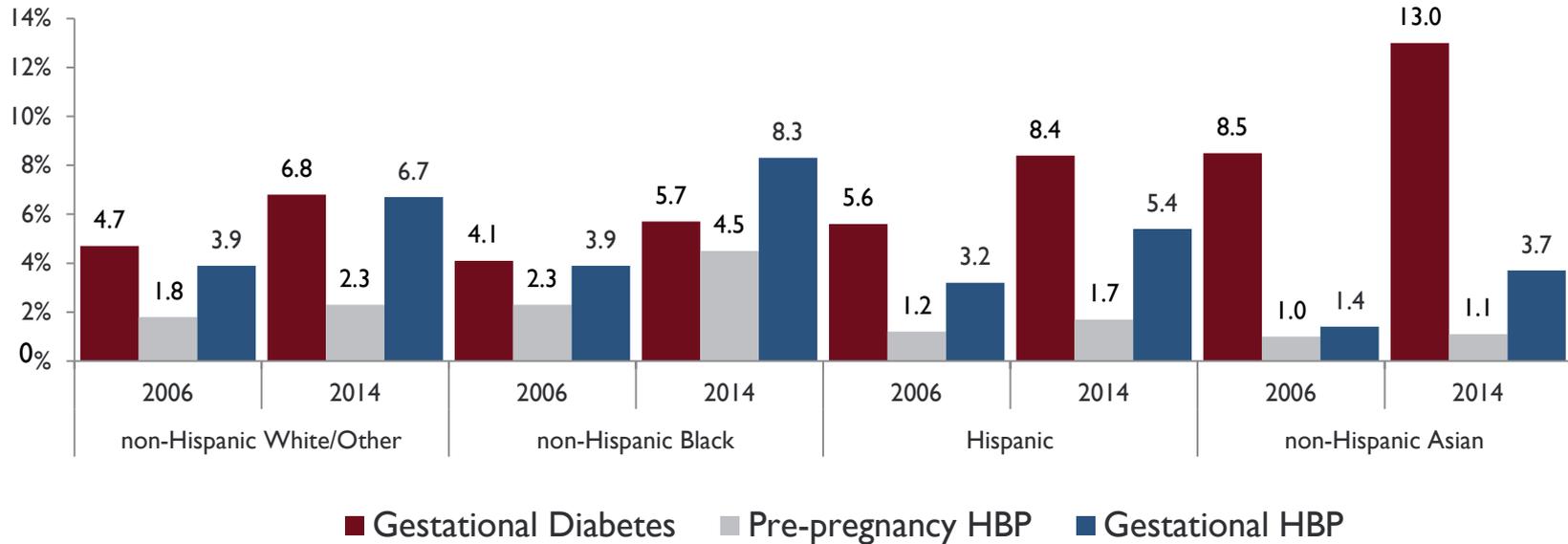
1. **Medicaid-insurance status;**
2. **Health of Pregnant Women;**
3. **General and Mental Health;**
4. **Health Care Utilization:** Emergency room use over the last 12 months; and
5. **Access:** Usual source of care.

# Medicaid Enrollment by Year and Age

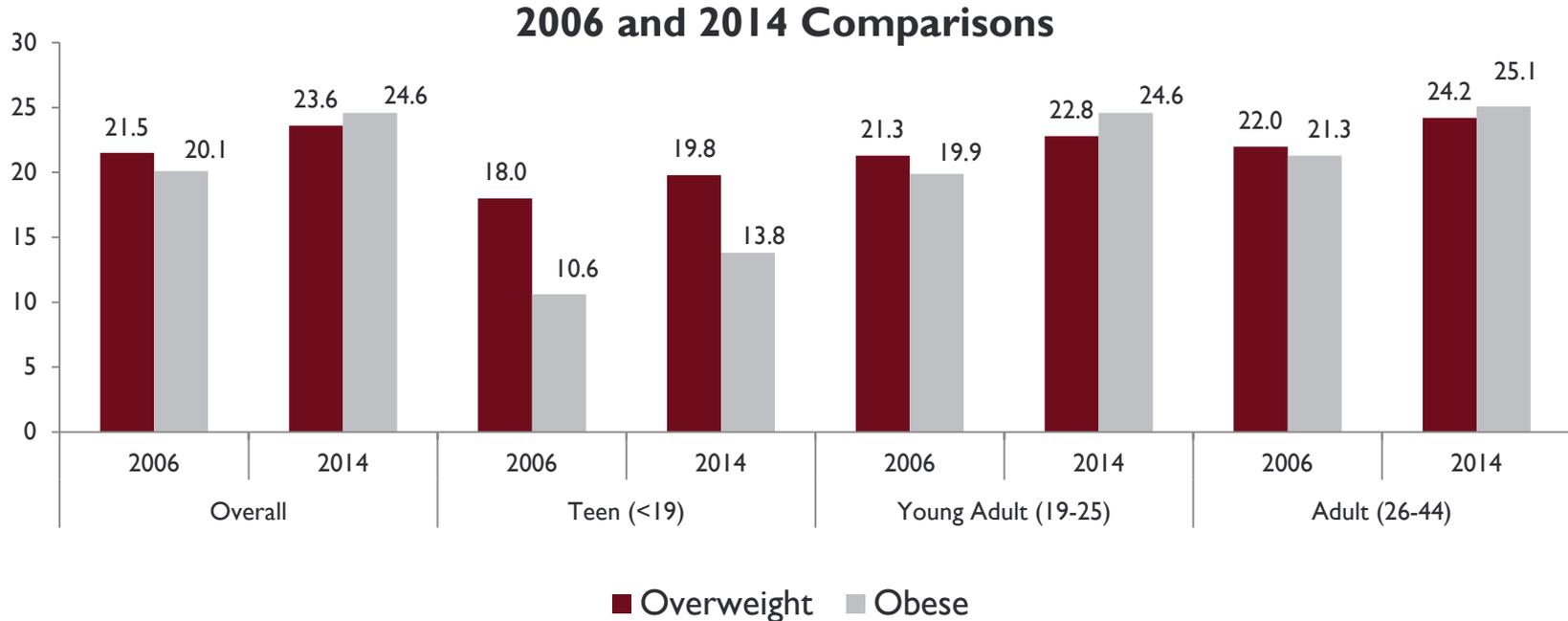


# Maternal Health Conditions by Year, Maternal Race

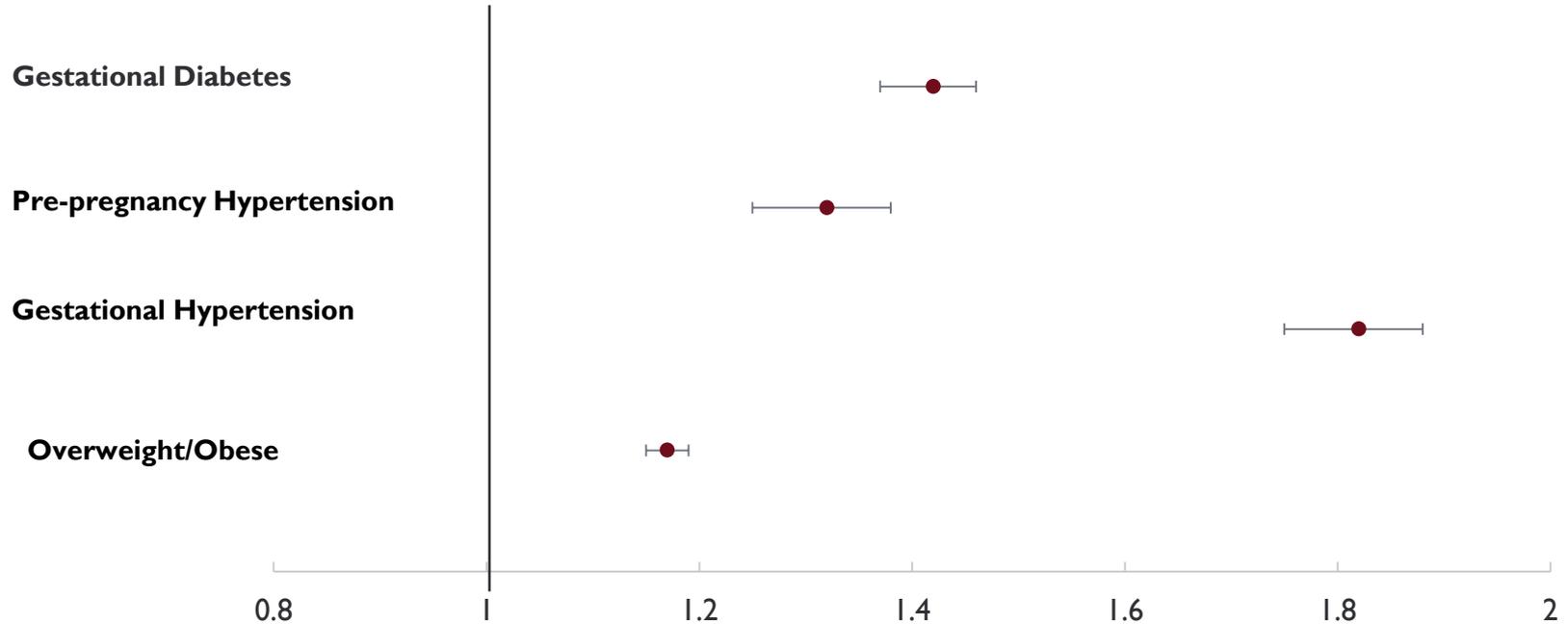
## 2006 and 2014 Comparisons



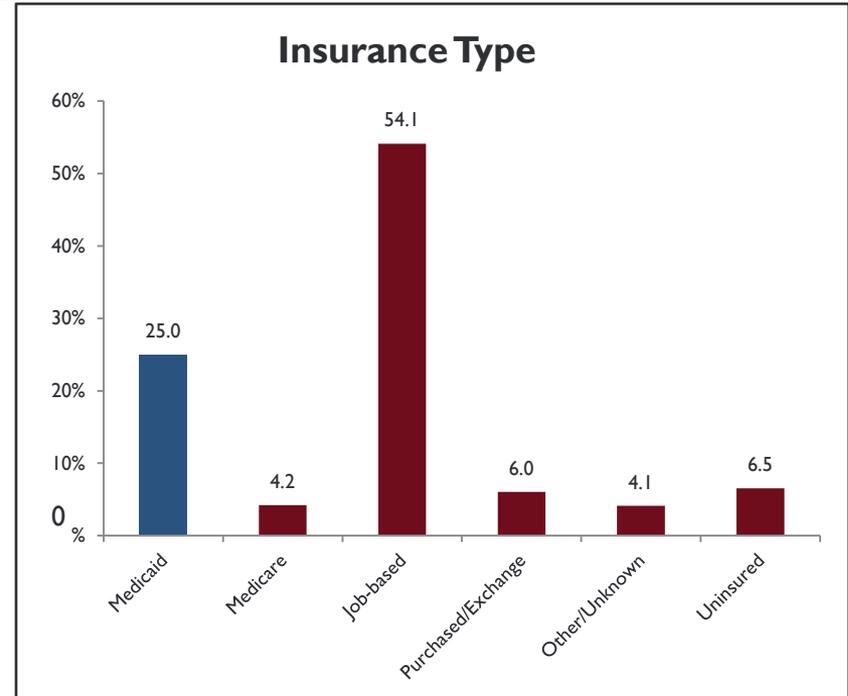
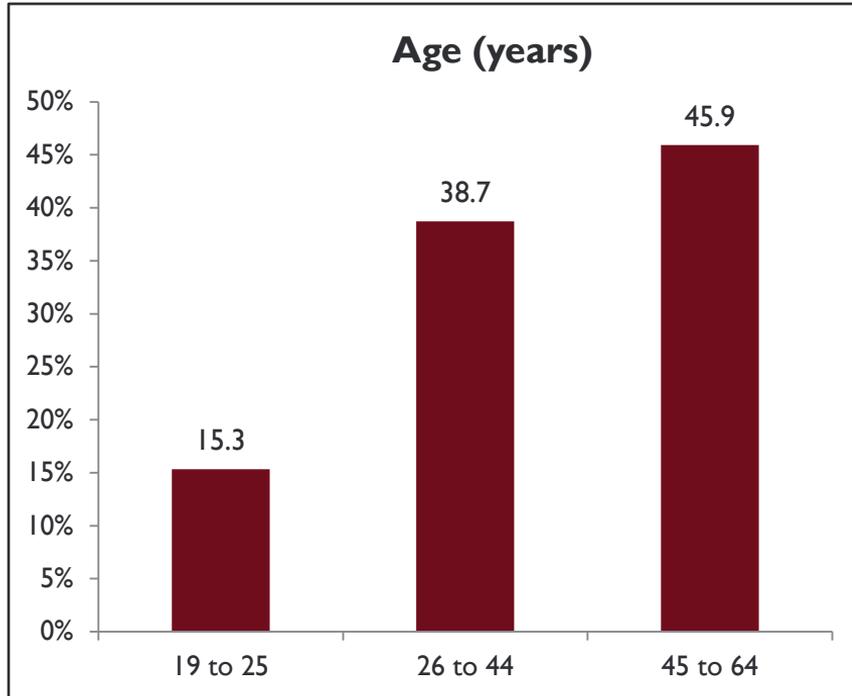
# Pre-Pregnancy Overweight/Obese by Year, Maternal Age



# Maternal Conditions: Comparison of 2014 to 2006\*

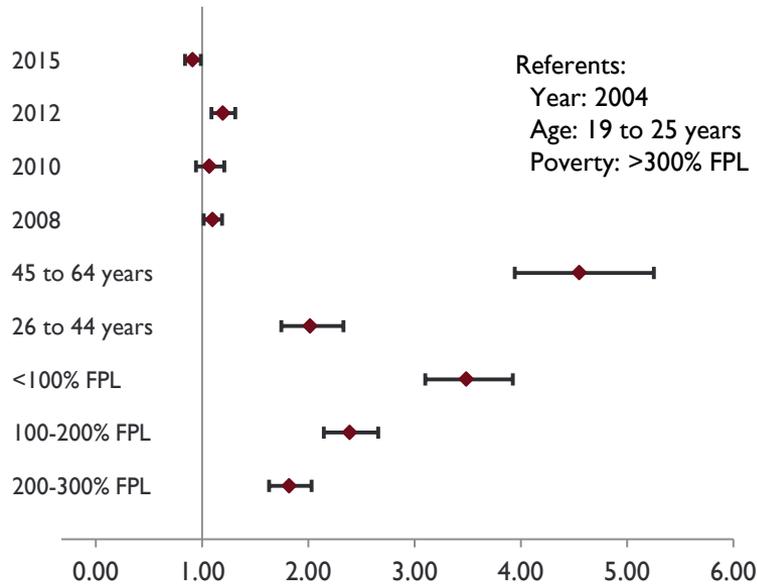


# 2015 Snapshot of Women's Health: Distribution by Age and Insurance Type

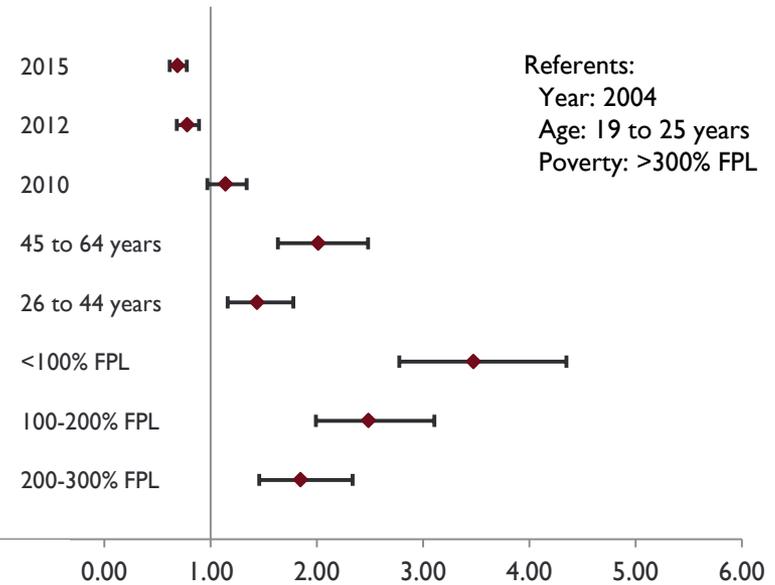


# Fair/Poor General Health Rating and Mental Health-Related Impairment by Year, Age, and Poverty Status\*

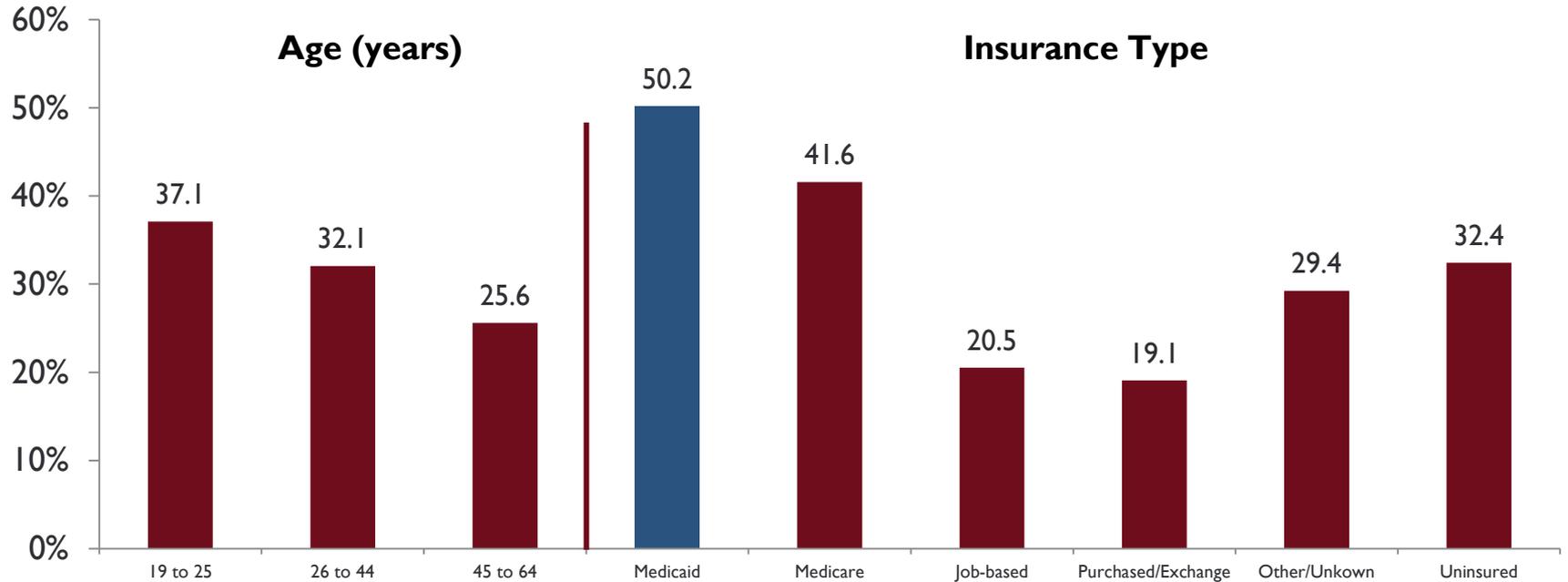
## Fair/Poor General Health



## Mental Health Related Impairment

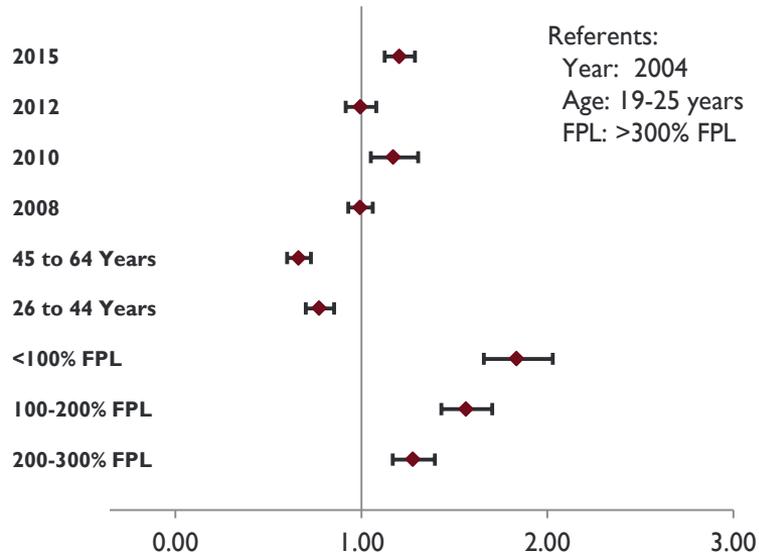


# 2015 Snapshot of Women's Health: Emergency Room (ER) Utilization by Age and Insurance Type

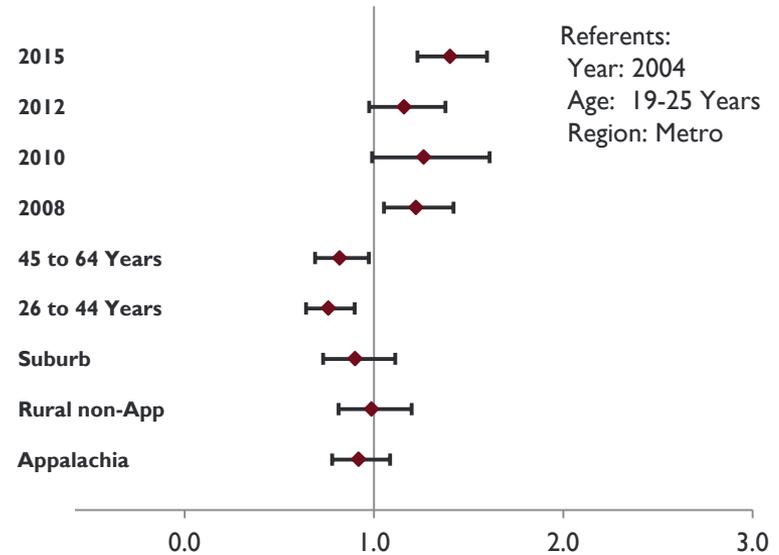


# ER Visit by Year, Age, and Poverty Status: Overall and Medicaid-Insured\*

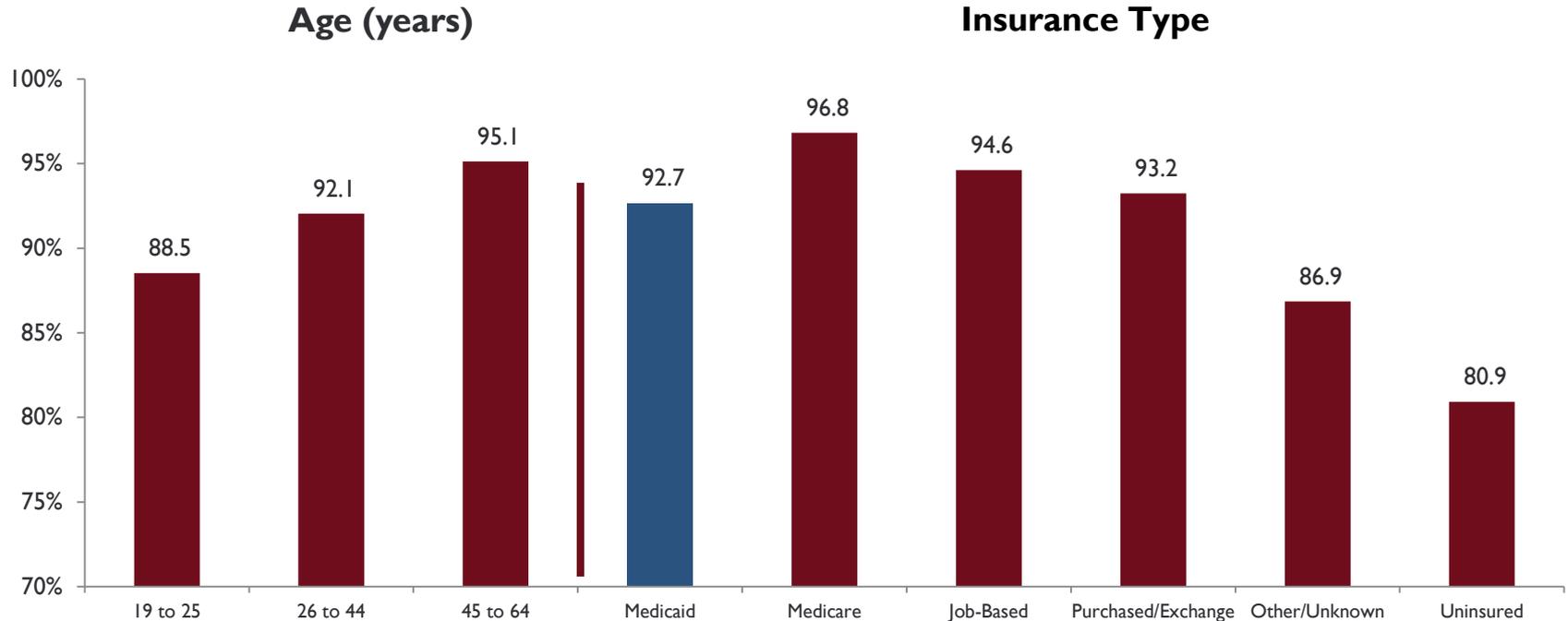
## Overall



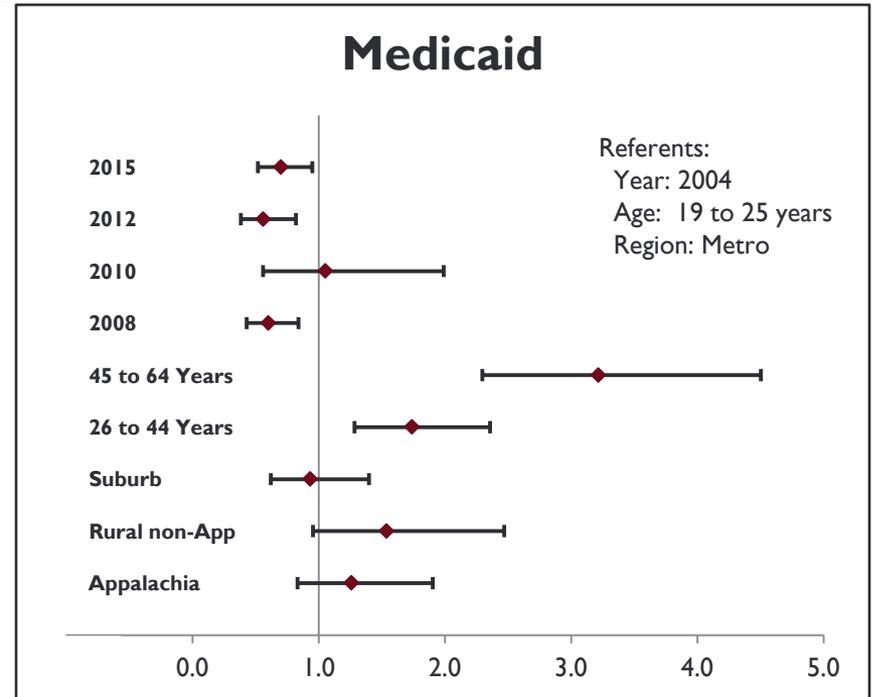
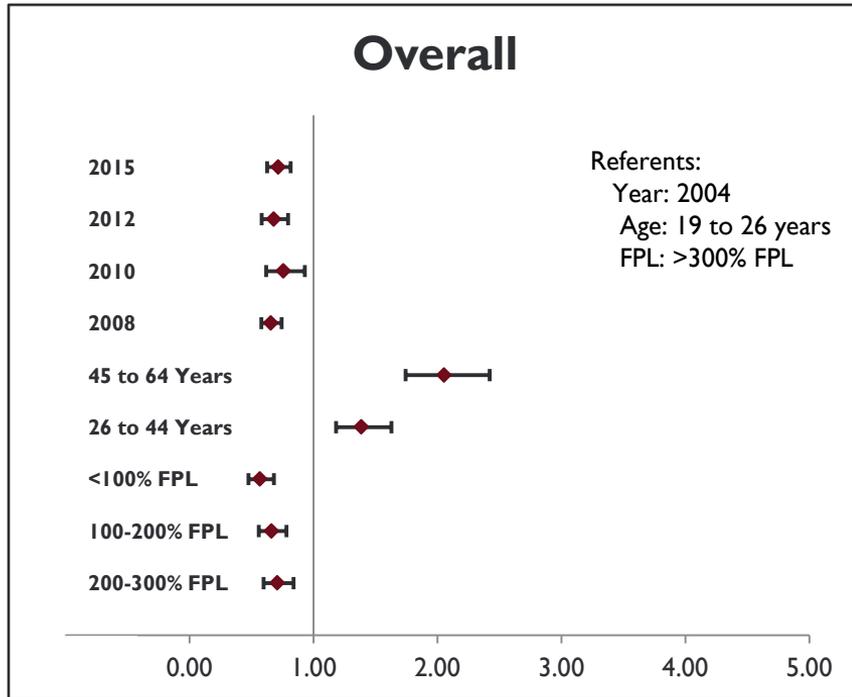
## Medicaid



# 2015 Snapshot of Women's Health: Having A Usual Source of Care by Age and Insurance Type



# Has a Usual Source of Care by Year, Age, and Poverty Status: Overall and Medicaid-Insured\*



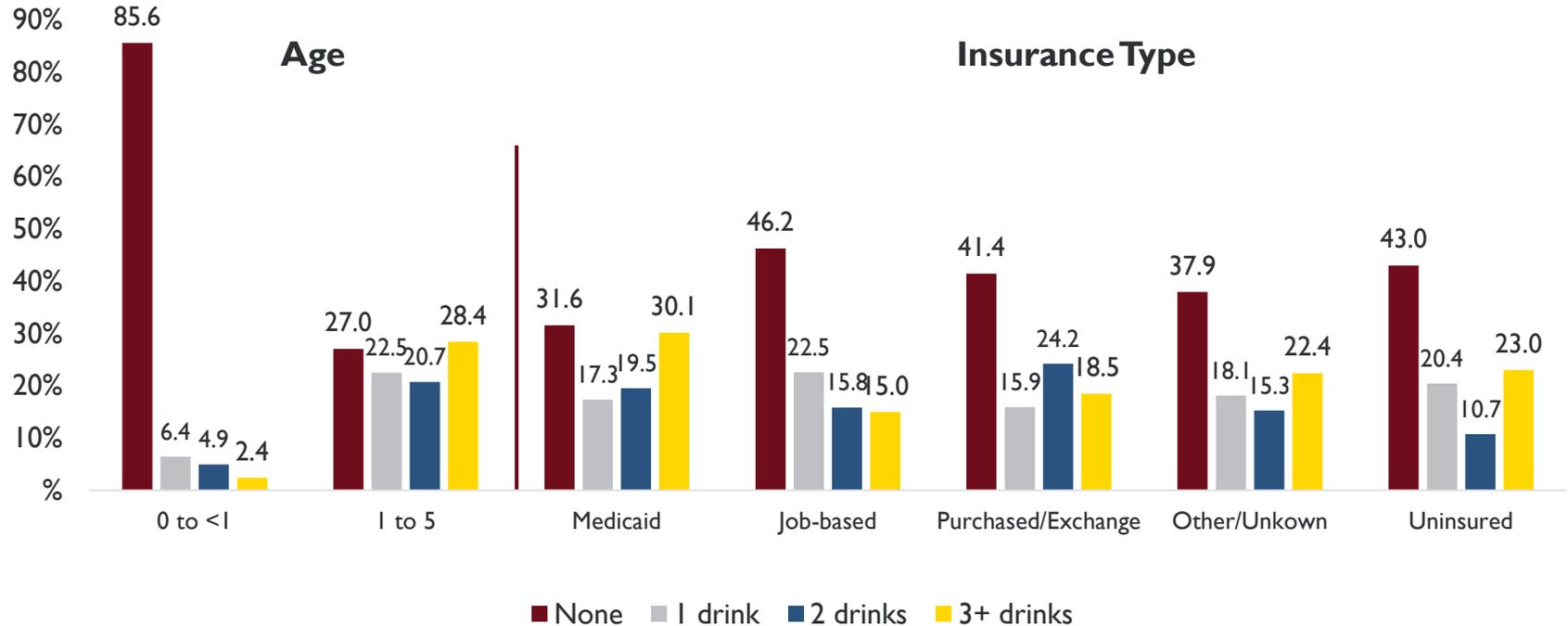
# Key findings: Women

- Medicaid-insured Women: In 2015, 25% of women (19 to 64 years) were insured through Medicaid; 54% through a job-based plan while 7 % were uninsured. Of Medicaid income-eligible women, 59% were enrolled in Medicaid, 4% were uninsured.
- Health of Pregnant Women: Results were mixed. On the positive side, there were fewer births to teen moms in 2014 compared with 2006. Smoking during pregnancy decreased over the study period but women came to pregnancy at an increased weight and experience increased comorbidities (gestational diabetes and hypertension) during pregnancy in 2014 compared with 2006.
- General Health and Mental Health: Women's general health has improved. Women were less likely to be in fair/poor health in 2015 compared to 2004. In 2015, approximately 25% of women aged 45 to 64 and 10% of women 19 to 25 years reported that they were in fair/poor health. Improvement was also noted in mental health-related impairment.
- Health Care Utilization: ER use continued at concerning levels, with over a quarter of all women reporting an ER visit in the past 12 months in 2015. ER use declined with age, but remained high across all insurance types, with rates of over 50% for Medicaid-insured women in 2015. Overall and Medicaid-insured women were more likely to have an ER visit in 2015, compared with 2004.
- Access: Women in 2015, 2012, 2010, and 2008 were less likely to have a usual source of care compared with 2004. This same pattern occurred among Medicaid-insured women except in 2010. Older women were more likely to have a usual source of care than women 19 to 25 years of age.
- Note on young adult women: Young adult women have increased ER use and were less likely to have a usual source of care, thus suggesting that more may need to be done to assure access to providers for this group of young women.

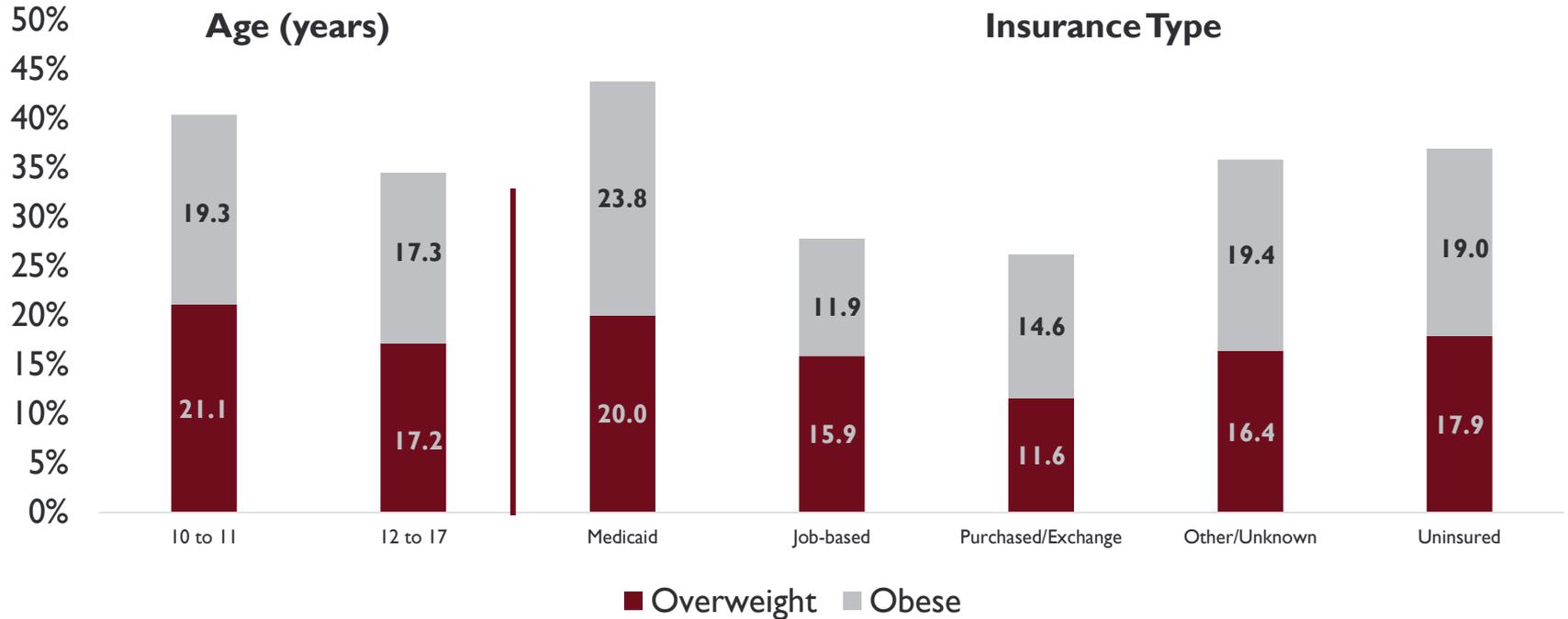
# Results

Health behaviors through a life  
course lens

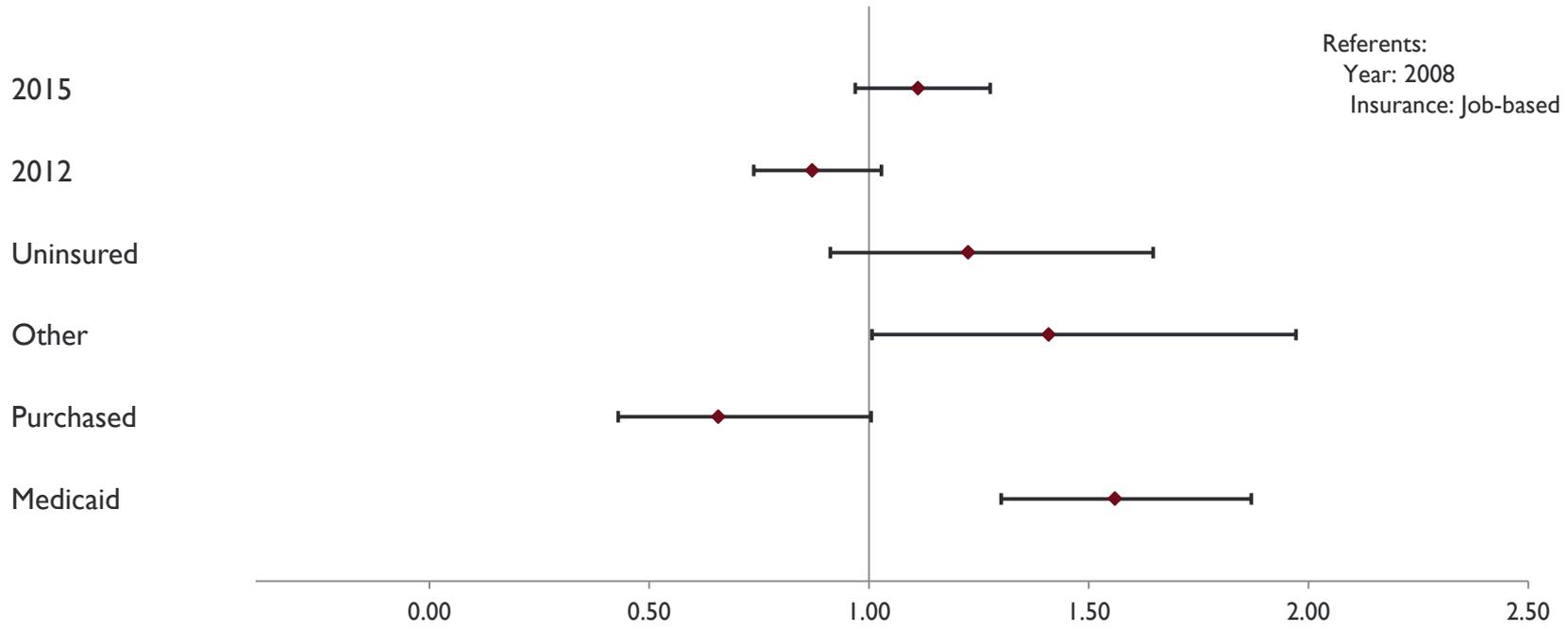
# Sugar Sweetened Beverages(SSB) by Age and Insurance Type



# Child Overweight/Obese by Age and Insurance Type



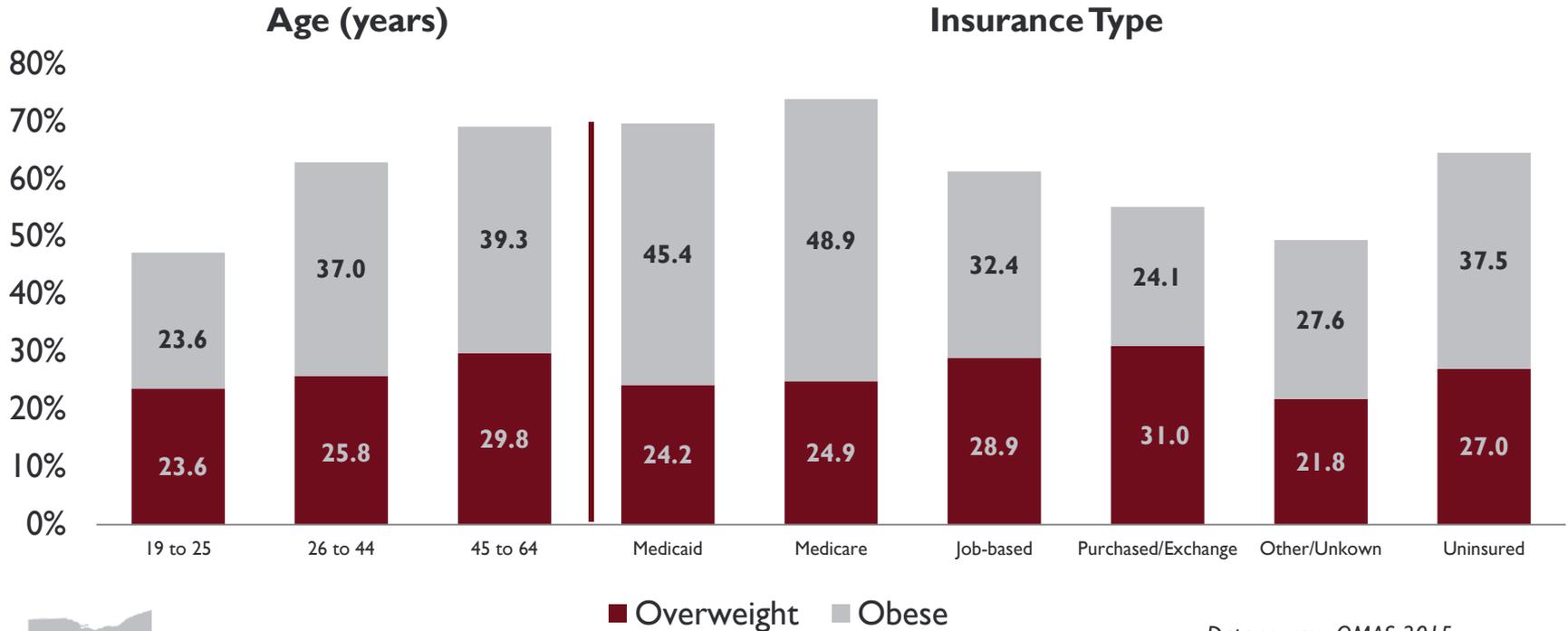
# Overweight or Obese by Year and Insurance Type (12-17 year olds)\*



\*Odds ratios from logistic regression controlling for region, race/ethnicity, and poverty level  
Data source: OMAS 2004-2015

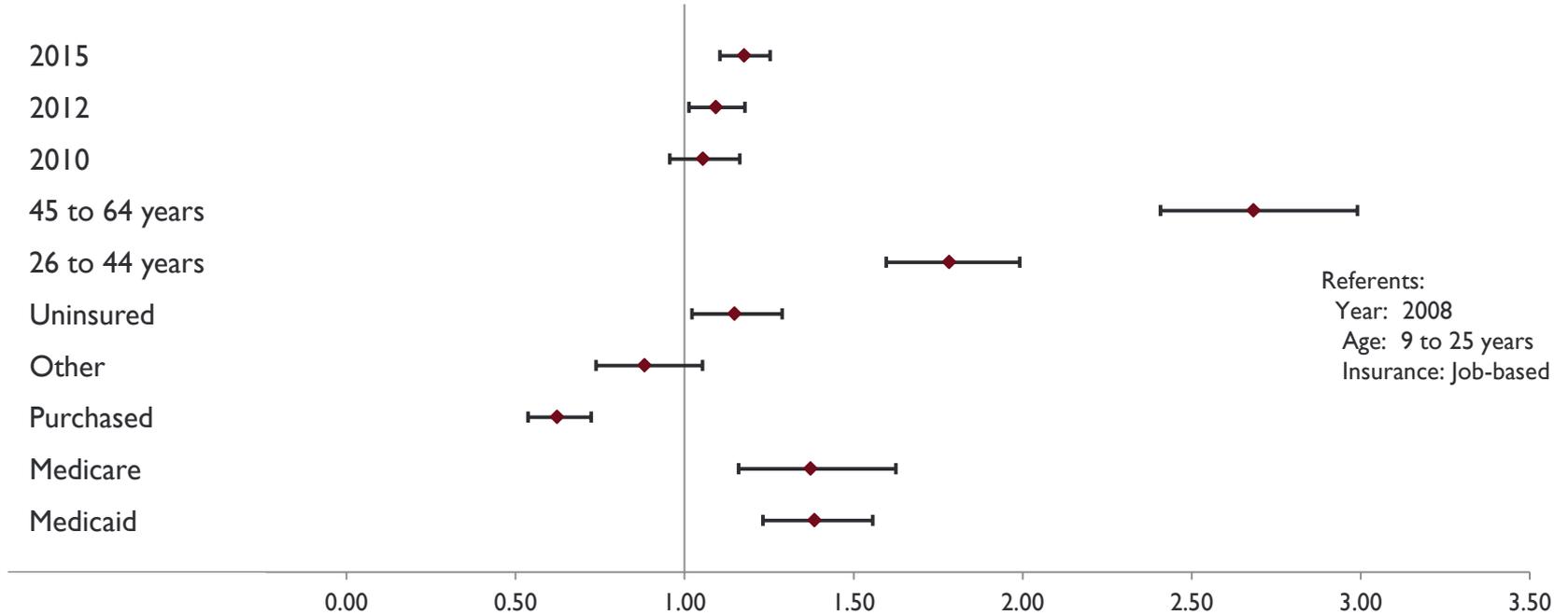


# Women Overweight/Obese by Age and Insurance Type



Data source: OMAS 2015

# Overweight/Obesity by Year, Age, and Insurance Type\*

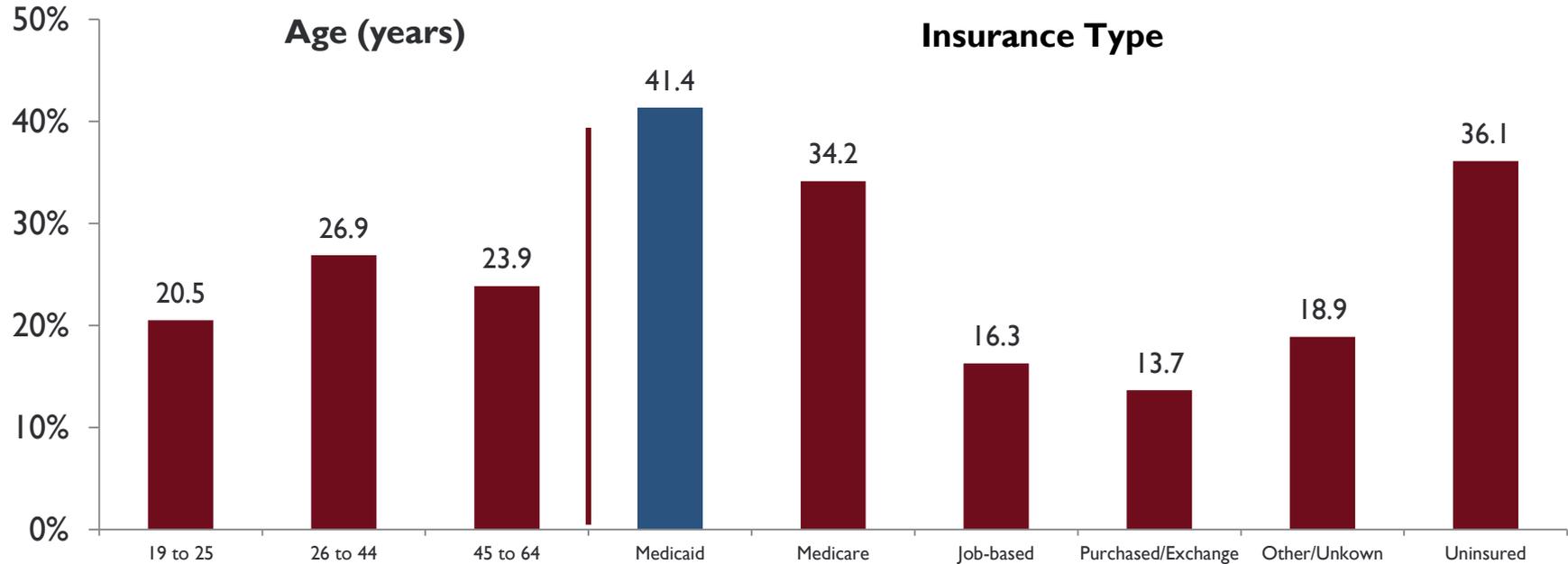


# Obesity Risk Factors Through a Life Course Lens

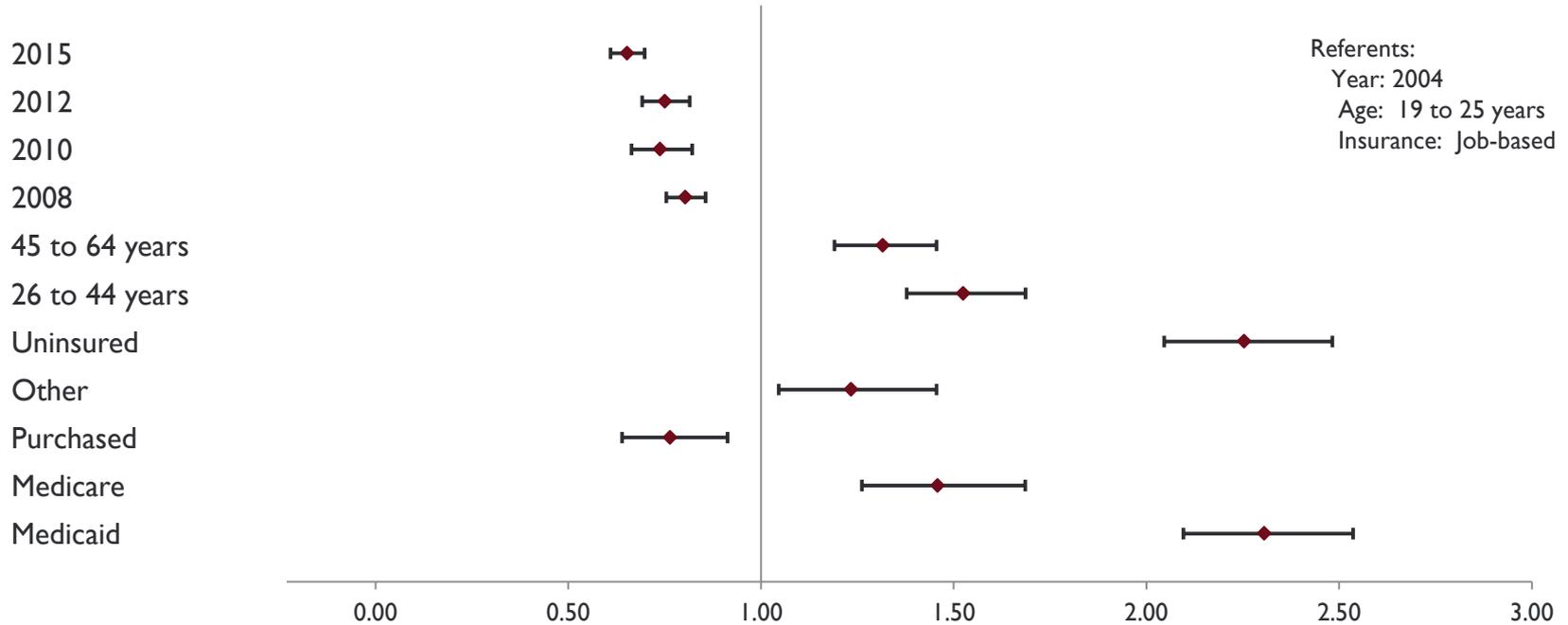
Preconception	Newborn	Early Childhood (1 to 5 years)	School-Age (6 to 12 years)	Adolescents (12 to 17 years)	Adult Women (19 to 65 years)
<ul style="list-style-type: none"> <li>❖ 41.6% mothers overweight/obese in 2006, increasing to 48.2% in 2014</li> <li>❖ GDM rates 4.6% in 2006, increased to 6.8% in 2014</li> <li>❖ Smoking rates in 2006 24.3% dropping to 21.3% in 2014.</li> </ul>	<ul style="list-style-type: none"> <li>❖ LBW=9.0% in 2006; 8.5% in 2014</li> <li>❖ HBW =7.9%; in 2006; 8.3% in 2014</li> <li>❖ PT=19.1% in 2006 and 16.9% in 2014</li> <li>❖ VPT=3.9% in 2006 and 4.1% in 2014</li> </ul>	<ul style="list-style-type: none"> <li>❖ Over 50% of all children ages 1 to 5 years consume at least one SSB a day.</li> </ul>	<ul style="list-style-type: none"> <li>❖ 40% of 10 to 12 years were overweight or obese</li> <li>❖ Activity levels: 4+ a week: 66.8%</li> <li>❖ Adequate sleep: 65.4%</li> </ul>	<ul style="list-style-type: none"> <li>❖ 34% of adolescents were overweight/obese in 2015</li> <li>❖ Activity levels: 4+ days a week: 61.6%</li> <li>❖ Adequate sleep: 53.6%</li> </ul>	<ul style="list-style-type: none"> <li>❖ Weight increases with age; in 2015, 69% of women in the oldest category were either overweight or obese compared to 47% of young adult women.</li> <li>❖ GDM is on the rise in 2014</li> <li>*Trend suggests that overweight and obesity is continuing to rise overall</li> </ul>

\* GDM=Gestational diabetes, LBW=low birth weight, HBW=High birth weight, PT=Preterm, VPT= Very preterm, SSB=sugar sweetened beverage

# 2015 Snapshot of Women's Health: Current Smoking Status by Age and Insurance Type



# Smoking by Year, Age, and Insurance Type\*



# Conclusions-- I

- **Medicaid insurance** has become an increasingly important coverage option for women and children in Ohio. Medicaid covered approximately 45% of Ohio children and 25% of adult women in 2015.
- There are opportunities to improve the health of women prior to **pregnancy** and given the risks identified here, efforts need to continue to address metabolic health (healthy weight, reduction of diabetes risk factors). Childbearing aged young women now are enrolled in Medicaid at higher numbers, with opportunities to focus on health promotion by these newly covered young women.
- **Overall health** seems to be improving, with better ratings in infants, women and children in later years, compared with earlier years. This is also true for Medicaid-insured women and children. Mental health was also better overall and for Medicaid-insured women when comparing 2015 to 2008. Age differences were noted in both children and adults, with older groups in worse health. Opportunities exist to target of promotion and risk reduction by age.
- Results from the NSCH suggest that collecting **contextual data**, especially ACEs, may provide important data for considering child risks for poor physical and mental health long-term.

## Conclusions--2

- **Health Systems** (ER use, usual source of care, well child visits): Results of these data suggest the possibility that capacity for care within certain populations may be limited, as ER visits remain up and there is less access to a usual source of care for women and children.
- **Health behaviors:** Overweight and obesity will remain a considerable public health concern for some time to come. Taken through a life course lens, the risks for overweight and obesity begin in utero. These data suggest increasing long term risk for Ohio children, as children born in 2014 are more likely to be exposed to gestational diabetes than children born in 2006 and women are coming to pregnancy heavier in 2014 than in 2006. Moreover, the transition to adulthood (from adolescent to young adult) show a jump in the percentage of overweight and obesity (from 34% to 47%) suggesting that this period of transition is high risk for weight maintenance. Smoking cessation efforts should recognize the most likely ages of smoking women (26 to 44 years) and provide targeted messages to this group. Smoking rates in pregnant women should remain a target of cessation efforts.