

Empirically Based Policy: Challenges and Opportunities

Joseph W. Thompson, MD, MPH

Surgeon General, State of Arkansas

*Director, Arkansas Center for Health
Improvement*

*Director, RWJF Center to Prevent
Childhood Obesity*

*Associate Professor, UAMS Colleges of
Medicine and Public Health*



March 2009
IOM Workshop

Overview

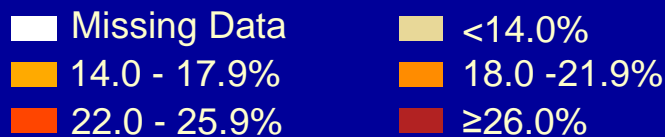
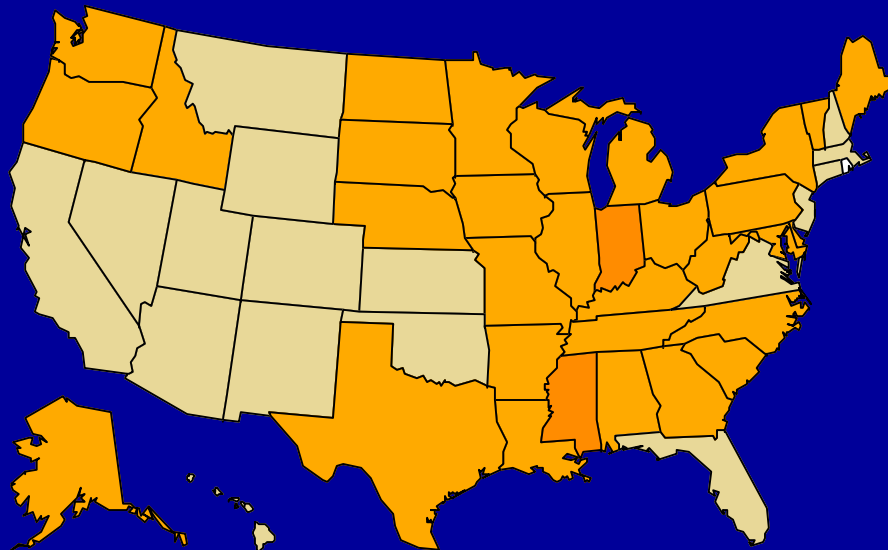
- **Perspective from a Governor's advisor**
- **Behavioral Risk Factor Surveillance Study**
- **National Health and Nutrition Examination Survey**
- **National Survey of Children's Health**
- **Arkansas Health Data Initiative**
- **Future:**
 - **Electronic Health Records**
 - **Information Exchanges**
 - **“Meaningful Use”**



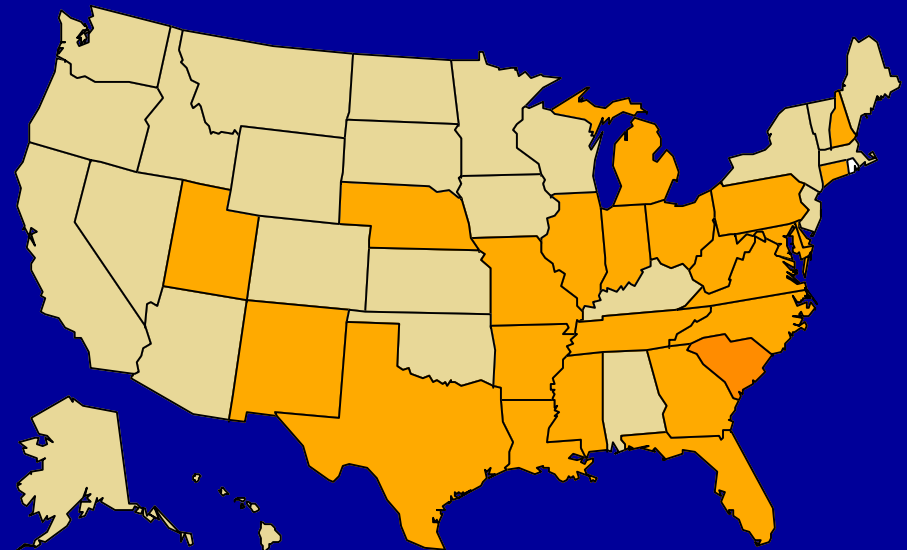
Age-adjusted Percentage of U.S. Adults Who Were Obese or Who Had Diagnosed Diabetes

1994

Obesity (BMI \geq 30)



Diabetes



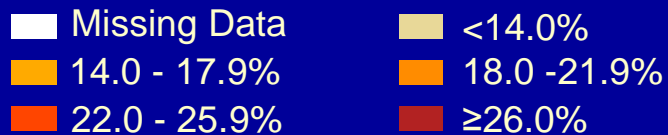
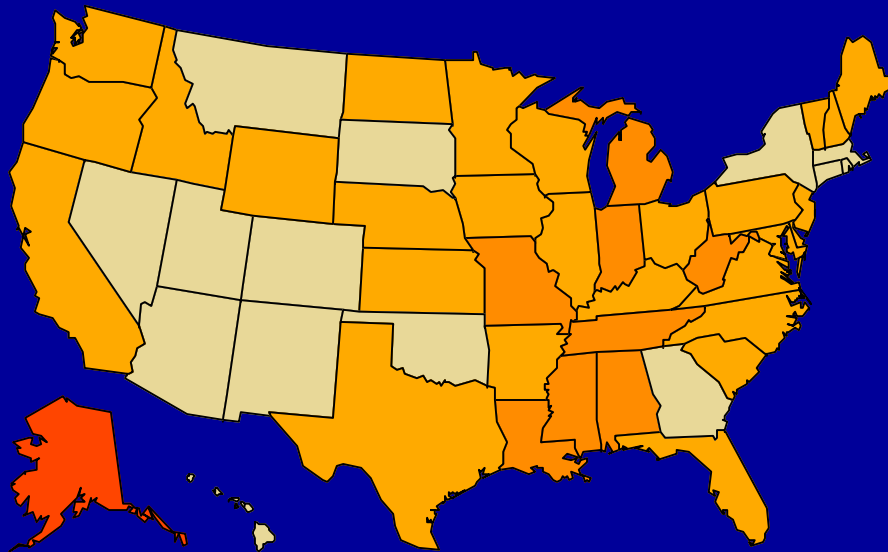
CDC's Division of Diabetes Translation. National Diabetes Surveillance System available at <http://www.cdc.gov/diabetes/statistics>



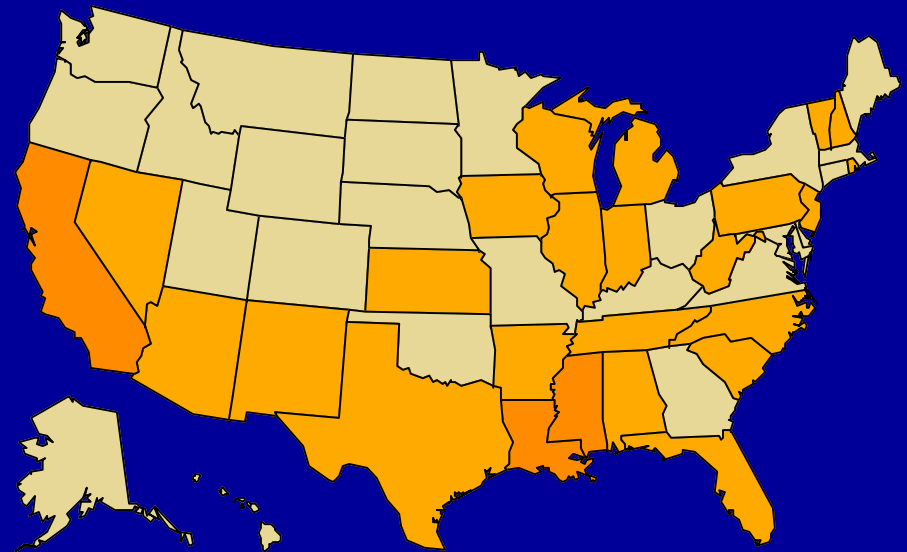
Age-adjusted Percentage of U.S. Adults Who Were Obese or Who Had Diagnosed Diabetes

1995

Obesity (BMI \geq 30)



Diabetes



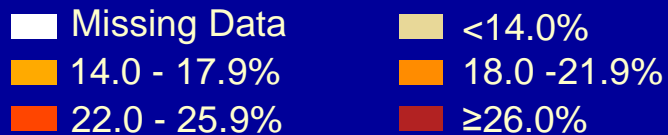
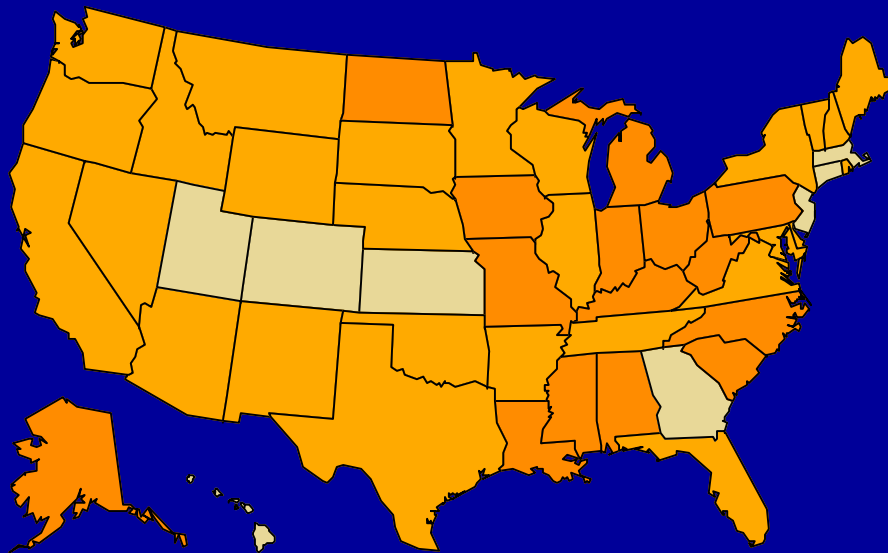
CDC's Division of Diabetes Translation. National Diabetes Surveillance System available at <http://www.cdc.gov/diabetes/statistics>



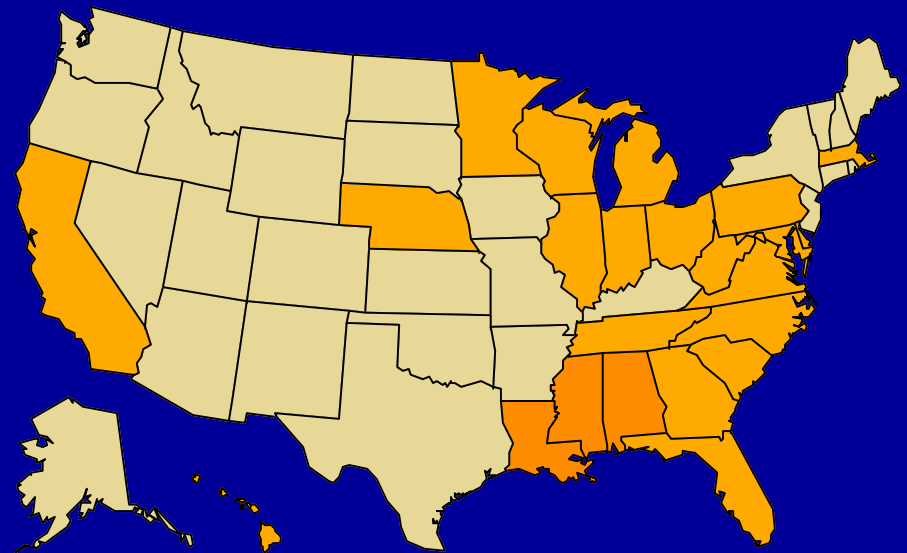
Age-adjusted Percentage of U.S. Adults Who Were Obese or Who Had Diagnosed Diabetes

1996

Obesity (BMI \geq 30)



Diabetes



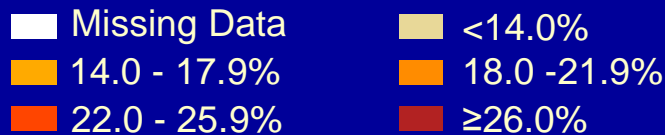
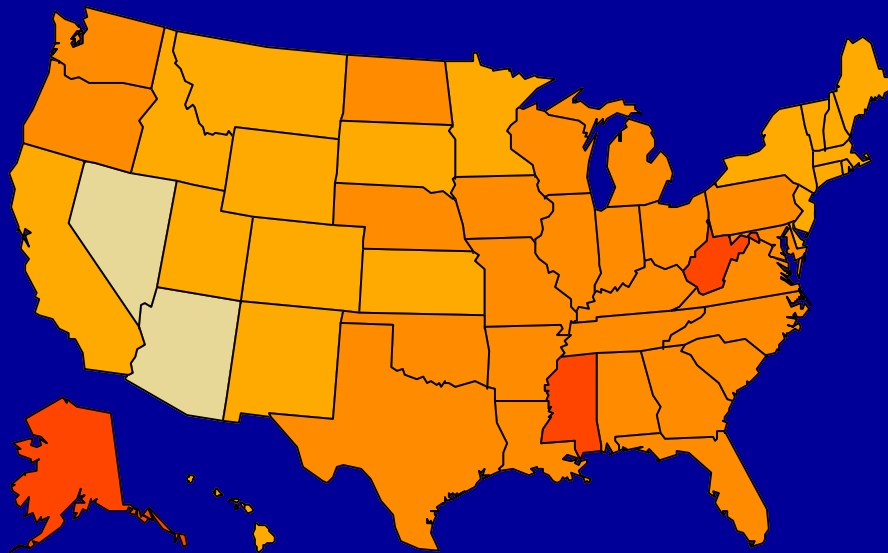
CDC's Division of Diabetes Translation. National Diabetes Surveillance System available at <http://www.cdc.gov/diabetes/statistics>



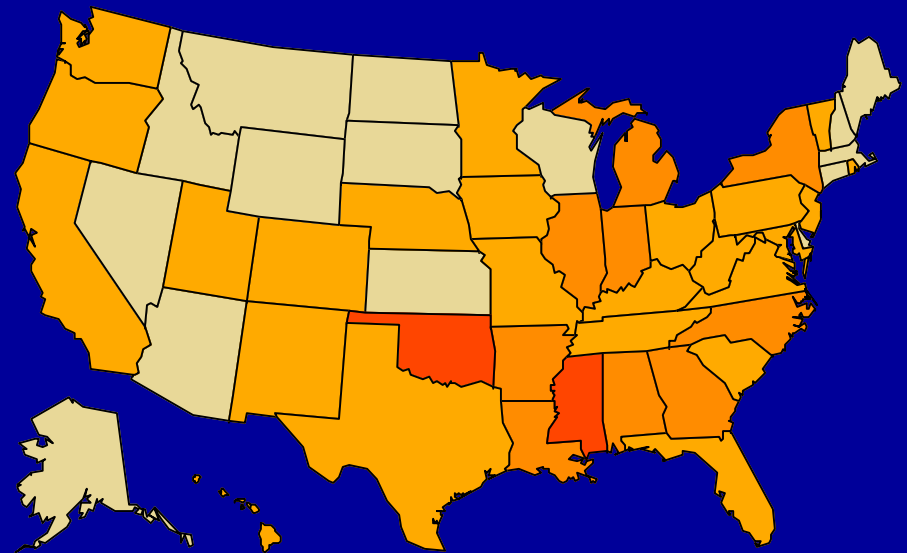
Age-adjusted Percentage of U.S. Adults Who Were Obese or Who Had Diagnosed Diabetes

1998

Obesity (BMI \geq 30)



Diabetes



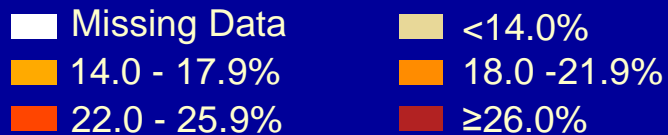
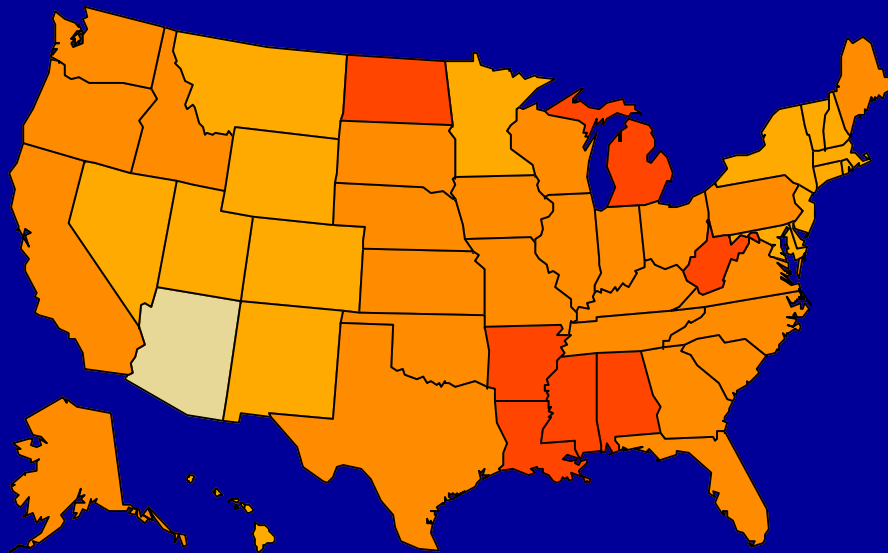
CDC's Division of Diabetes Translation. National Diabetes Surveillance System available at <http://www.cdc.gov/diabetes/statistics>



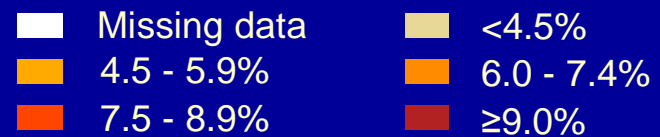
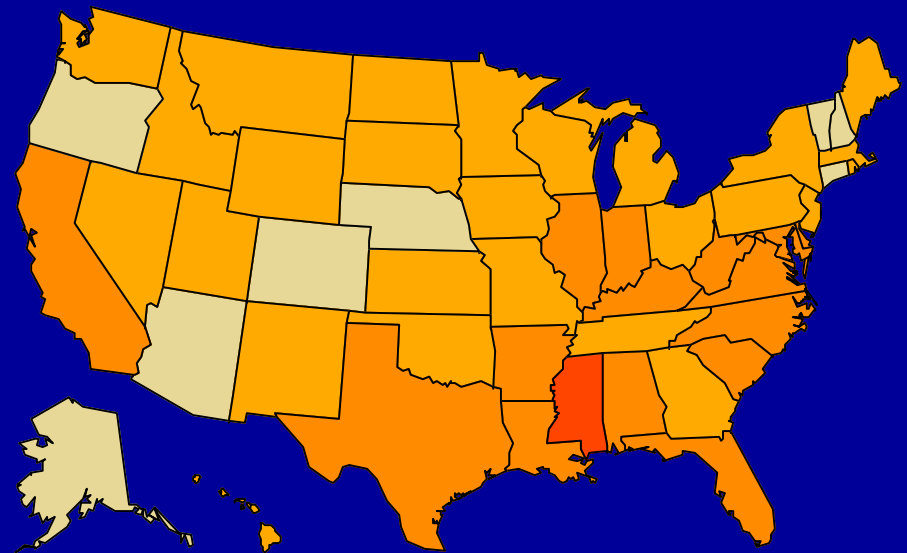
Age-adjusted Percentage of U.S. Adults Who Were Obese or Who Had Diagnosed Diabetes

1999

Obesity (BMI \geq 30)



Diabetes



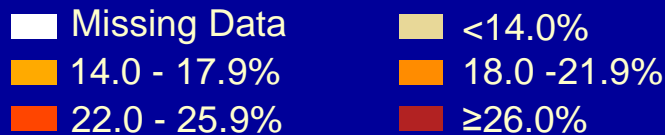
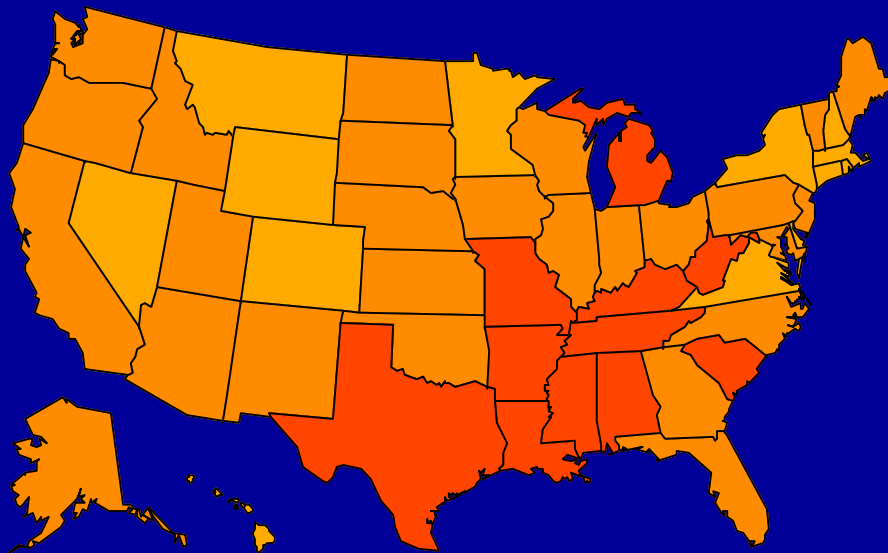
CDC's Division of Diabetes Translation. National Diabetes Surveillance System available at <http://www.cdc.gov/diabetes/statistics>



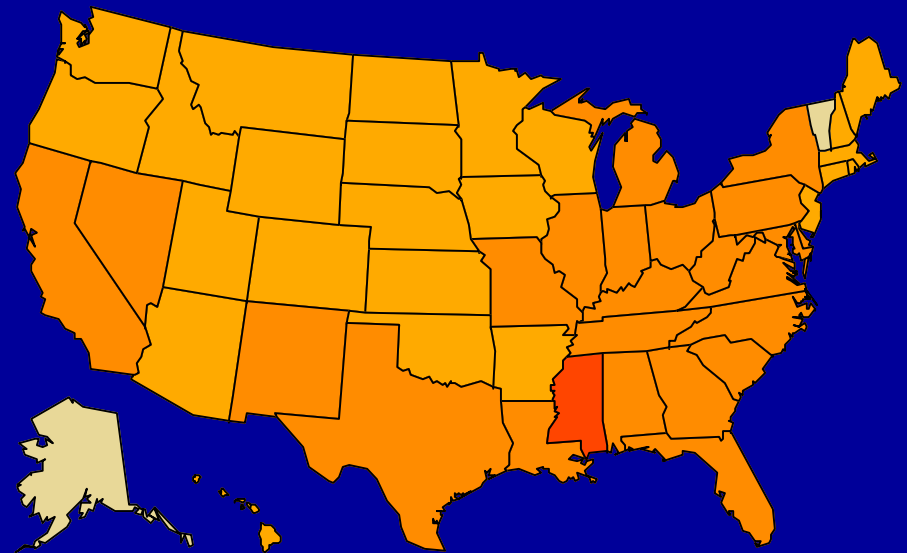
Age-adjusted Percentage of U.S. Adults Who Were Obese or Who Had Diagnosed Diabetes

2000

Obesity (BMI \geq 30)



Diabetes



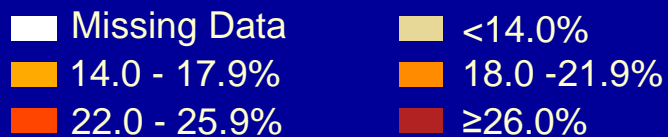
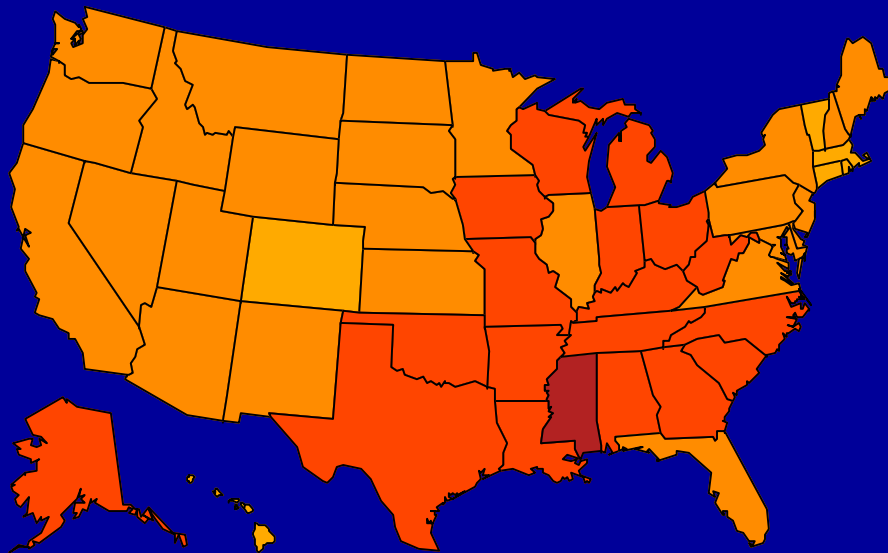
CDC's Division of Diabetes Translation. National Diabetes Surveillance System available at <http://www.cdc.gov/diabetes/statistics>



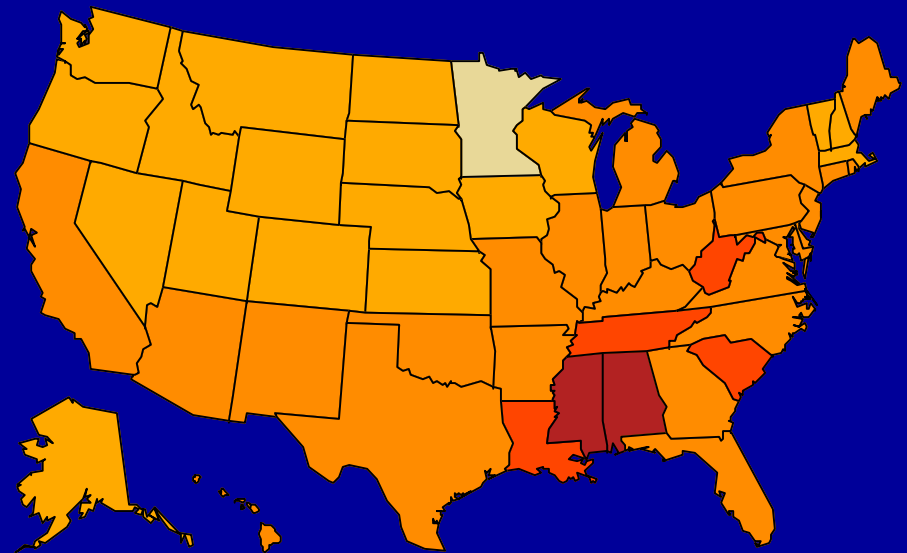
Age-adjusted Percentage of U.S. Adults Who Were Obese or Who Had Diagnosed Diabetes

2001

Obesity (BMI \geq 30)



Diabetes



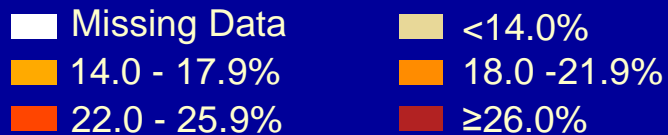
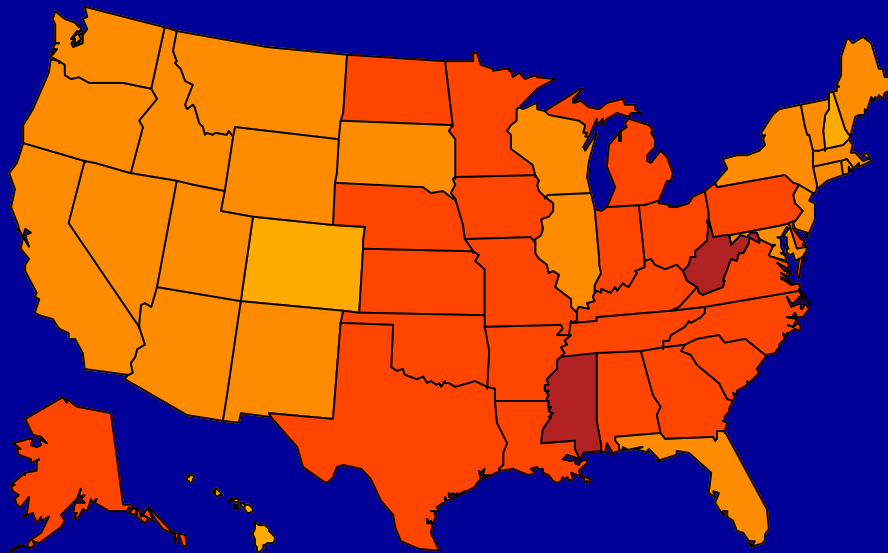
CDC's Division of Diabetes Translation. National Diabetes Surveillance System available at <http://www.cdc.gov/diabetes/statistics>



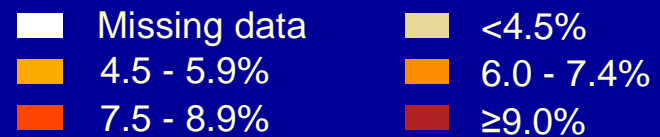
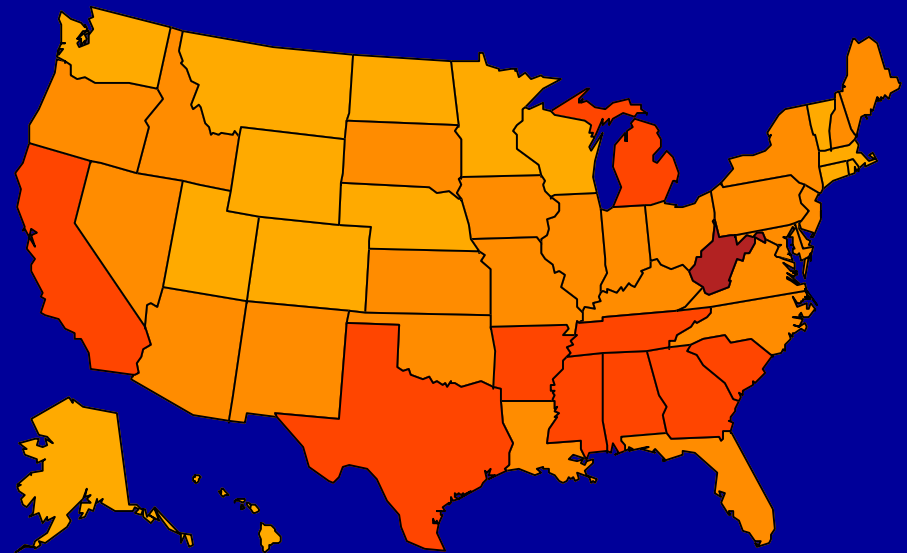
Age-adjusted Percentage of U.S. Adults Who Were Obese or Who Had Diagnosed Diabetes

2002

Obesity (BMI \geq 30)



Diabetes



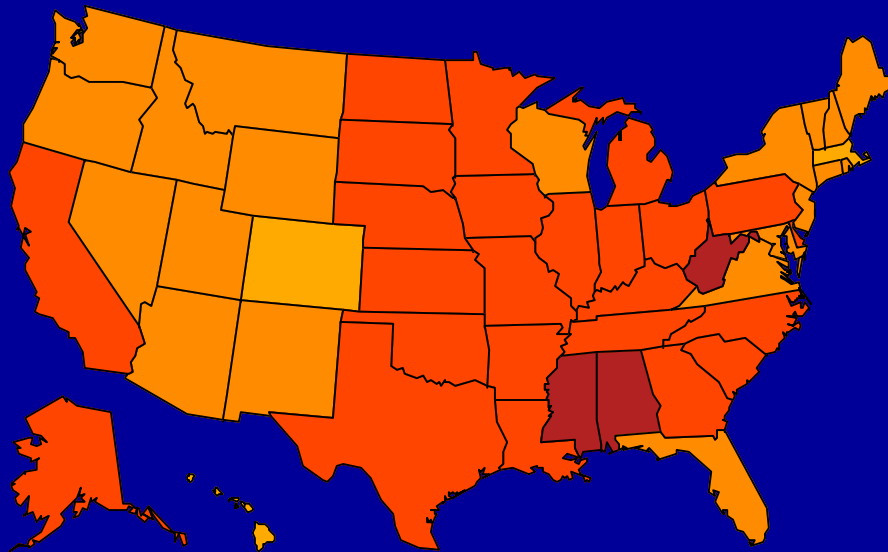
CDC's Division of Diabetes Translation. National Diabetes Surveillance System available at <http://www.cdc.gov/diabetes/statistics>



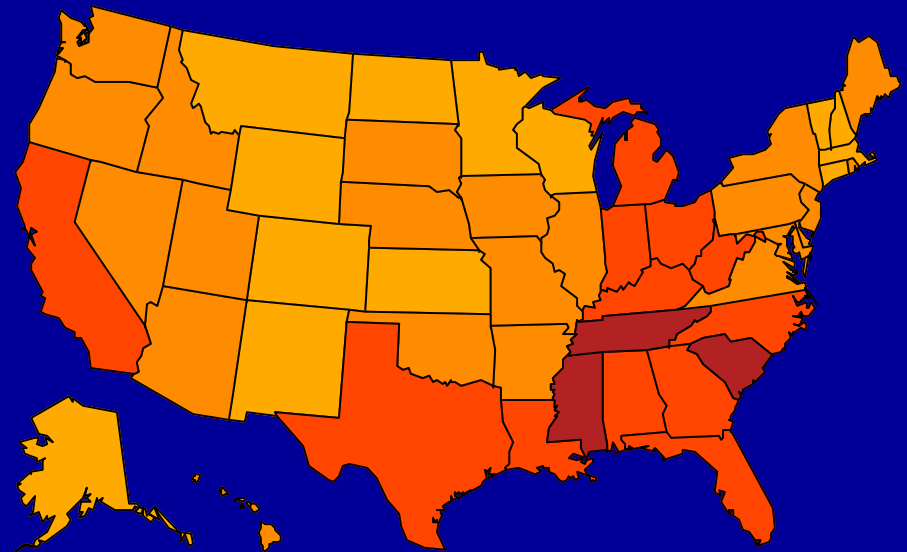
Age-adjusted Percentage of U.S. Adults Who Were Obese or Who Had Diagnosed Diabetes

2003

Obesity (BMI \geq 30)



Diabetes



Missing Data	<14.0%
14.0 - 17.9%	18.0 - 21.9%
22.0 - 25.9%	≥26.0%

Missing data	<4.5%
4.5 - 5.9%	6.0 - 7.4%
7.5 - 8.9%	≥9.0%



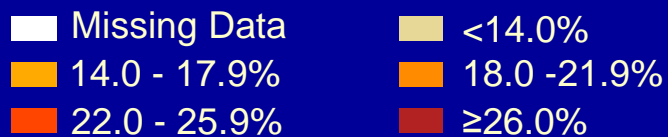
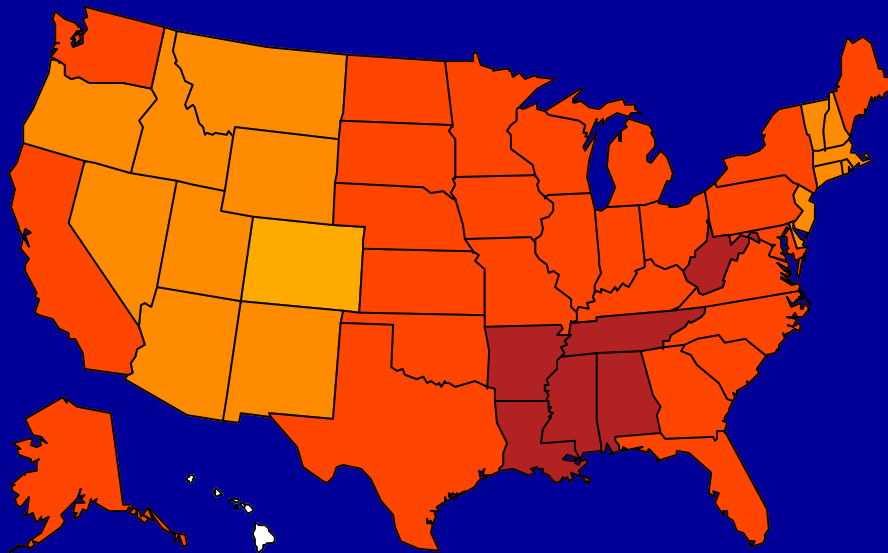
CDC's Division of Diabetes Translation. National Diabetes Surveillance System available at <http://www.cdc.gov/diabetes/statistics>



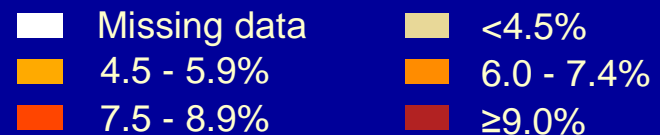
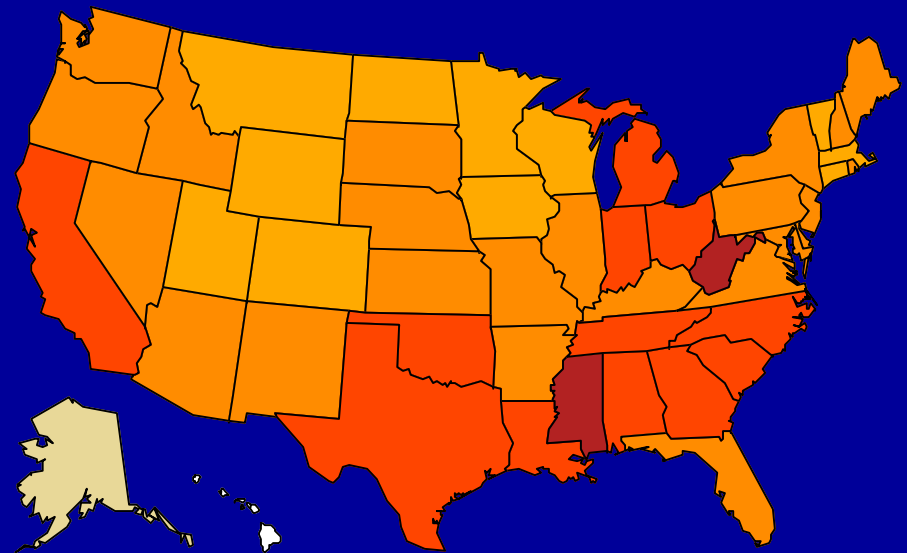
Age-adjusted Percentage of U.S. Adults Who Were Obese or Who Had Diagnosed Diabetes

2004

Obesity (BMI \geq 30)



Diabetes



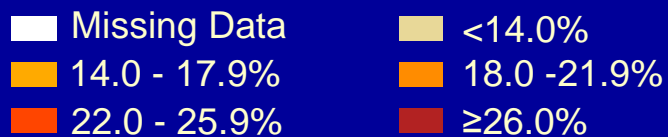
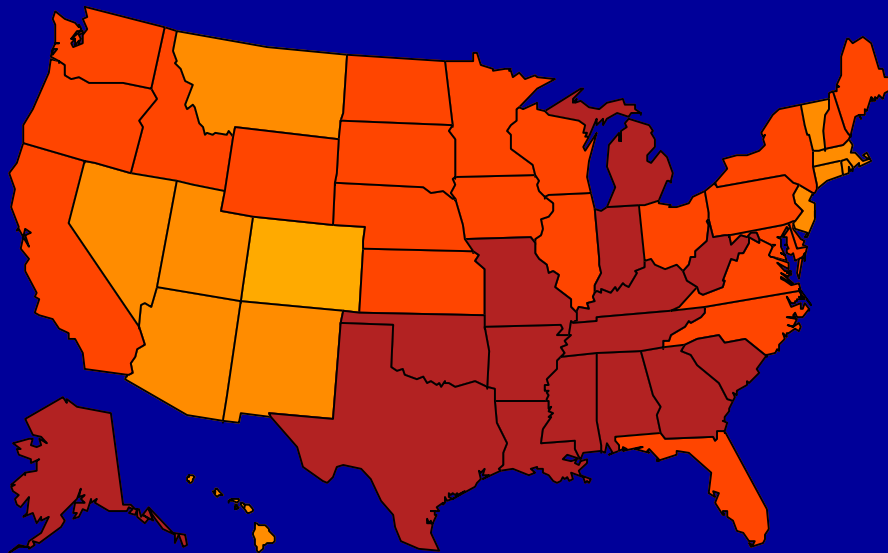
CDC's Division of Diabetes Translation. National Diabetes Surveillance System available at <http://www.cdc.gov/diabetes/statistics>



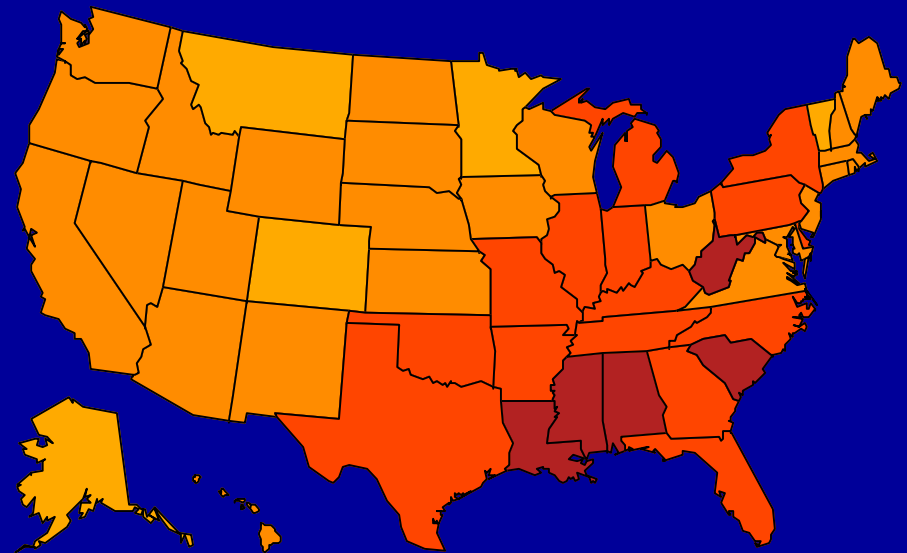
Age-adjusted Percentage of U.S. Adults Who Were Obese or Who Had Diagnosed Diabetes

2005

Obesity (BMI \geq 30)



Diabetes



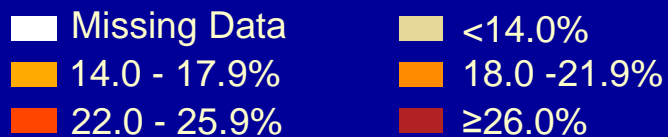
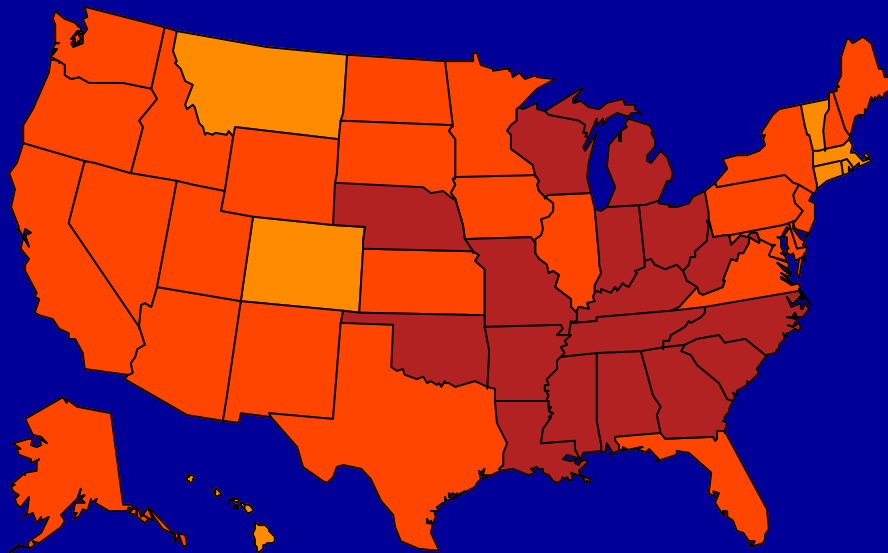
CDC's Division of Diabetes Translation. National Diabetes Surveillance System available at <http://www.cdc.gov/diabetes/statistics>



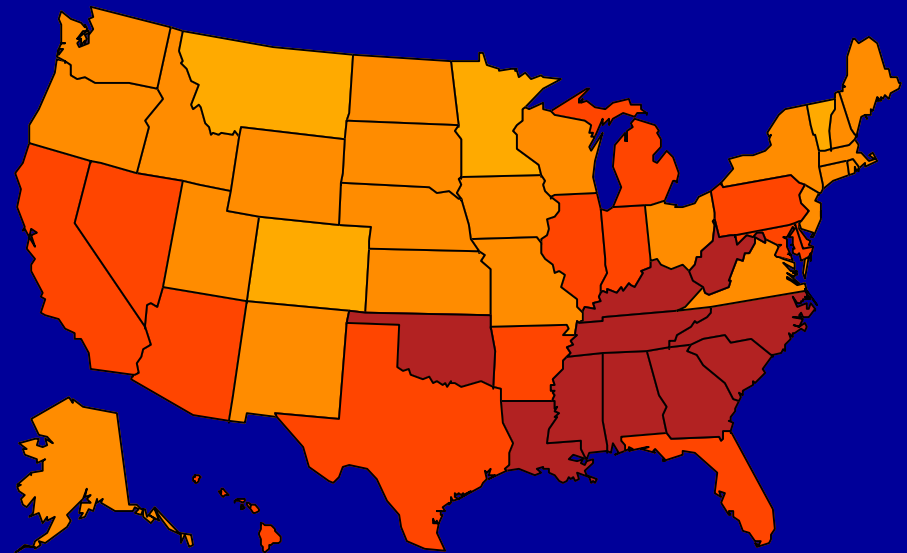
Age-adjusted Percentage of U.S. Adults Who Were Obese or Who Had Diagnosed Diabetes

2006

Obesity (BMI \geq 30)



Diabetes



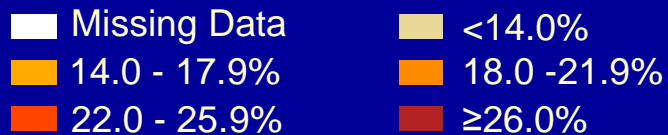
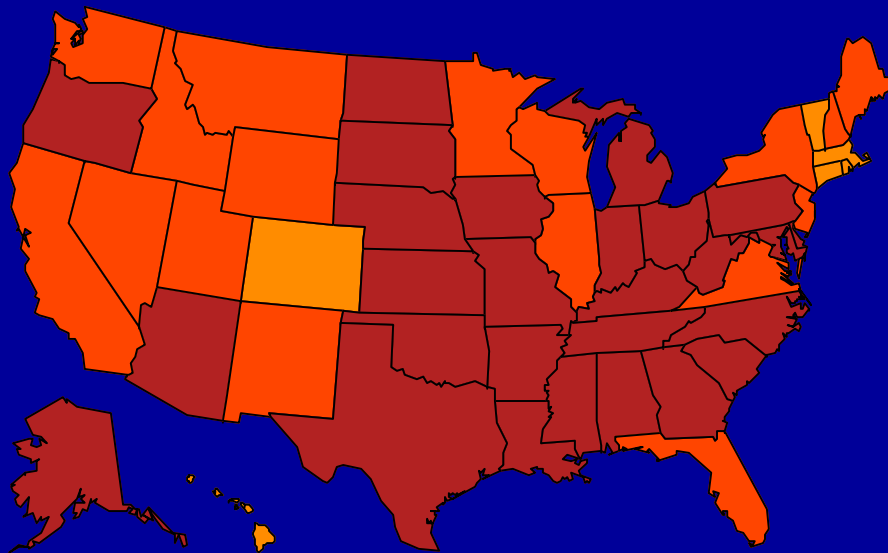
CDC's Division of Diabetes Translation. National Diabetes Surveillance System available at <http://www.cdc.gov/diabetes/statistics>



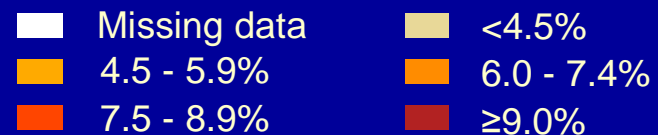
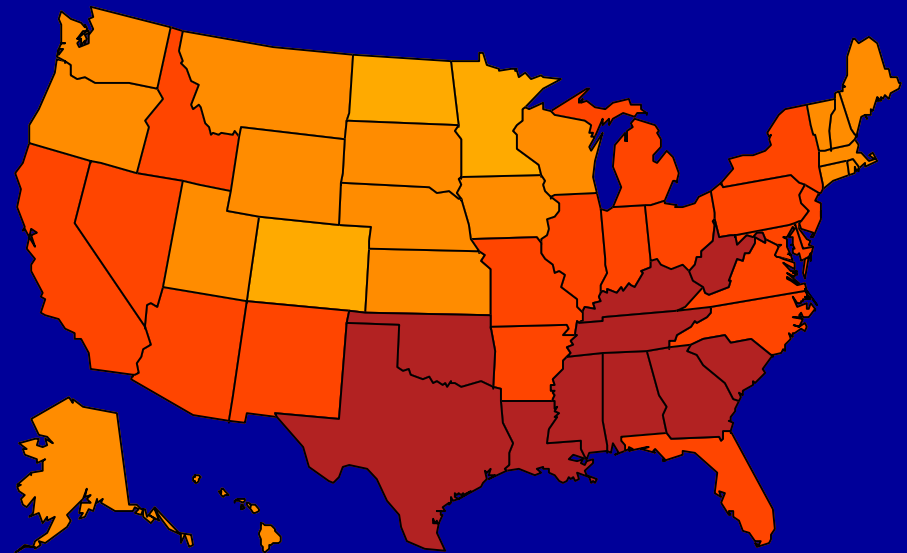
Age-adjusted Percentage of U.S. Adults Who Were Obese or Who Had Diagnosed Diabetes

2007

Obesity (BMI \geq 30)



Diabetes



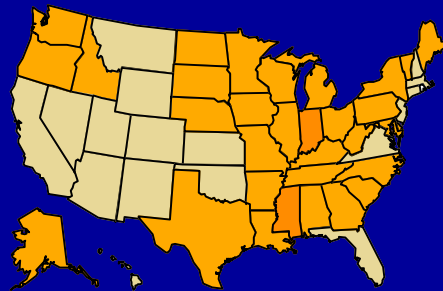
CDC's Division of Diabetes Translation. National Diabetes Surveillance System available at <http://www.cdc.gov/diabetes/statistics>



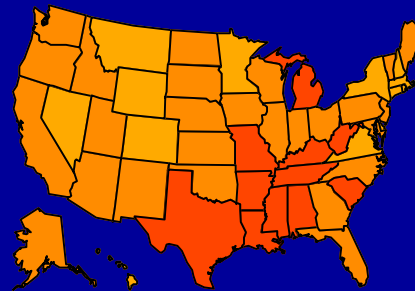
Age-adjusted Percentage of U.S. Adults Who Were Obese or Who Had Diagnosed Diabetes

Obesity (BMI ≥ 30 kg/m²)

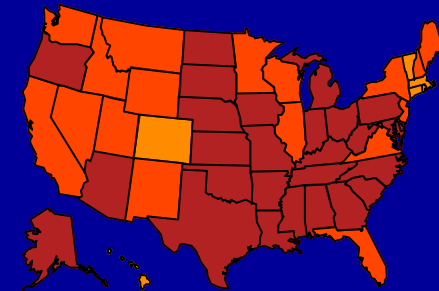
1994



2000

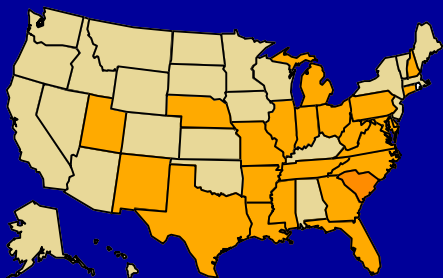


2007

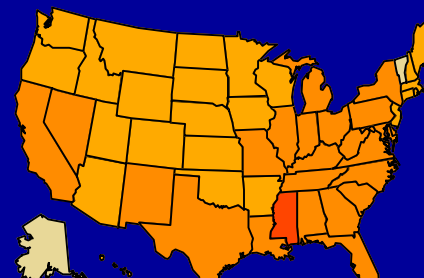


Diabetes

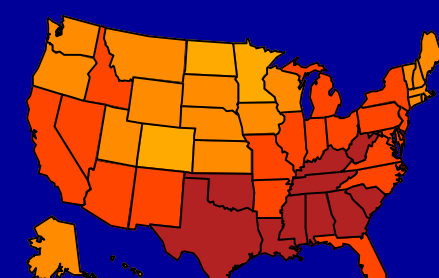
1994



2000



2007



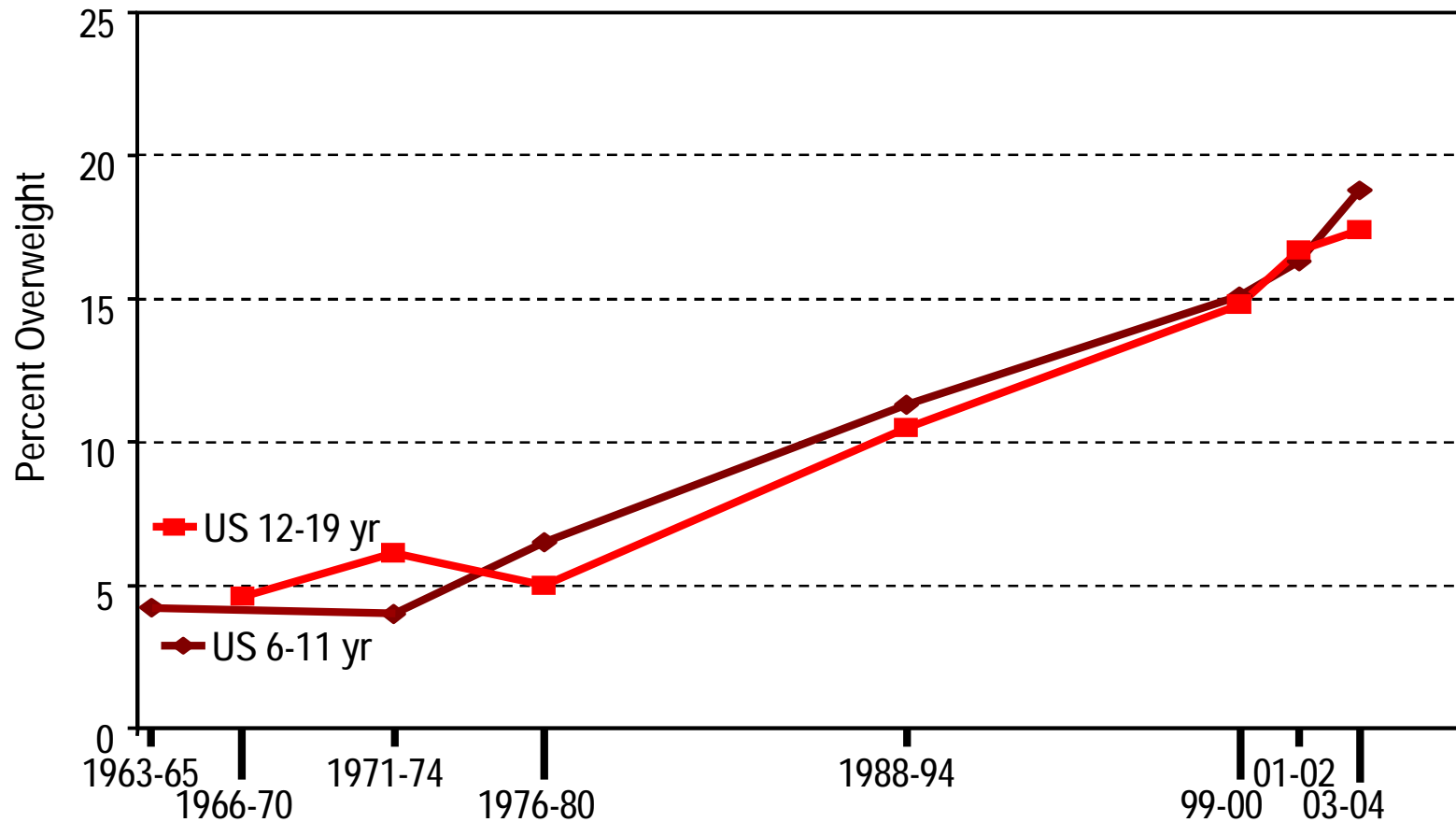
CDC's Division of Diabetes Translation. National Diabetes Surveillance System available at <http://www.cdc.gov/diabetes/statistics>



Why Childhood Obesity?

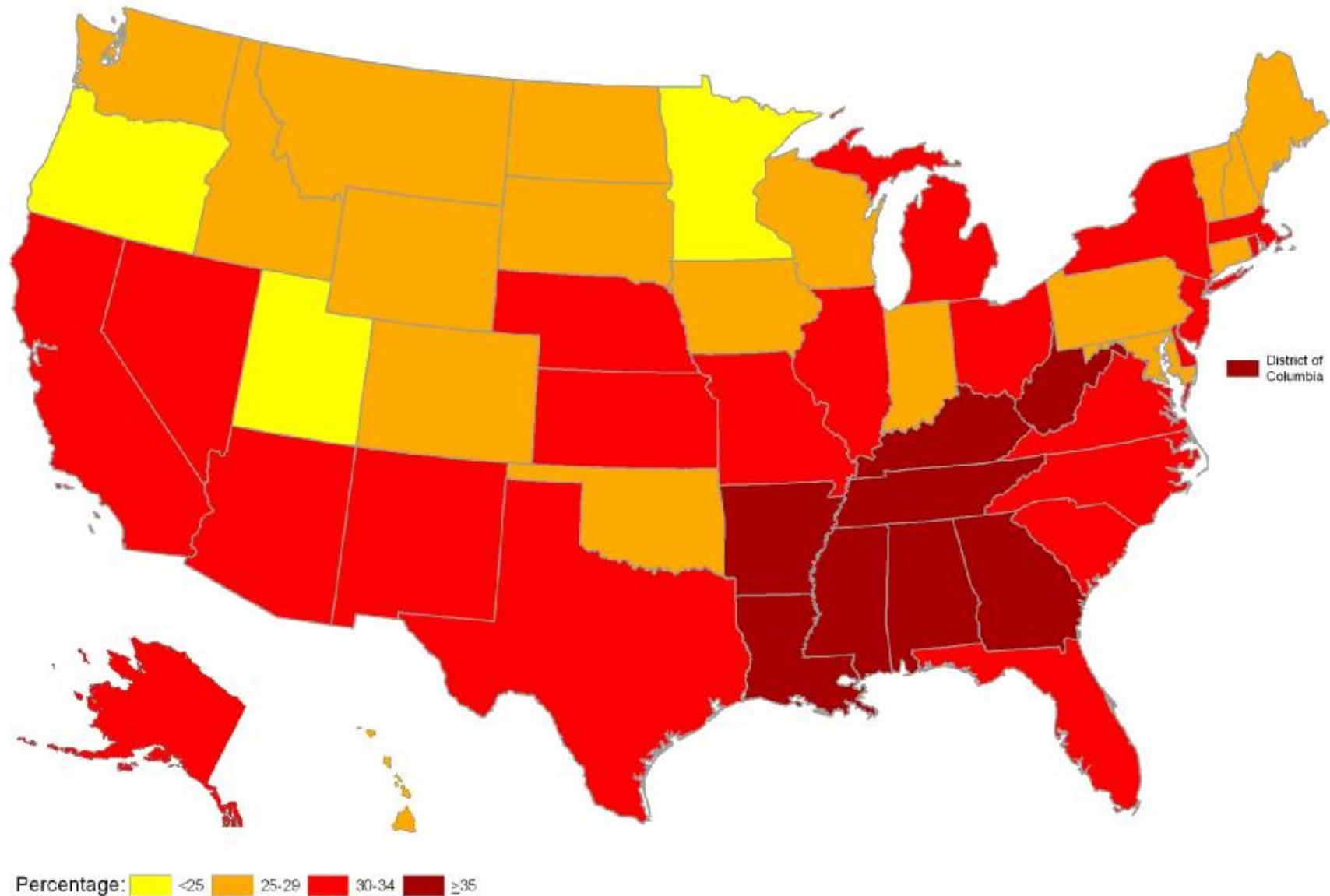


National Childhood Obesity Trends



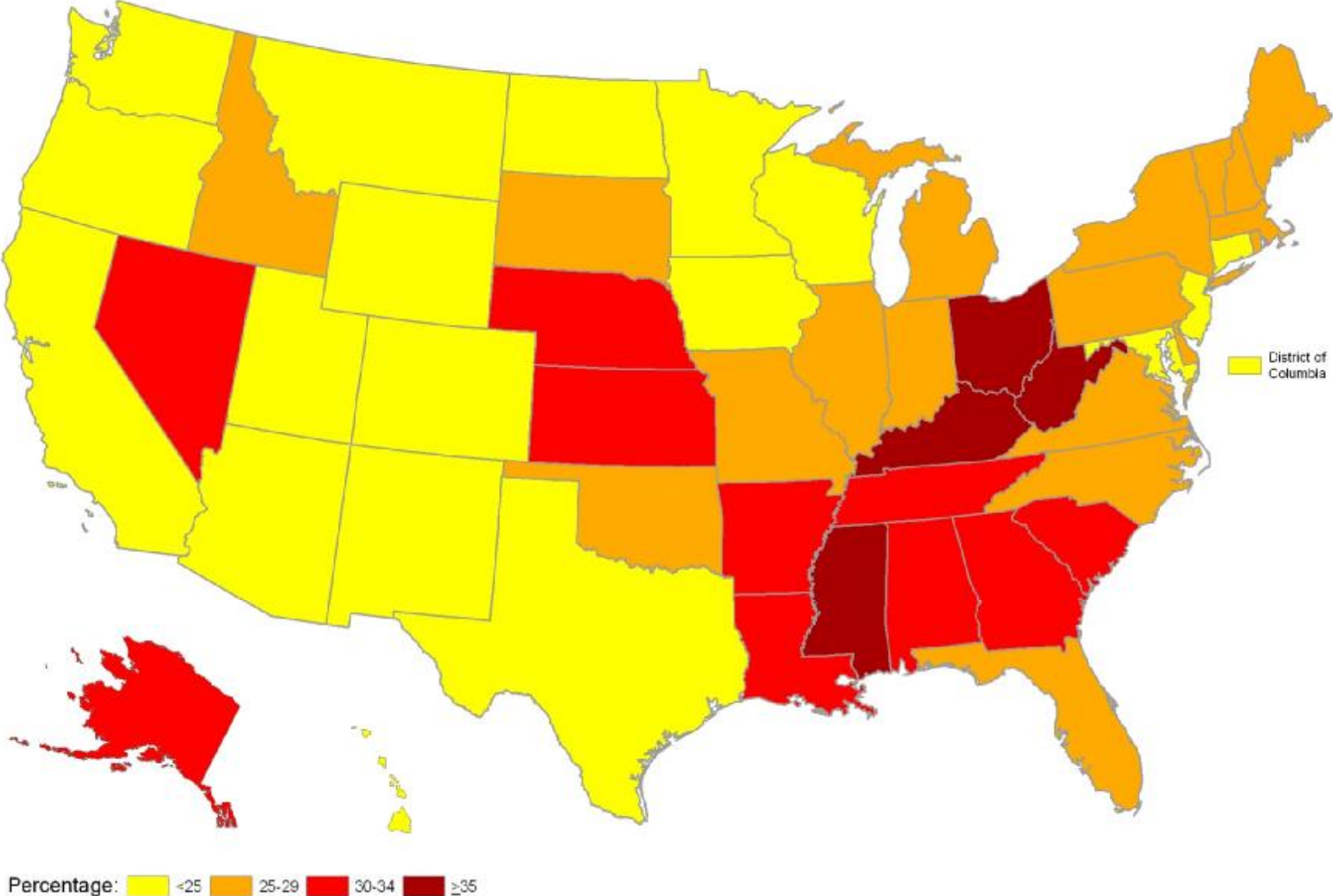
NHANES data sources: Ogden et al. *Prevalence and Trends in Overweight Among US Children and Adolescents, 1999-2000*. JAMA 2002;288(14):1728-1732. Ogden et al. *Prevalence of Overweight and Obesity in the United States, 1999-2004*. JAMA 2006;295(13):1549-1555.

Percent of Overweight or Obese Children Aged 10–17 Years



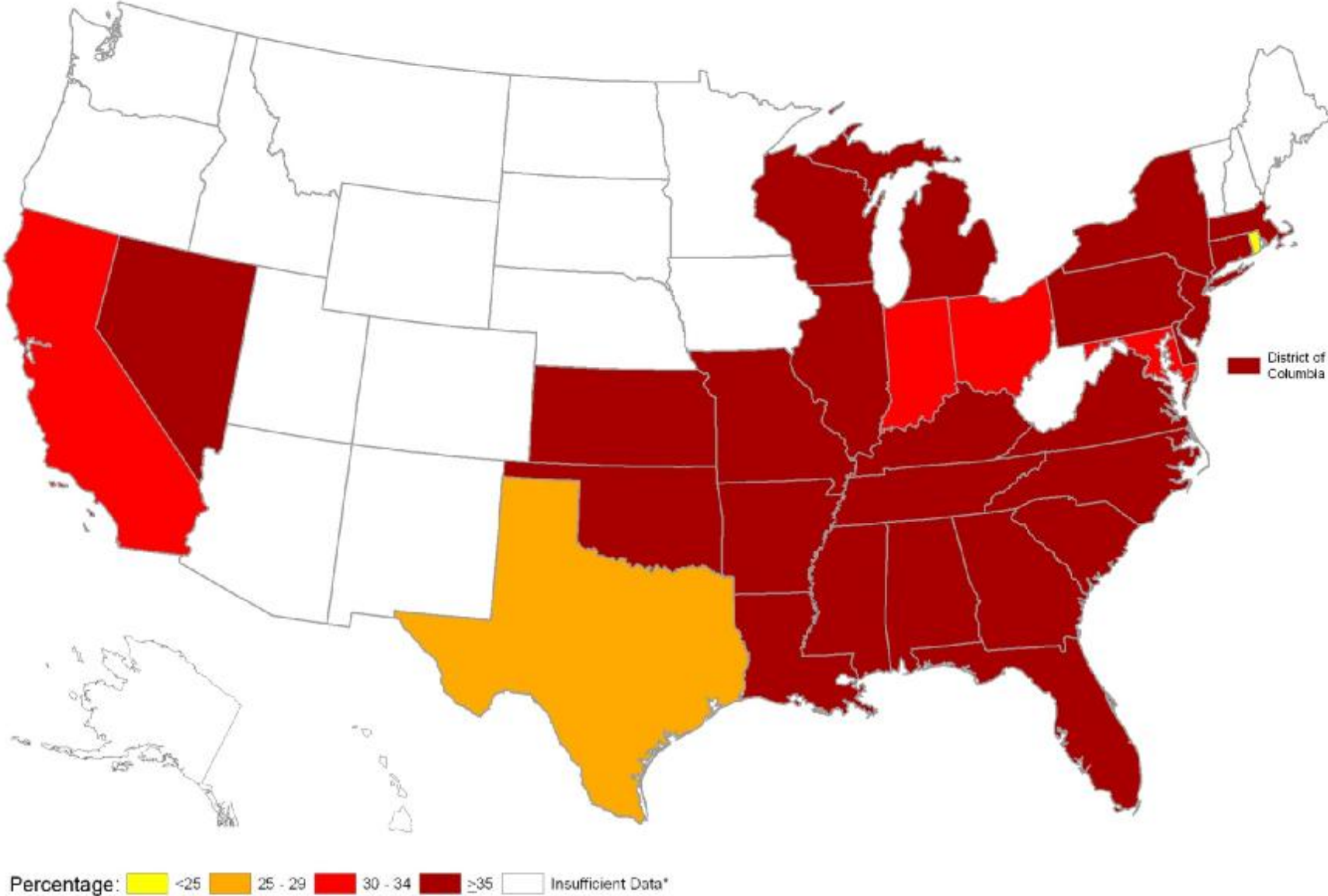
Source: Child and Adolescent Health Measurement Initiative. 2007 National Survey of Children's Health, Retrieved [05/22/09] from ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/slais/nsch07/3_Dataset/

Percent of Overweight or Obese White Children Aged 10–17 Years



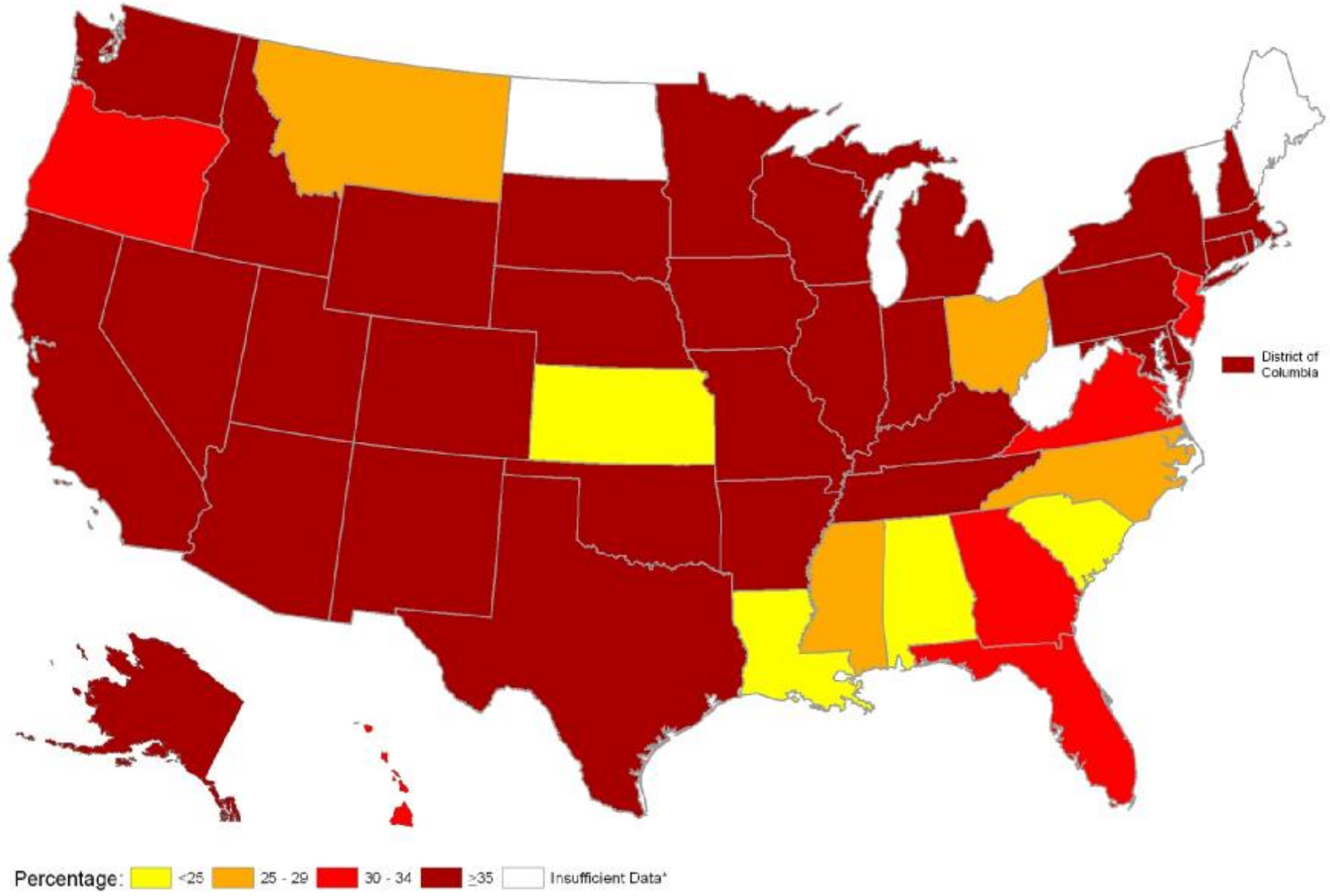
Source: Child and Adolescent Health Measurement Initiative. 2007 National Survey of Children's Health, Retrieved [05/22/09] from [ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/slits/nsch07/3_Dataset/](http://ftp.cdc.gov/pub/Health_Statistics/NCHS/slits/nsch07/3_Dataset/)

Percentage of Overweight or Obese Black Children Aged 10–17 Years



Source: Child and Adolescent Health Measurement Initiative. 2007 National Survey of Children's Health, Retrieved [05/22/09] from http://ftp.cdc.gov/pub/Health_Statistics/NCHS/slats/nsch07/3_Dataset/

Percentage of Overweight or Obese Hispanic Children Aged 10–17 Years



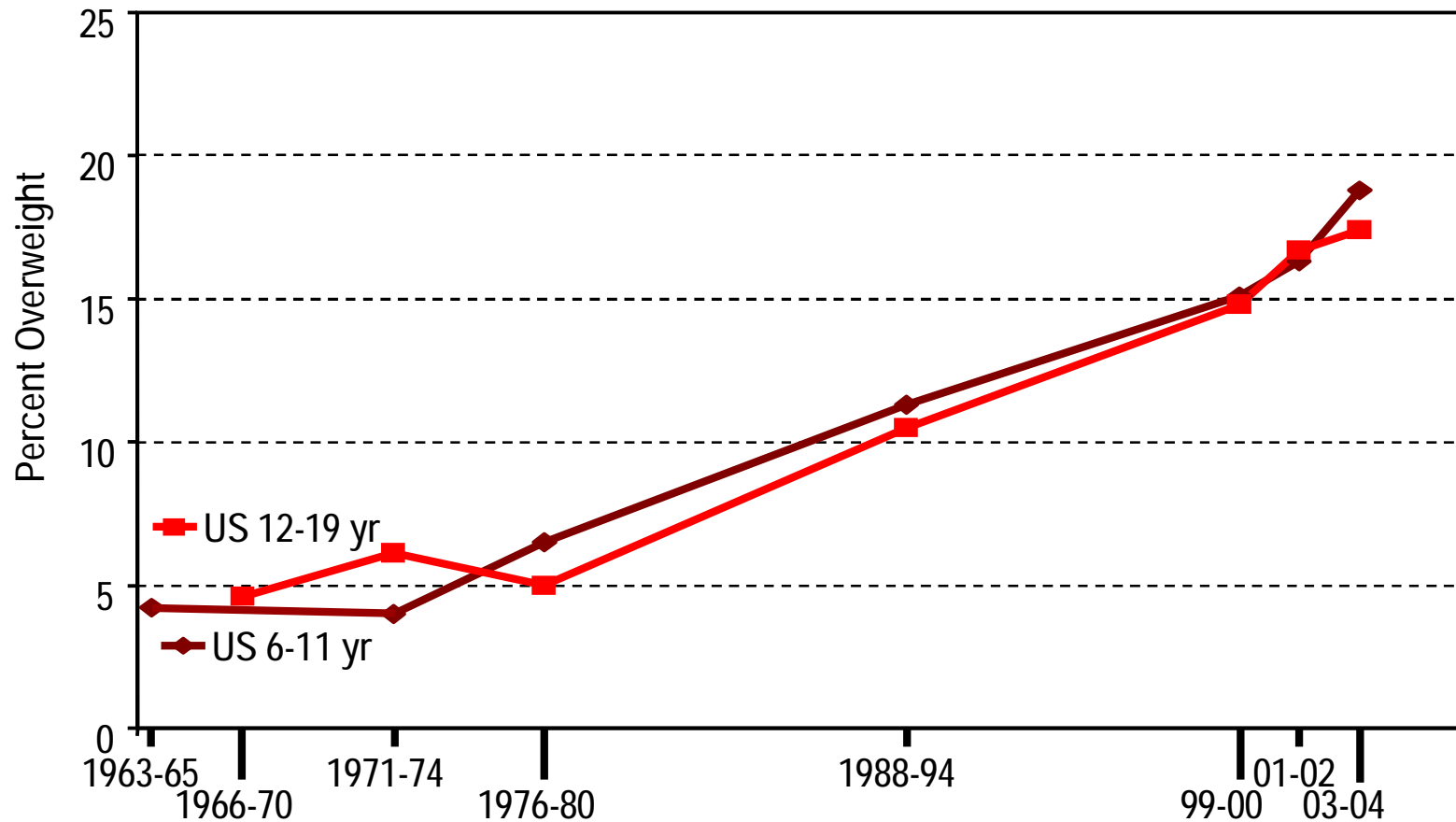
Source: Child and Adolescent Health Measurement Initiative. 2007 National Survey of Children's Health, Retrieved [05/22/09] from ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/slait/nsch07/3_Dataset/



Act 1220: Arkansas Child and Adolescent Obesity Initiative

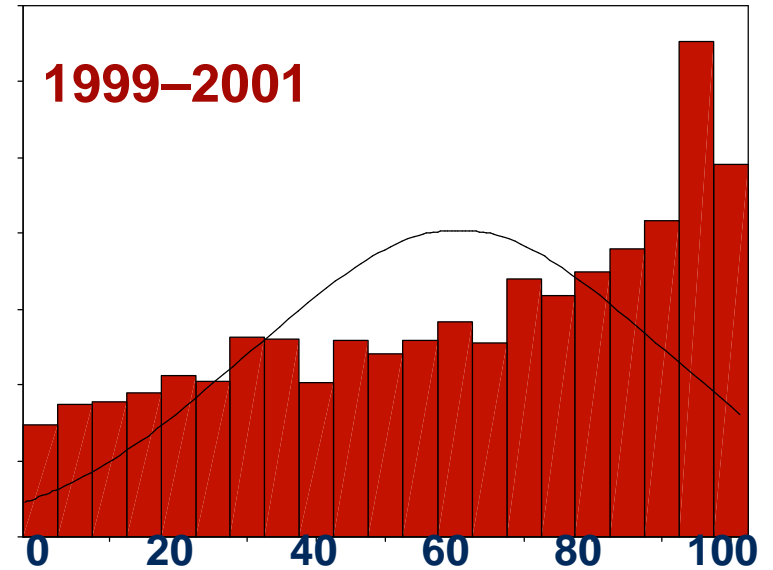
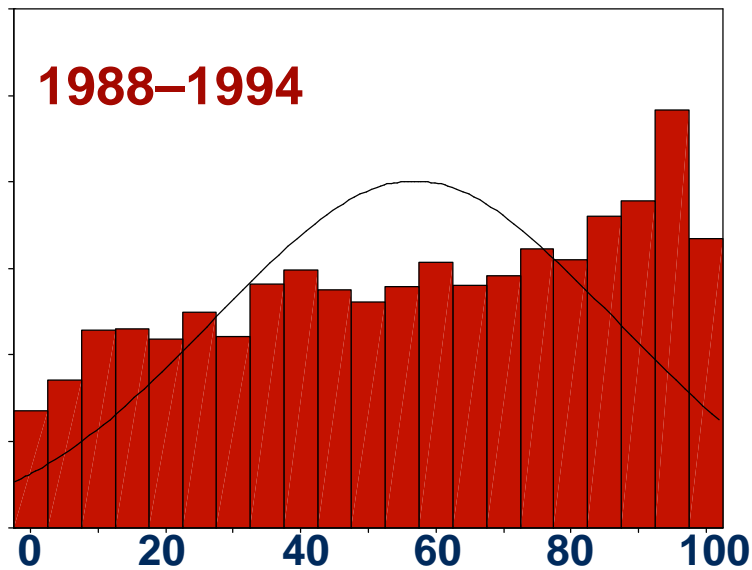
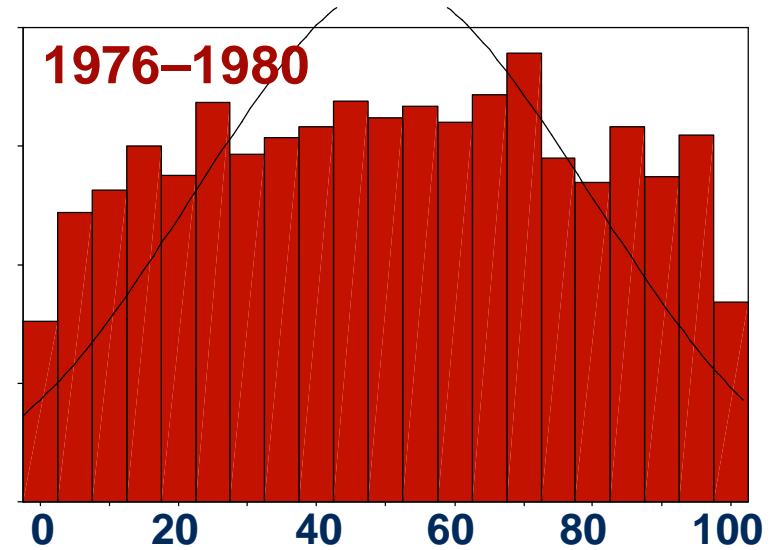
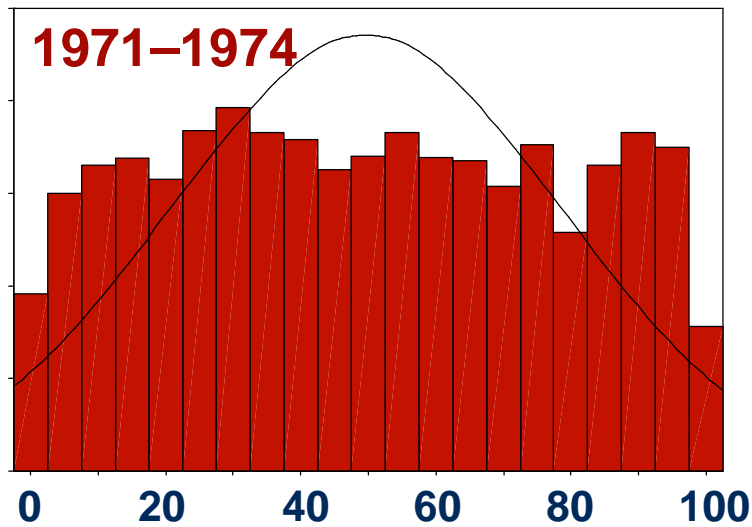


National Childhood Obesity Trends



NHANES data sources: Ogden et al. *Prevalence and Trends in Overweight Among US Children and Adolescents, 1999-2000*. JAMA 2002;288(14):1728-1732. Ogden et al. *Prevalence of Overweight and Obesity in the United States, 1999-2004*. JAMA 2006;295(13):1549-1555.

BMI normalized percentile histograms from NHANES



84th General Assembly Act 1220 of 2003

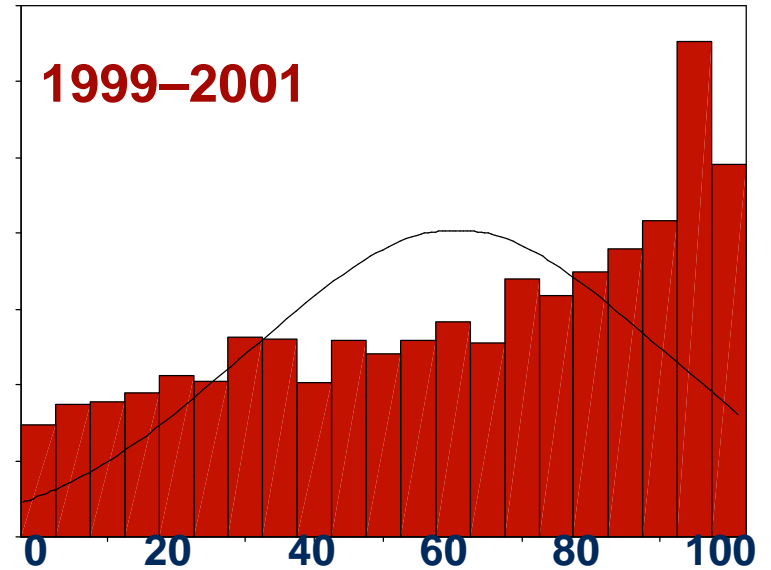
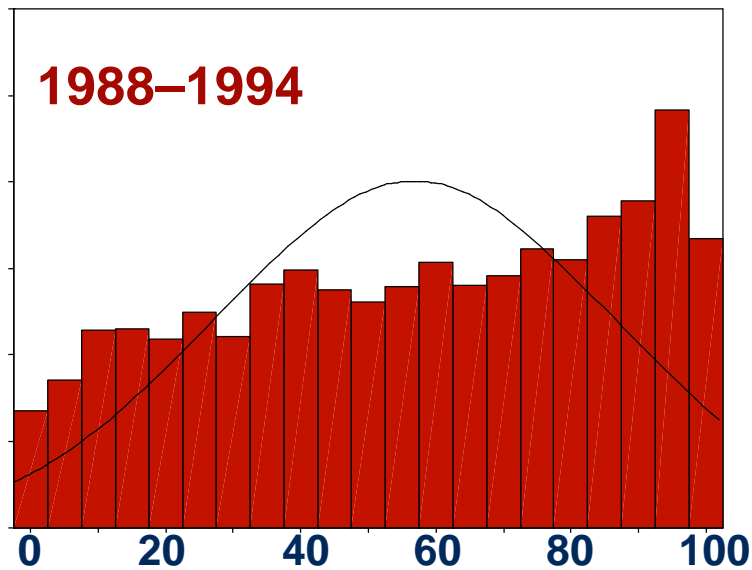
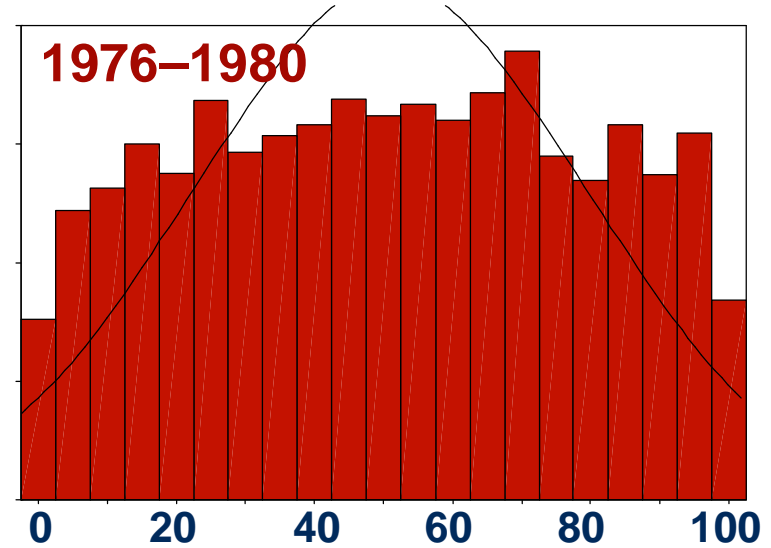
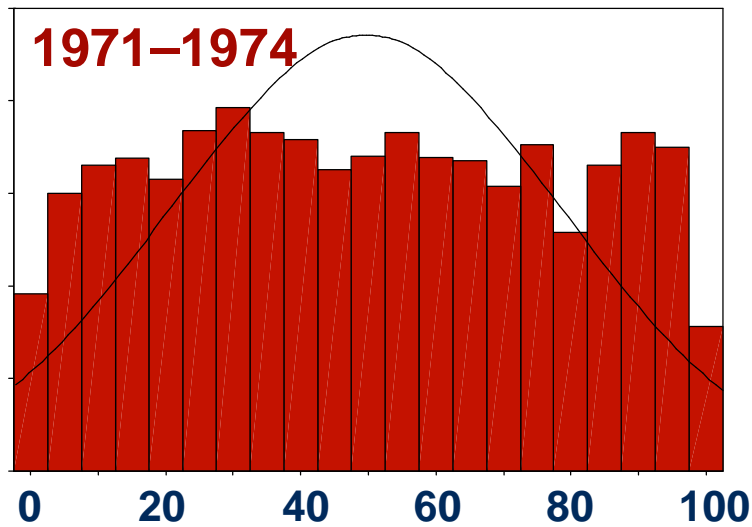
*An act to create a Child Health Advisory Committee; to **coordinate statewide efforts to combat childhood obesity and related illnesses; to improve the health of the next generation of Arkansans; and for other purposes.***

Goals:

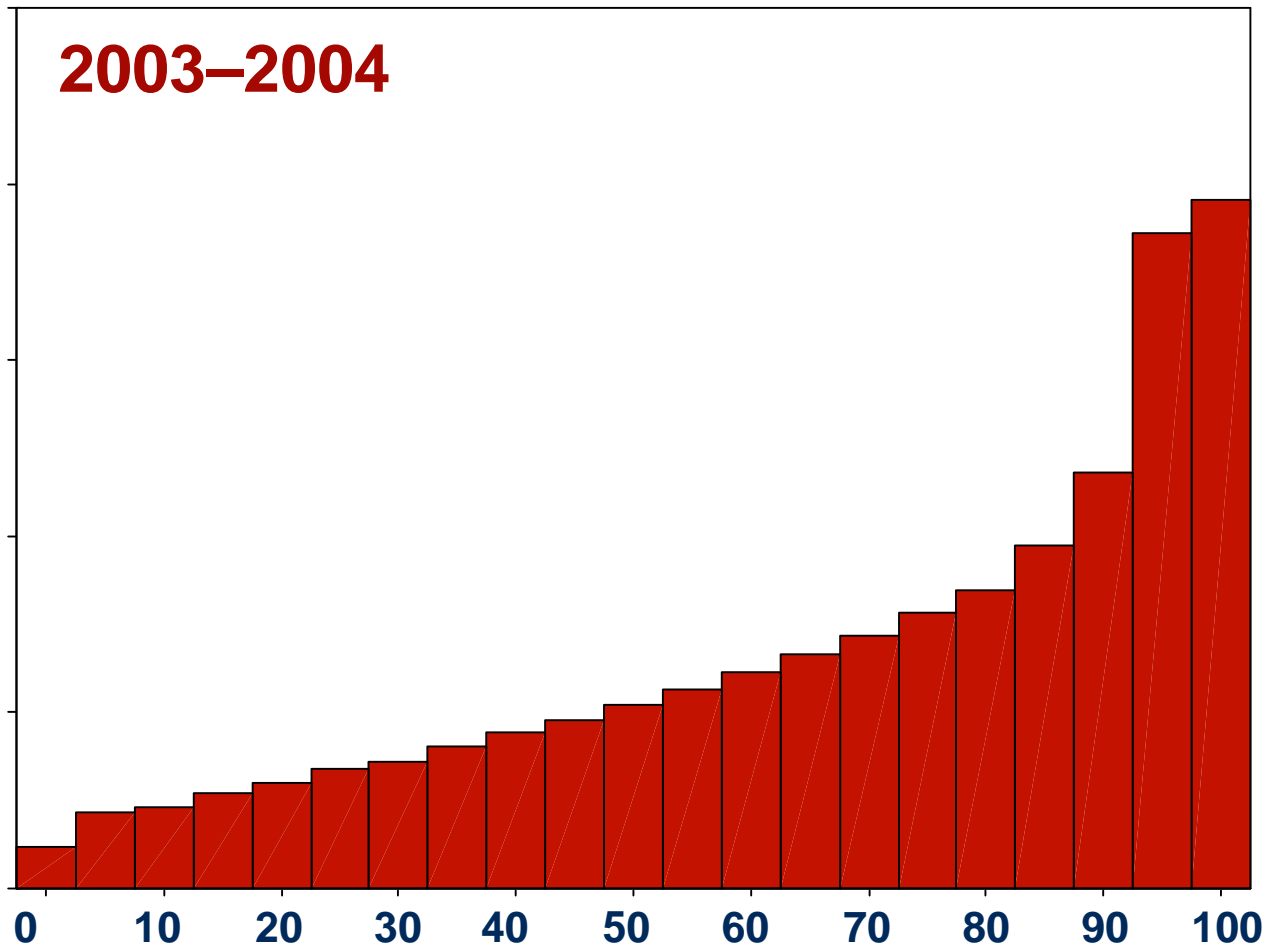
- Change the environment within which children go to school and learn health habits every day
- Engage the community to support parents and build a system that encourages health
- Enhance awareness of child and adolescent obesity to mobilize resources and establish support structures



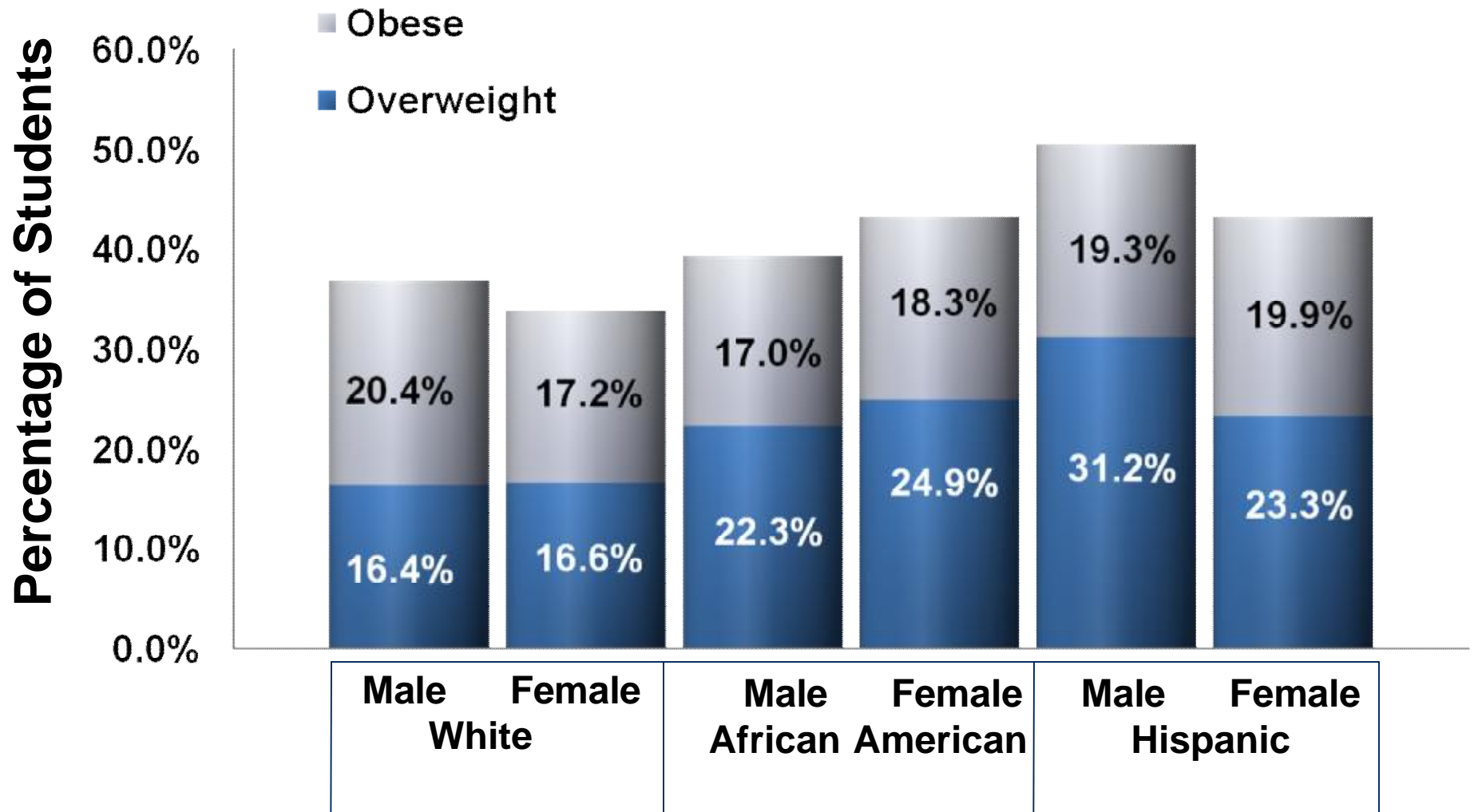
BMI normalized percentile histograms from NHANES



Arkansas BMI standardized percentiles



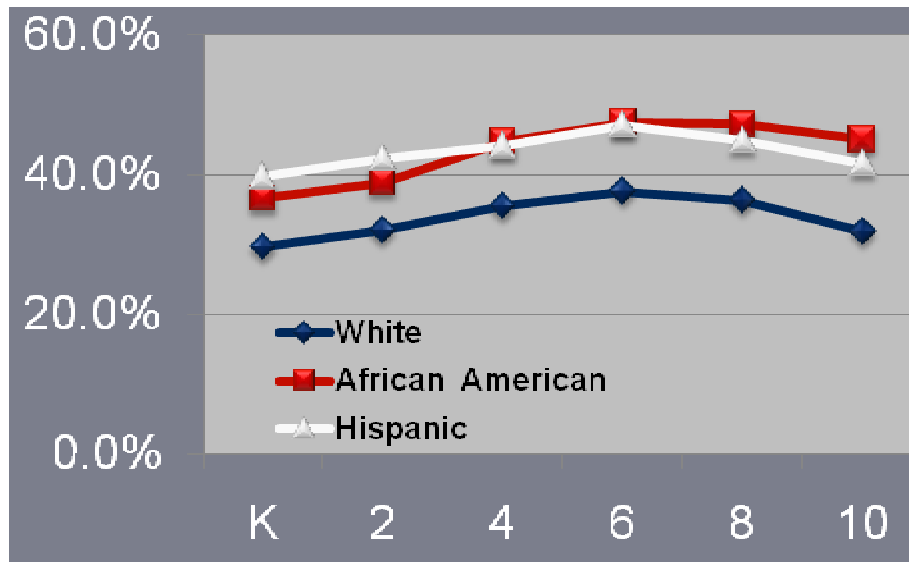
Percent by Gender and Ethnic Group (2008-2009)



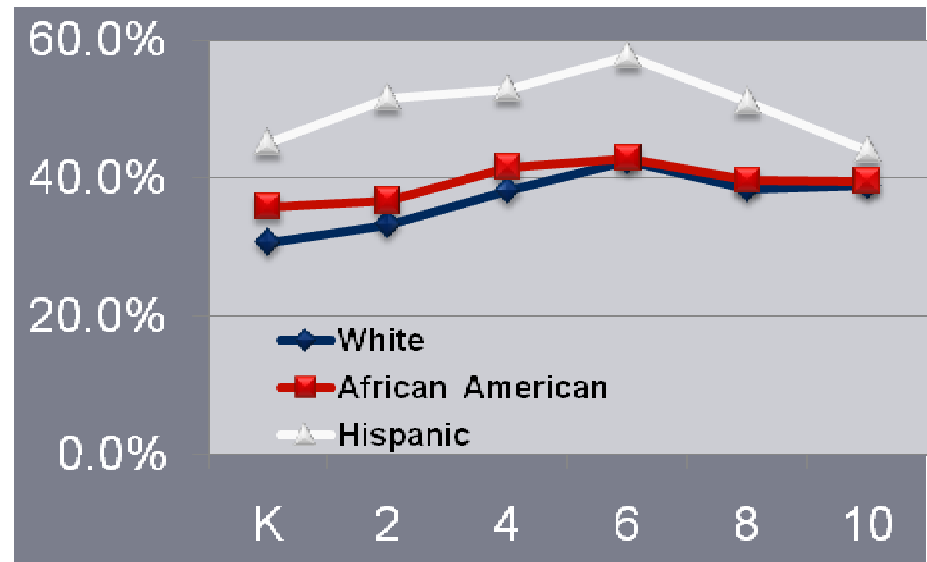
Data source: ACHI. *Assessment of Childhood and Adolescent Obesity in Arkansas (Year 6 Fall 2008–Spring 2009)*. Little Rock, AR: ACHI; September 2009.

Percent Overweight or Obese by Gender, Ethnicity and Grade (2008-2009)

Female



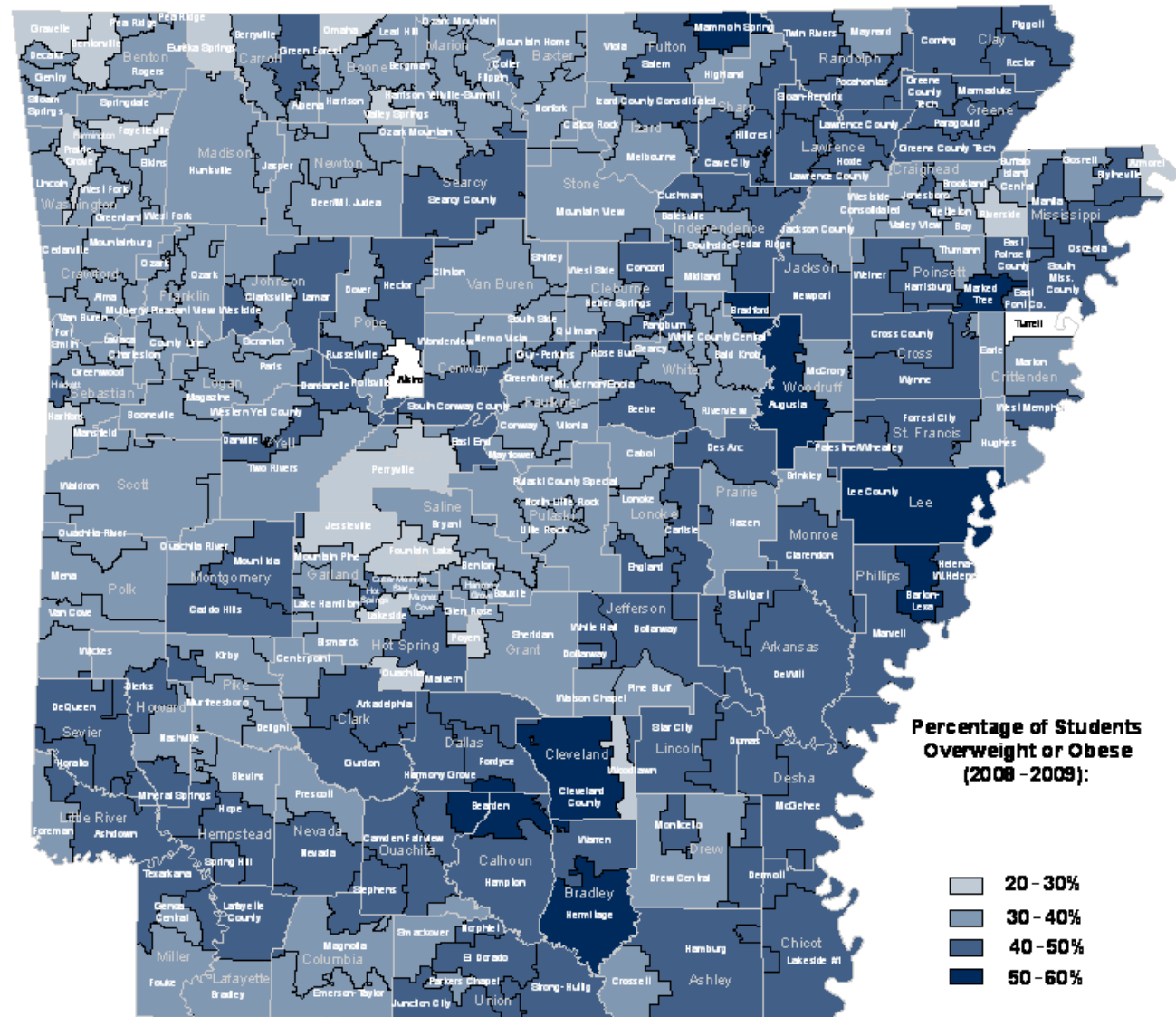
Male



Source: ACHI. *Assessment of Childhood and Adolescent Obesity in Arkansas (Year 6 Fall 2008–Spring 2009)*. Little Rock, AR: ACHI; September 2009.

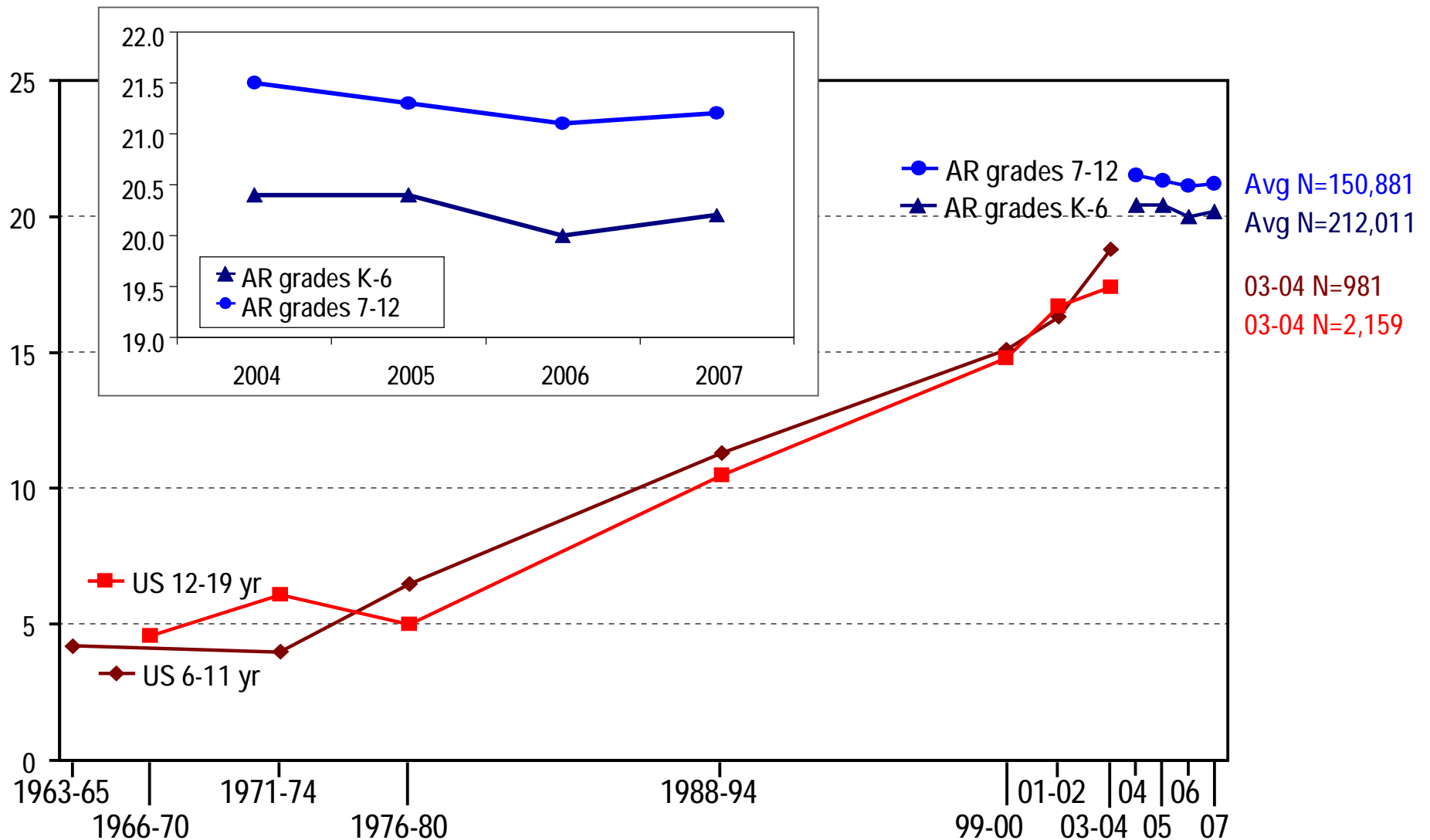


Percentage of students classified as overweight or obese by Arkansas public school district (2008–09)



Source: ACHI. *Assessment of Childhood and Adolescent Obesity in Arkansas (Year 6 Fall 2008–Spring 2009)*. Little Rock, AR: ACHI; September 2009.

National and Arkansas Childhood Obesity Trends



NHANES data sources: Ogden et al. *Prevalence and Trends in Overweight Among US Children and Adolescents, 1999-2000*. JAMA 2002;288(14):1728-1732. Ogden et al. *Prevalence of Overweight and Obesity in the United States, 1999-2004*. JAMA 2006;295(13):1549-1555.

Arkansas data source: Arkansas Center for Health Improvement, Little Rock, AR, September 2007.

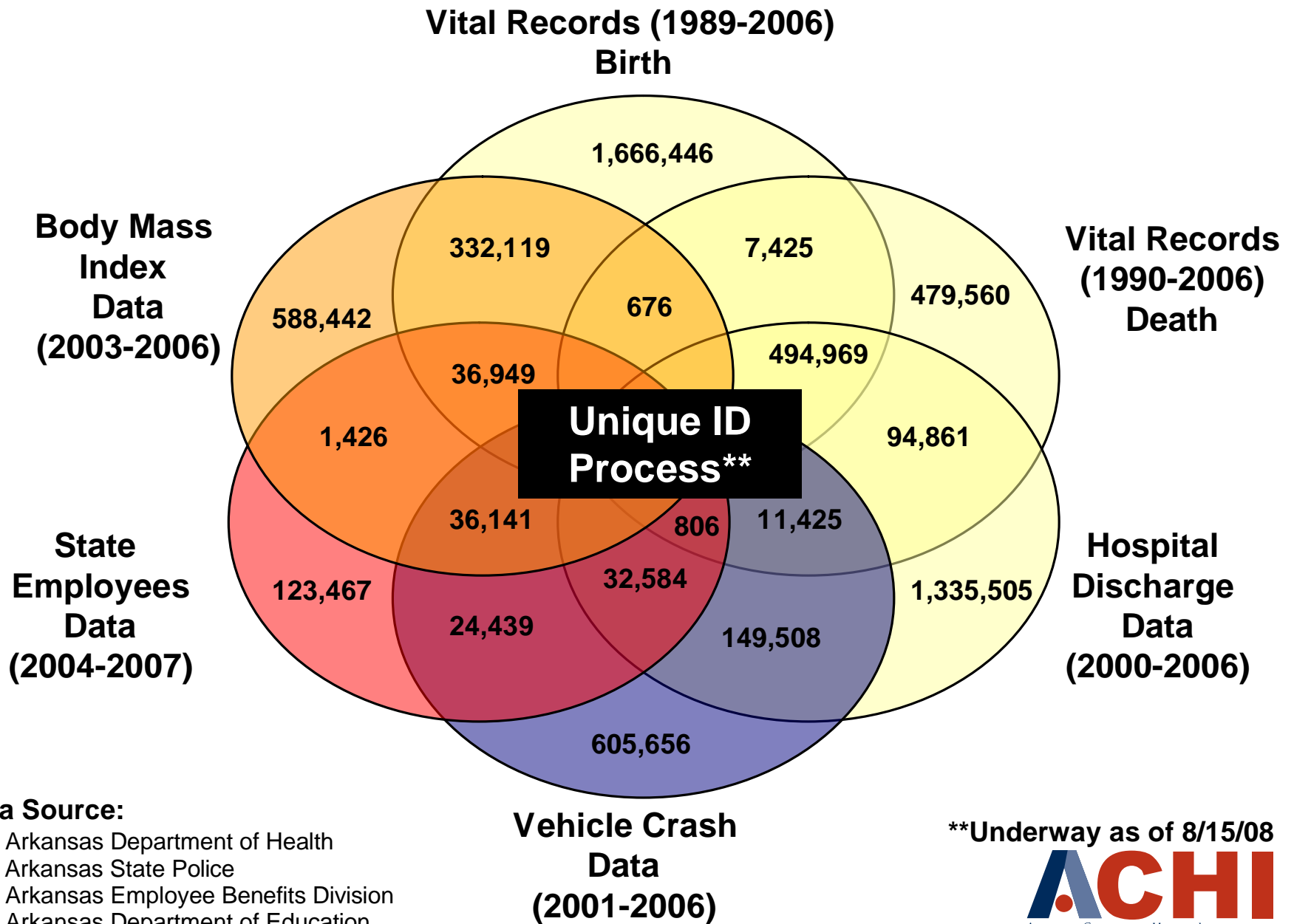




**Act 1035 of 2003: Arkansas
Health Data Initiative**



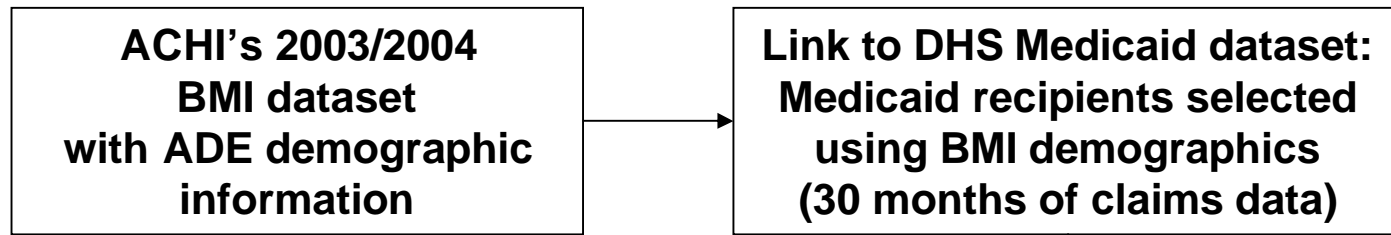
Arkansas Health Data Initiative



**Underway as of 8/15/08

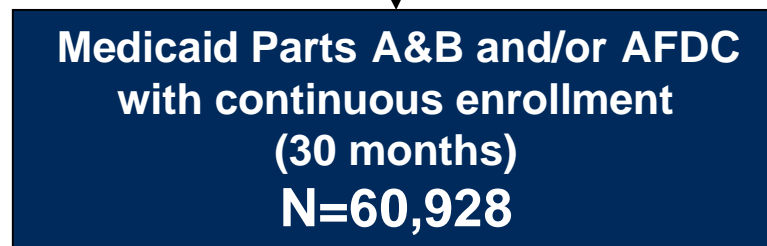
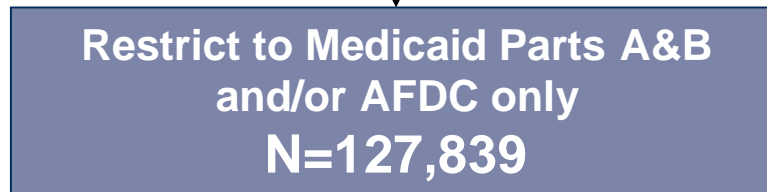
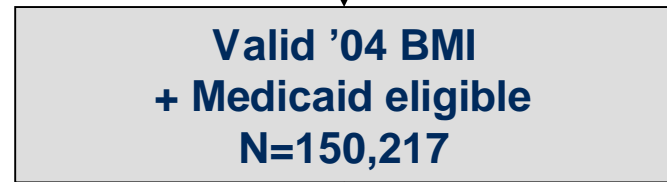


Study Sample: Linked BMI–Medicaid Population



Exclude:

- Duplicate Medicaid IDs
- Age <5, >19
- No or invalid BMI data
- Not Medicaid eligible during study period

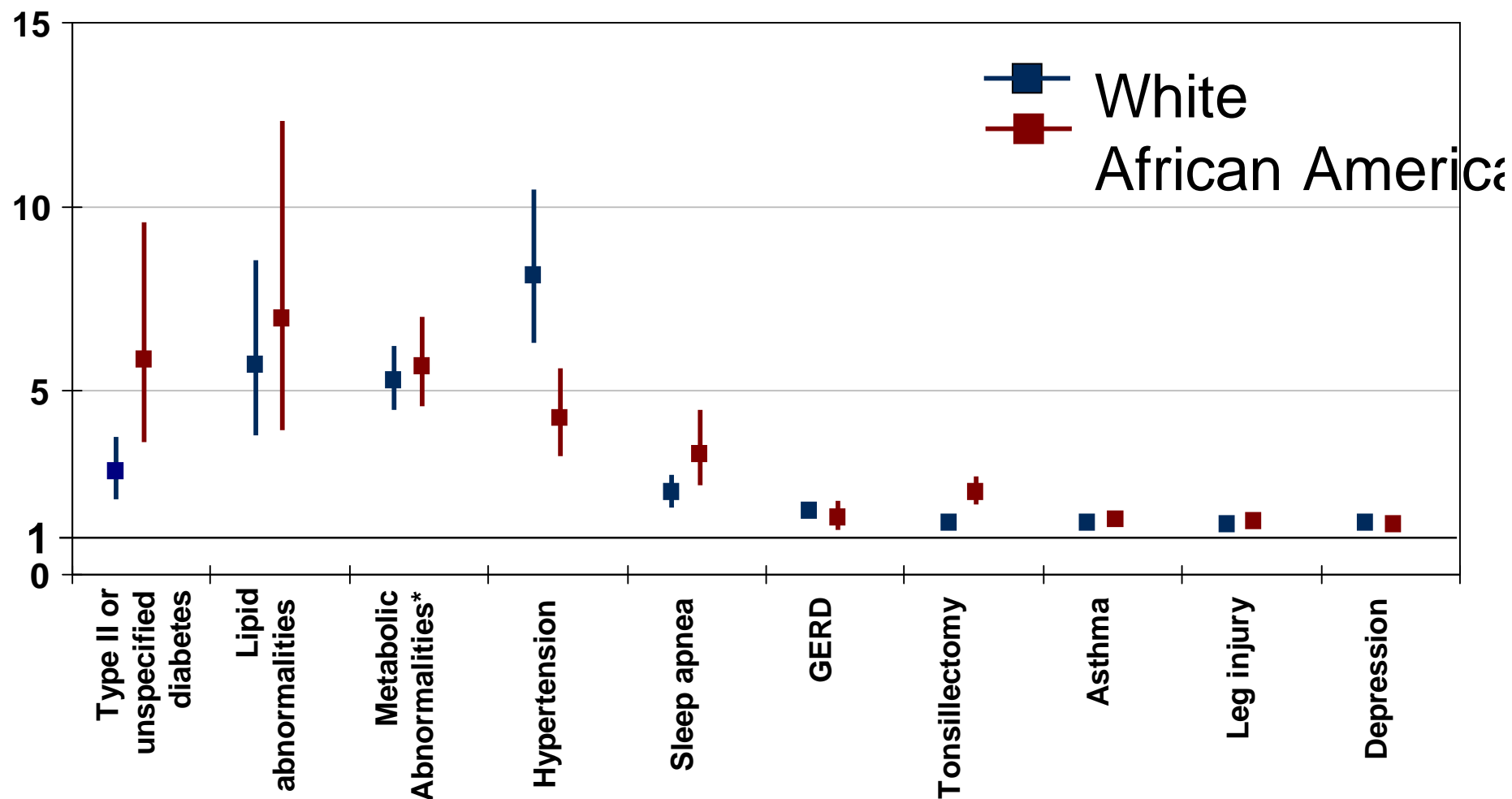


Calculate risk ratios

***Calculate
annualized cost
and use***



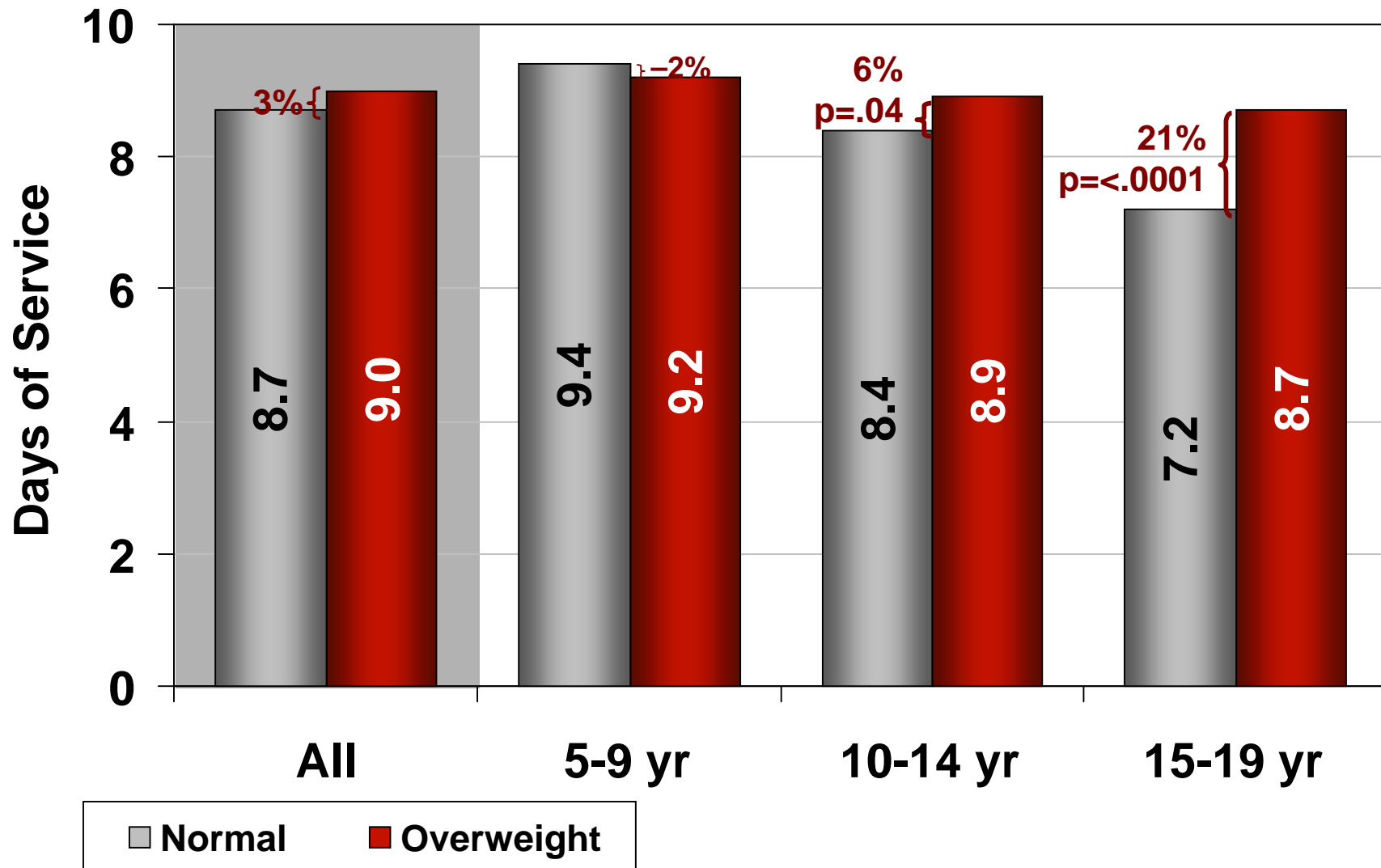
Risk Ratios for Select Conditions by Race: Overweight vs. Normal



African American: N overweight = 8,855, N normal = 22,931. White: N overweight = 16,562, N normal = 47,226.

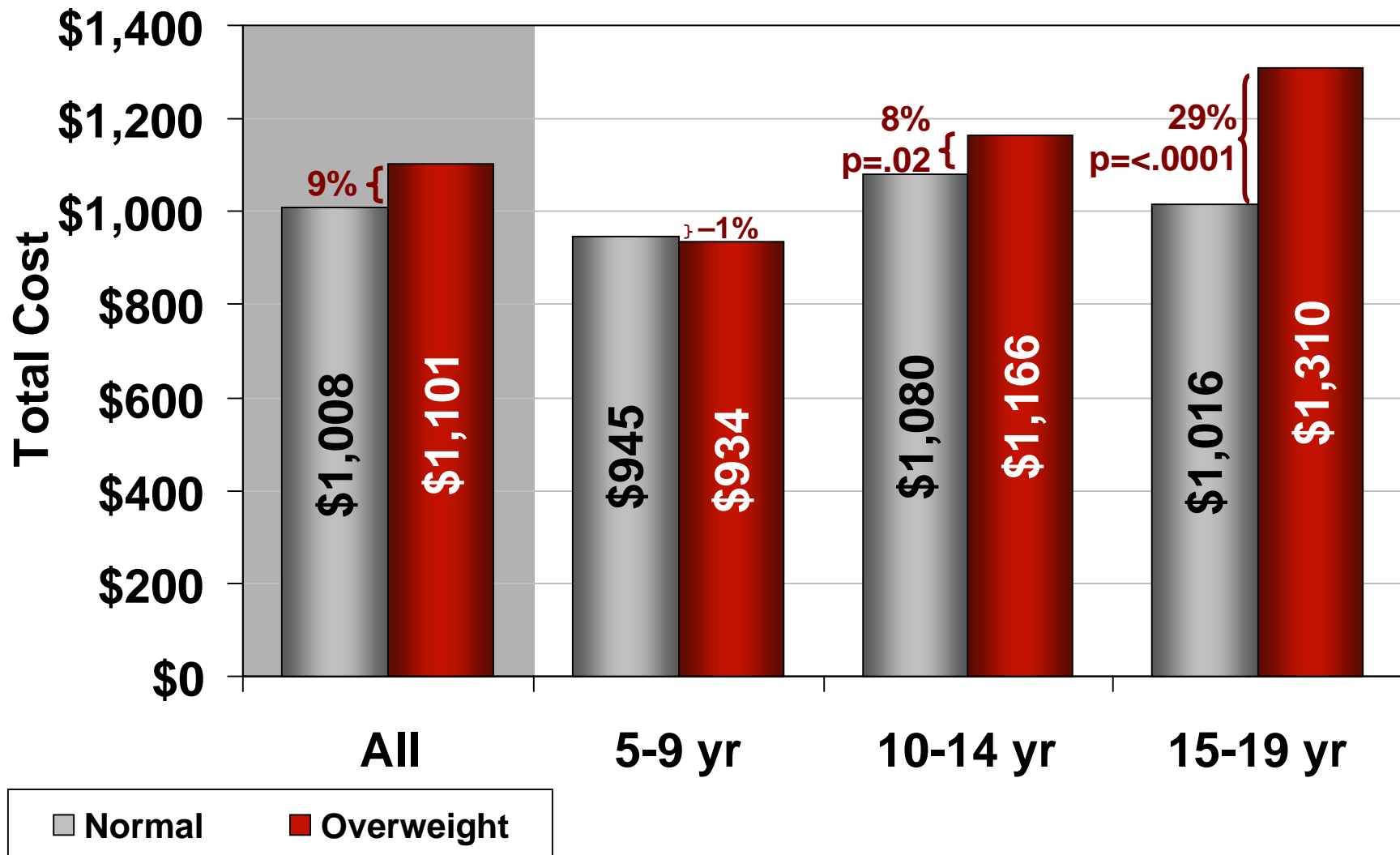
*One or more of the following diagnoses among Medicaid participants aged 5-19 years: hyperlipidemia, hypercholesterolemia, abnormal glucose, impaired glucose tolerance, hypertension, Type II diabetes, acquired acanthosis nigricans, metabolic syndrome

Average Annual Total Use by Age Group



Contact days of services for outpatient, inpatient, other place of service, and dental visits.
Significant p values for within-group t-test are shown.

Average Annual Total Cost by Age Group



Total payments for outpatient, inpatient, pharmacy, and dental claims.



Robert Wood Johnson Foundation Center to Prevent Childhood Obesity

Search this site: 

[About Us](#)

[Childhood Obesity](#)

[Reversing the Epidemic](#)

[News & Events](#)

[Resources & Tools](#)

[The Network](#)

[Stay Informed](#)



The Robert Wood Johnson Foundation Center to Prevent Childhood Obesity is a leading voice in the national movement to reverse the epidemic by 2015. Through policy analysis, leadership development, and communications with a broad network of advocates, the center is working to enable children of all races, ethnicities and geographic locations to eat healthy, be physically active and avoid obesity.

[About Us >>](#)

[News](#)

[Technical Assistance](#)

[Events](#)

[National Plan 2009](#)

HITECH Components:



- Medicaid and Medicare incentive payments to providers that use electronic health record systems and can exchange data (\$45 B);
- Grants to states or their qualified designated entities to support health information exchange implementation (HIE) (\$10B);
- Grants to private organizations to provide primary care clinician support (REC) (\$7B)
- Requirements for all federal programs to adopt and use certified technology and standards

Bending the Curve Towards Transformed Health

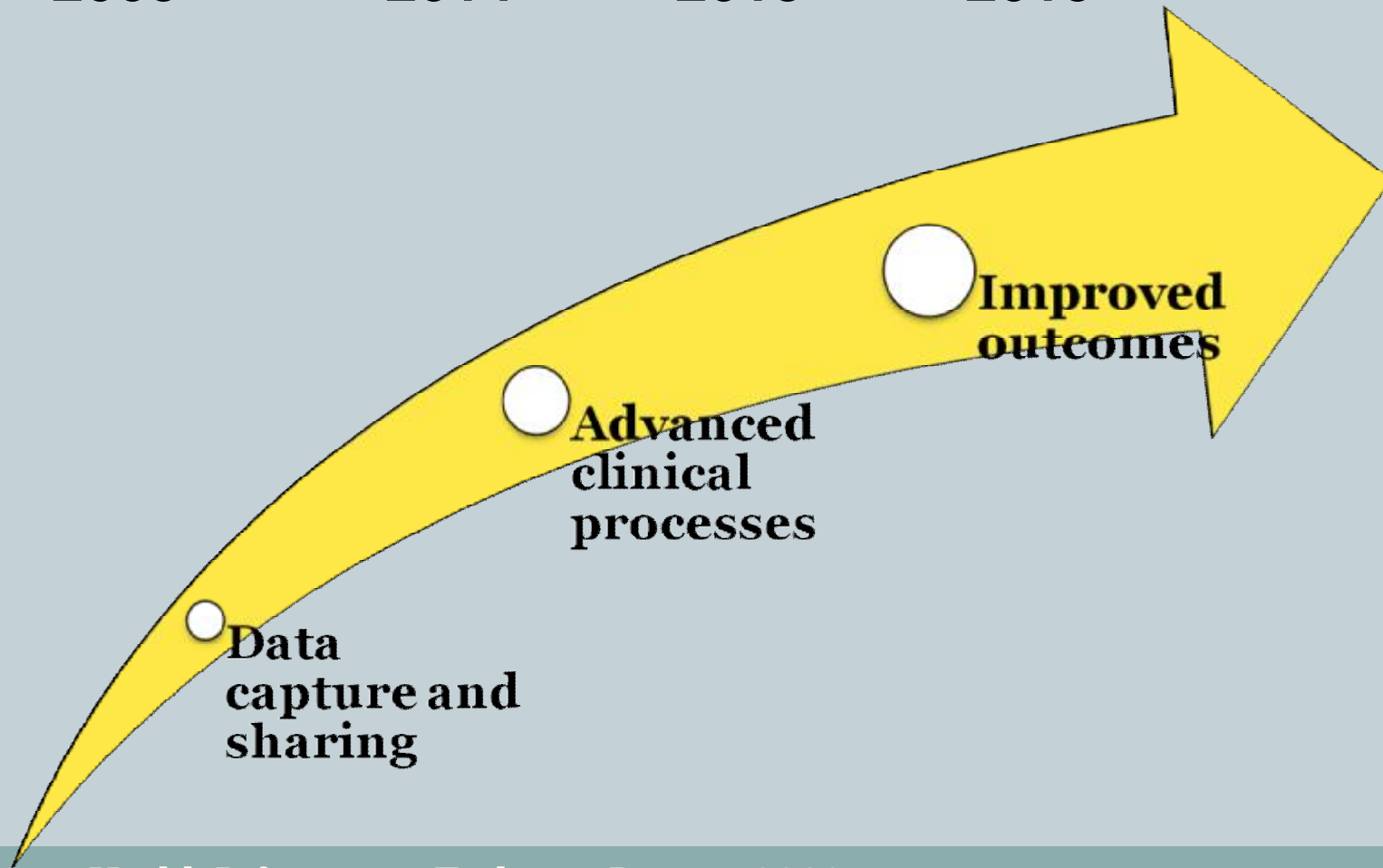
Achieving Meaningful Use of Health Data

2009

2011

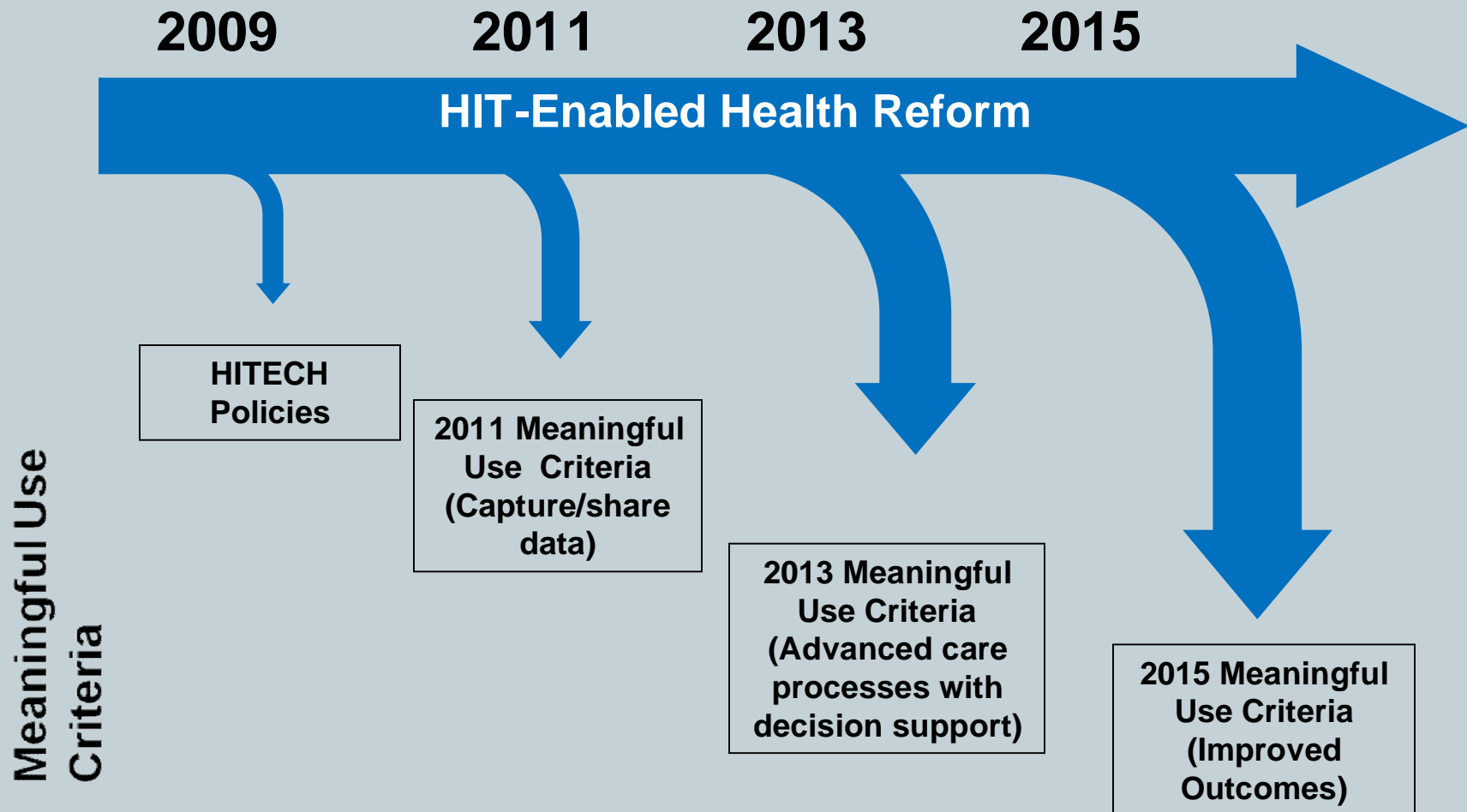
2013

2015

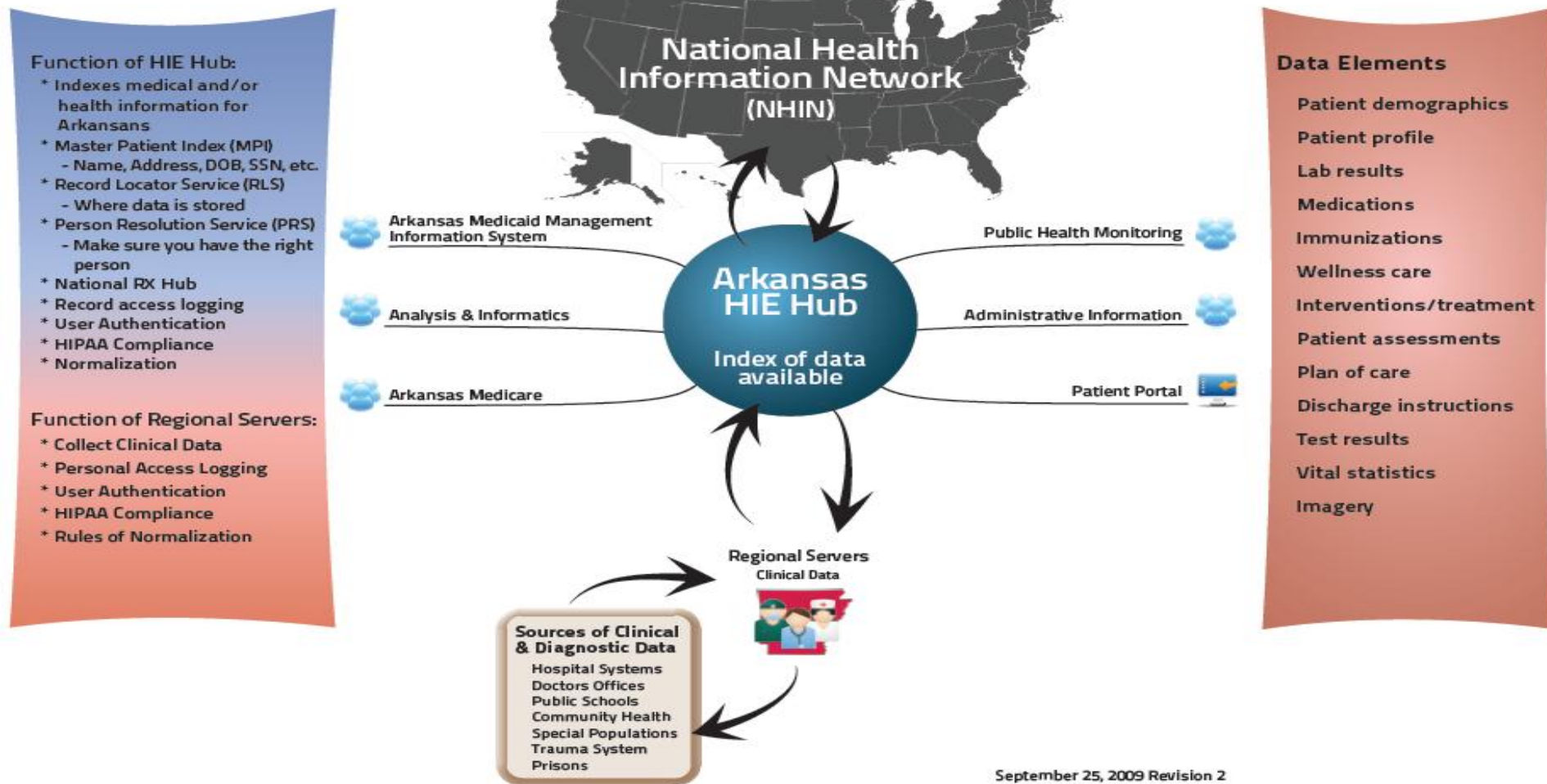


HIT-Enabled Health Reform

Achieving Meaningful Use



Health Information Exchange Functionality



September 25, 2009 Revision 2

Transitions

- **Assessments using a census of children not a sample of children**
- **Replacement of retrospective quality review with concurrent quality management**
- **Integration of data sources from public health, school-based services, and clinical settings**
- **Granular, local data to inform policy, drive action, and achieve accountability**



Looking to the Future:

- **Vision of what we want our health information systems to provide**
- **Requirement for framework, engagement, and shaping of the authority, security, and legality for collecting and reporting data**
- **21st Century data availability can offer new opportunities for quality reporting, surveillance, disparity assessment, evaluations, and budgetary guidance**



