

Body Mass Index Assessments in Arkansas

Michelle Justus, MS, RD, LD
**Director of Arkansas Obesity
Initiatives**



National Committee on Vital and Health
Statistics

May 12, 2011

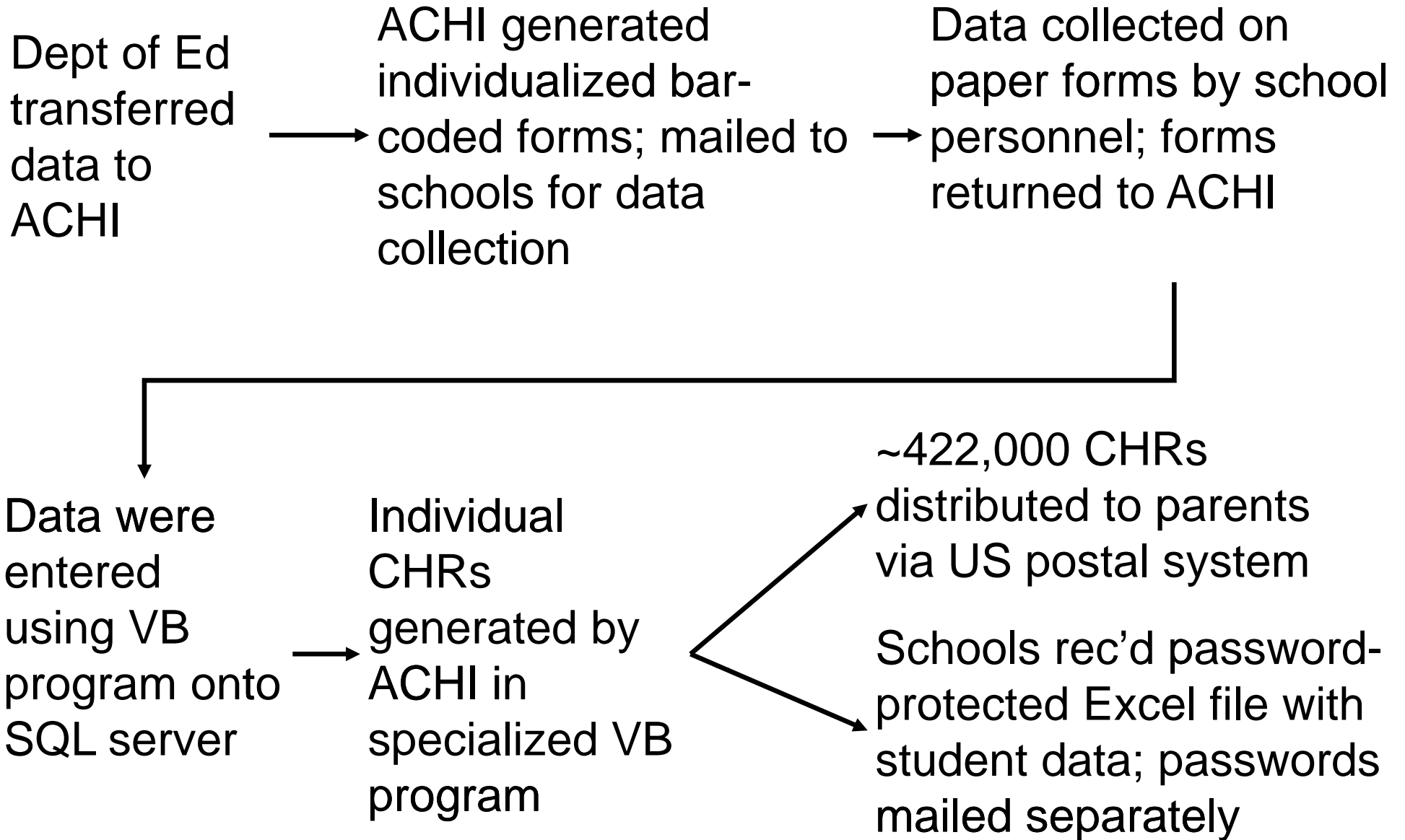
BMI Assessment and Reporting Year 1 (2003-2004)

Timeline of Events

- **Passage of Act 1220** **Apr '03**
- **Departments of Education and Health ask ACHI to develop measurement protocol** **Jun '03**
- **Assessment and measurement protocols developed in conjunction with experts from University Arkansas Medical Sciences & Arkansas Children's Hospital** **Sep '03**
- **Equipment and protocol tested/validated** **Oct '03**
- **Statewide training of school personnel through Co-ops (train-the-trainer)** **Nov '03**
- **BMI data reporting process established and implemented** **Jan '04**
- **Individualized Child Health Reports (CHRs) distributed to parents/guardians** **Jun '04**



Year 1 Process



Child Health Report (Year 1)

BRYANT SCHOOL DISTRICT
BRYANT ELEMENTARY SCHOOL
200 NW 4TH
BRYANT, AR 72022

T60PC394



Dear Parent or Guardian,

This Child Health Report is being sent to you because of her weight.

Why is this report being sent to you?

If a child is overweight or obese, there are health problems that can develop. Children who are overweight or obese are at a higher risk for developing health problems.

Is your child's weight a health problem?

Your child was weighed and measured at Bryant Elementary School on November 17, 2003. She was 60.5 inches tall and weighed 137.4 pounds. Based on her height and weight, she has a Body Mass Index (BMI) of 26.4 for a 10-year-old girl suggests that your child may be OVERWEIGHT (see chart). This may be a major health problem for Samantha.

What is a BMI?

A BMI tells if a person may be overweight or underweight. It is a screening test. Doctors use screening tests to find problems early. This may help prevent more serious problems from developing later. A healthy BMI number changes as children age and is different between girls and boys. So, it is important to measure BMI each year to see if your child is growing and developing in a healthy way.

What should you do?

Because Samantha's BMI is in the Overweight range, please visit your doctor, pediatrician, or nurse practitioner because of her weight. For example, the American Diabetes Association recommends:

- Offer healthy snacks, like fruits, vegetables, and other foods low in sugar and salt.
- Drink fewer sodas and drink more water, low-fat milk, or low-calorie drinks.
- Limit television, video games, and computer time to no more than 2 hours a day.
- Take family walks, bicycle, run, or exercise with your child.

Healthy habits start early. Please be aware that diet, physical activity, and other health habits will affect your child's health and life. Thank you.

On behalf of your child's school

Joseph W. Thompson, MD, MPH
Director, Arkansas Center for Health Improvement

Please go to www.achi.net for more information.
A free CME project for doctors is available at www.achi.net.

A generous gift from the American Diabetes Association made distribution of this letter possible.

Is your child's weight a health problem?

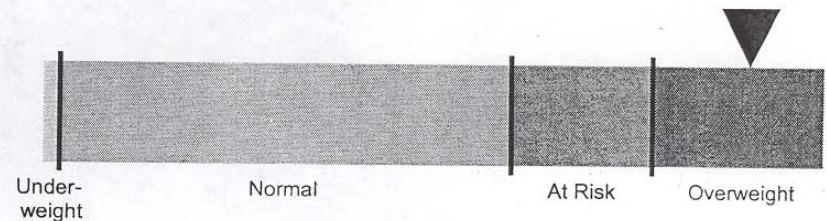
Your child was weighed and measured at Bryant Elementary School on November 17, 2003. [redacted] was 60.5 inches tall and weighed 137.4 pounds. Based on her height and weight, [redacted] has a Body Mass Index (BMI) of 26.4. A BMI of 26.4 for a 10-year-old girl suggests that your child may be OVERWEIGHT (see chart). This may be a major health problem for [redacted].

What is a BMI?

A BMI tells if a person may be overweight or underweight. It is a screening test. Doctors use screening tests to find problems early. This may help prevent more serious problems from developing later. A healthy BMI number changes as children age and is different between girls and boys. So, it is important to measure BMI each year to see if your child is growing and developing in a healthy way.

What should you do?

Your Child's BMI



The arrow shows how your child's BMI compares with other Arkansas school children.



Year 1 Reporting

- **5 types of Child Health Reports generated**
 - **Overweight** 72,636
 - **At risk for overweight** 59,503
 - **Healthy weight** 207,491
 - **Underweight** 6,262
 - **Not able to assess** 76,081
- **Reports mailed directly to parents/ guardians by ACHI as first-class mail through U.S. Postal System**



BMI Assessment and Reporting Year 2 (2004-2005)

Year 2 Process

Paper-based System

Schools print paper forms & collect data

~442,000 students

Out-sourced data entry

Data transfer to ACHI

Web-based Pilot System

Paper

Collect data on paper; key into web site later

*5 schools
(Watson Chapel District)*

Pocket PC

Enter data on Pocket PC; upload to web site

*6 schools
(North Little Rock District)*

~5,700 students

Data stored in secure web-based system

Child Health Reports generated by ACHI

Schools access CHRs via secure web site

Spanish-language Child Health Report

EXAMPLE SCHOOL DISTRICT
 EXAMPLE SCHOOL NAME
 Address
 City, AR, #####
 May 16, 2005
 Parent Name
 «MailingAddress1»
 «MailingCity», «MailingState» «Zip»

Estimados Padres:

Esta carta importante se refiere a la salud de Example Student. Por favor léala toda.

Muchos niños de su edad tienen una estatura y un peso que están en el percentil 50. Esto significa que están al nivel medio de los otros niños de su edad.

Si un niño tiene un exceso de peso, esto puede ser un signo de que está en riesgo de problemas de salud, como el sobrepeso u otros problemas de salud.

Raramente un niño con un exceso de peso tiene problemas musculares. El IMC está en el nivel medio de los otros niños de su edad.

¿Por qué se midió el IMC en la escuela? Las leyes del estado de Arkansas requieren que la escuela de su niña mida el IMC cada año y que se le envíe a usted un reporte sobre los resultados. En las escuelas de Arkansas también se practican pruebas iniciales para buscar problemas con la vista y la audición de los niños. Medir el IMC de su niña es otra manera de ayudarla a cuidar su salud. Acciones que se tomen ahora pueden ayudar a disminuir el riesgo de desarrollar enfermedades serias cuando crezca su niña. Así que, es importante medir el IMC cada año para ver si su niña está creciendo y desarrollando de una manera saludable.

¿Es el peso de su niña un problema de salud? El pasado 3/1/05, su niña fue medida y pesada en la escuela. EXAMPLE midió 4 pies con 8 pulgadas y pesó 137.4 libras, lo que le da un IMC que sugiere que ella pueda estar **sobrepeso**.

¿Por qué se midió el IMC en la escuela?

Las leyes del estado de Arkansas requieren que la escuela de su niña mida el IMC cada año y que se le envíe a usted un reporte sobre los resultados. En las escuelas de Arkansas también se practican pruebas iniciales para buscar problemas con la vista y la audición de los niños. Medir el IMC de su niña es otra manera de ayudarla a cuidar su salud. Acciones que se tomen ahora pueden ayudar a disminuir el riesgo de desarrollar enfermedades serias cuando crezca su niña. Así que, es importante medir el IMC cada año para ver si su niña está creciendo y desarrollando de una manera saludable.

¿Es el peso de su niña un problema de salud?

El pasado 3/1/05, su niña fue medida y pesada en la escuela. EXAMPLE midió 4 pies con 8 pulgadas y pesó 137.4 libras, lo que le da un IMC que sugiere que ella pueda estar **sobrepeso**.

¿Qué debe hacer usted?

¿Qué debe hacer usted?

Dado que el IMC de EXAMPLE sugiere que ella está **sobrepeso**, sería bueno que hablara con el doctor de su niña. Por favor enséñele esta carta al doctor (EXAMPLE's BMI was **30.8** or **97.4** percentile). Su doctor verificará el IMC de su niña y se asegurará que las medidas que se tomaron en la escuela son las correctas. Además, su doctor puede informarle acerca de una alimentación saludable y actividades físicas para su niña. Por ejemplo, la Academia Americana de Pediatría es un grupo de médicos que atienden a niños y sugieren que su familia debe de:

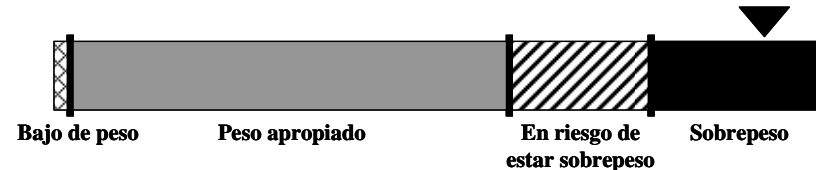
- Ofrecer bocadillos saludables tales como frutas, verduras y otras comidas bajas en azúcar y sal.
- Beber menos sodas y tomar más agua, leche desgrasada o bebidas bajas en calorías.
- Limitar a dos horas diarias el tiempo viendo televisión o jugando videos.
- Hacer ejercicios con sus niños tales como corriendo, caminando o usando la bicicleta.

Los hábitos saludables empiezan a una edad temprana. Por favor, esté conciente que la alimentación y la actividad física afectarán la salud y vida de su niña.

Gracias,
 EXAMPLE SCHOOL NAME

Para mayor información, visite www.achi.net.

El IMC de su Niña



La línea demuestra como el IMC de su niña se compara con el de otros niños en las escuelas de Arkansas.

Year 2 Reporting

- **5 types of individualized Child Health Reports generated in both English and Spanish**
- **Schools responsible for sending reports to parents**
- **College of Public Health Year 2 Act 1220 Evaluation* included survey of school principals (877 [79%] responded)**
 - **70% mailed the Child Health Report (CHR) to parents**
 - **7.5% sent CHR home with the student**
 - **7.5% did not send the CHRs to parents**
 - **7% sent CHRs to parents in other manner**
 - **6% gave out CHRs at parent/teacher conferences**
 - **2% asked parents to pick up CHR at school**

*Unpublished data. University of Arkansas for Medical Sciences Fay W. Boozman College of Public Health, 2005.



BMI Assessment and Reporting Year 3 (2005-2006)

Year 3 Process

Paper-based System

Schools print paper forms & collect data

~304,000 students

Out-sourced data entry

Data transfer to ACHI

Web-based Pilot System

Paper

Collect data on paper; key into web site later

Pocket PC

Enter data on Pocket PC; upload to web site

Web Access

Enter data directly into web site while measuring

*216 schools in 16 districts
~130,000 students*

Store in secure web-based system

Child Health Reports auto-generated by system

Schools access CHR's via secure website

**BMI Assessment and
Reporting Years 4-7 (2006-
2007; 2007-2008; 2008-2009;
2009-2010)**

Web-based Options for Year 4

Option 1

- **Direct, web-based data entry into system**
 - + **Efficient, single entry of data, program performs immediate quality checks**
 - **Requires internet connection at measurement site**

Option 2

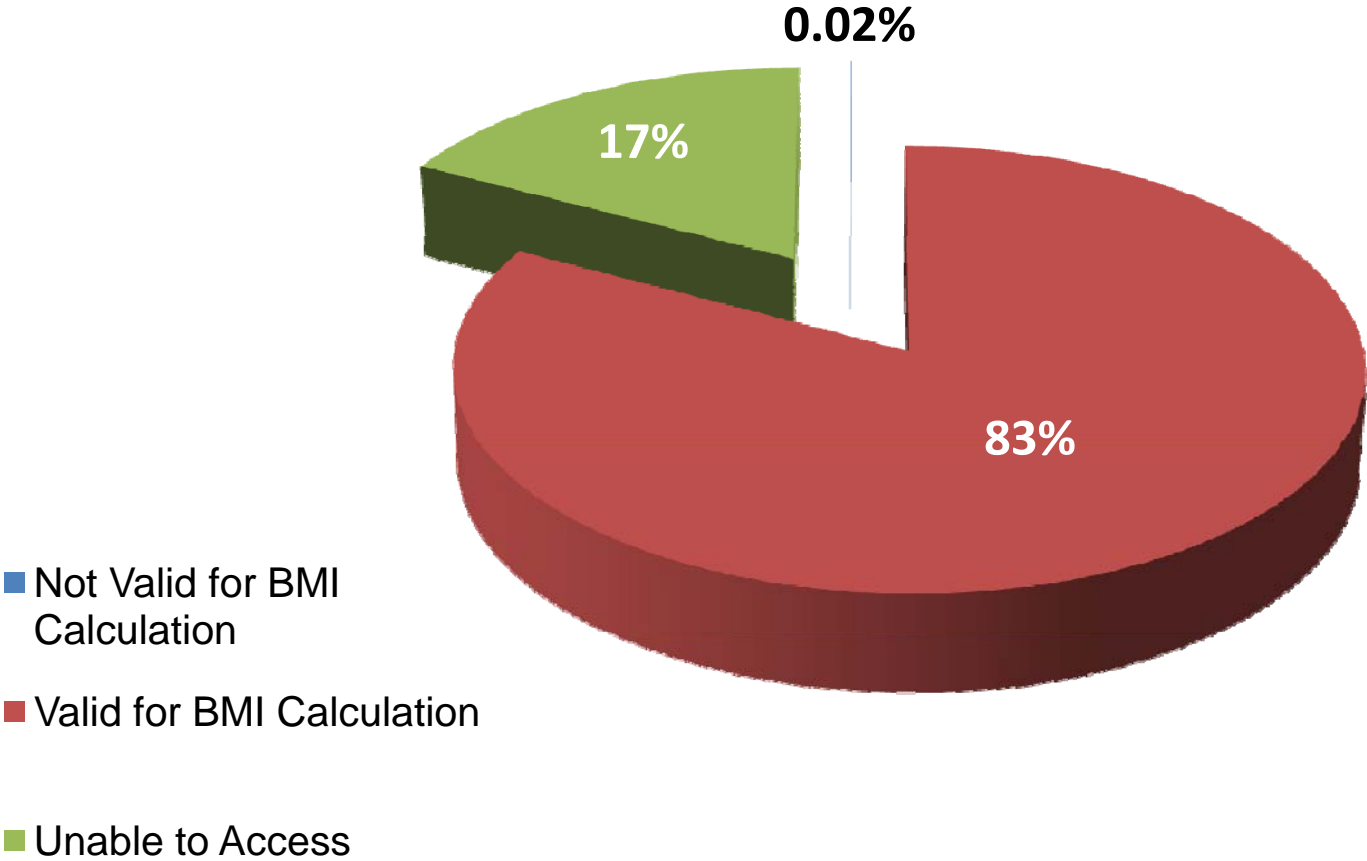
- **Data collection on paper forms, then school personnel enter data directly into web site**
 - + **More flexible option for multiple sites, can use admin/tech time rather than nursing time for data entry**
 - **Requires second data entry, potential for transcription error**



Year 7: Body Mass Index Statewide Results

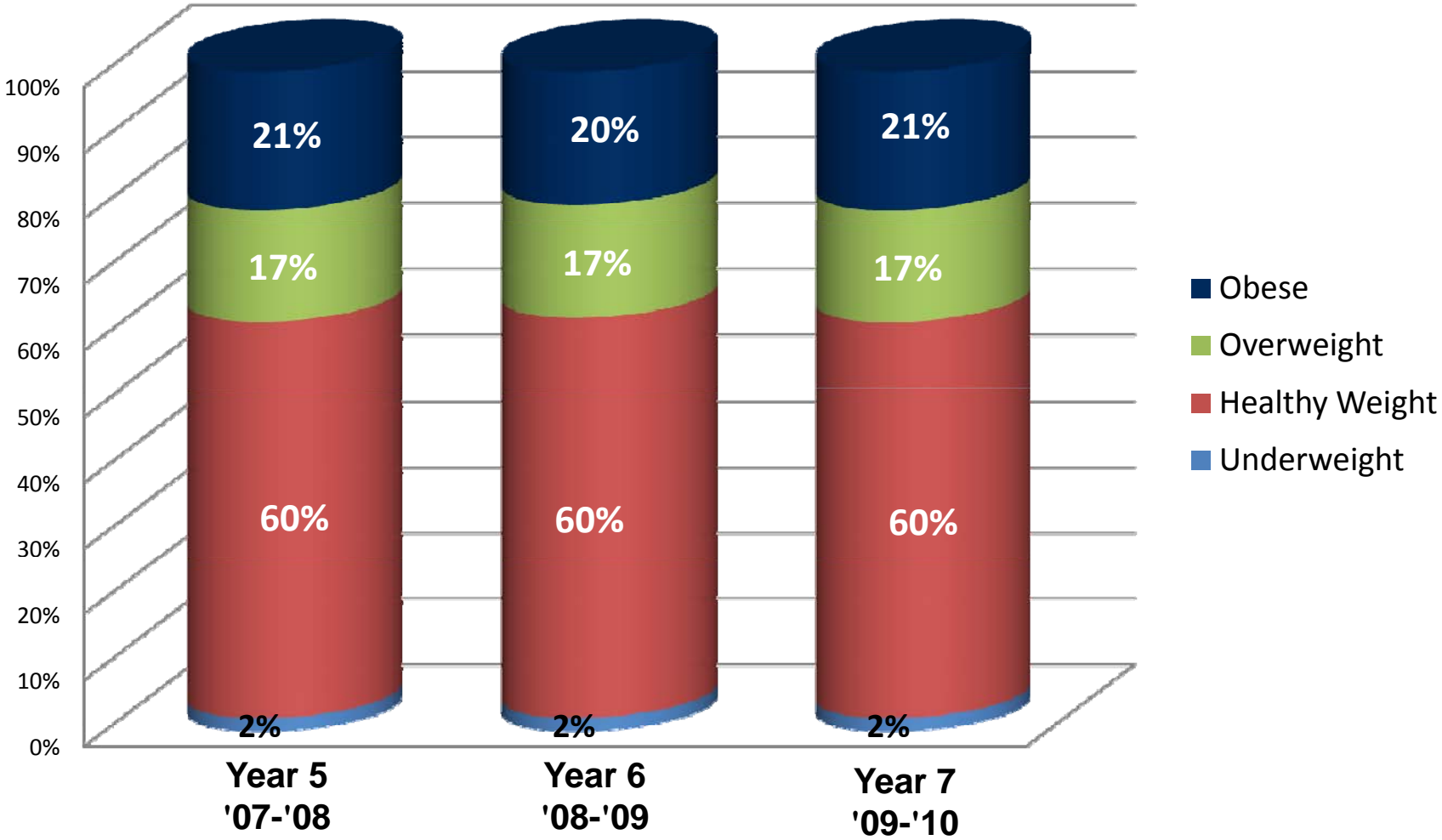
2009-2010 Student BMI Assessment

(Students in Grades K, 2, 4, 6, 8 and 10)



Source: Arkansas Center for Health Improvement, Year Seven Assessment of Childhood and Adolescent Obesity in Arkansas (Fall 2009-Spring 2010)

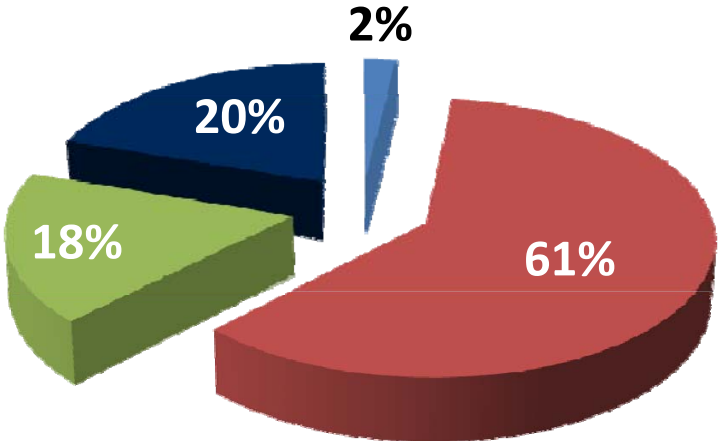
2009-2010 Trends in BMI Classification for Arkansas Public School Students



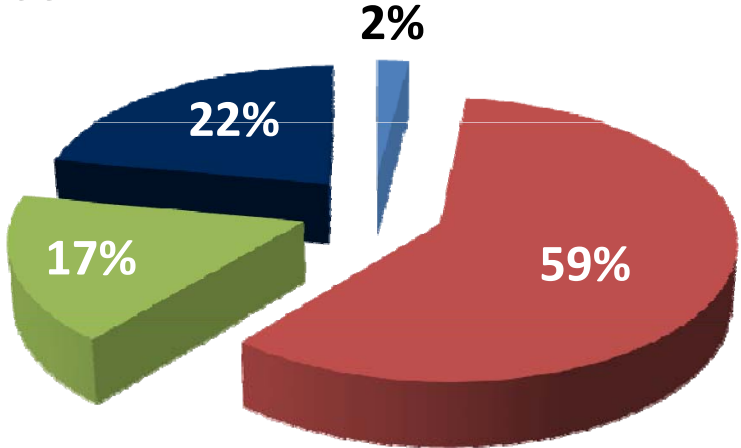
Source: Arkansas Center for Health Improvement, Year Seven Assessment of Childhood and Adolescent Obesity in Arkansas (Fall 2009-Spring 2010)

BMI Classification by Gender (2009-2010)

Females



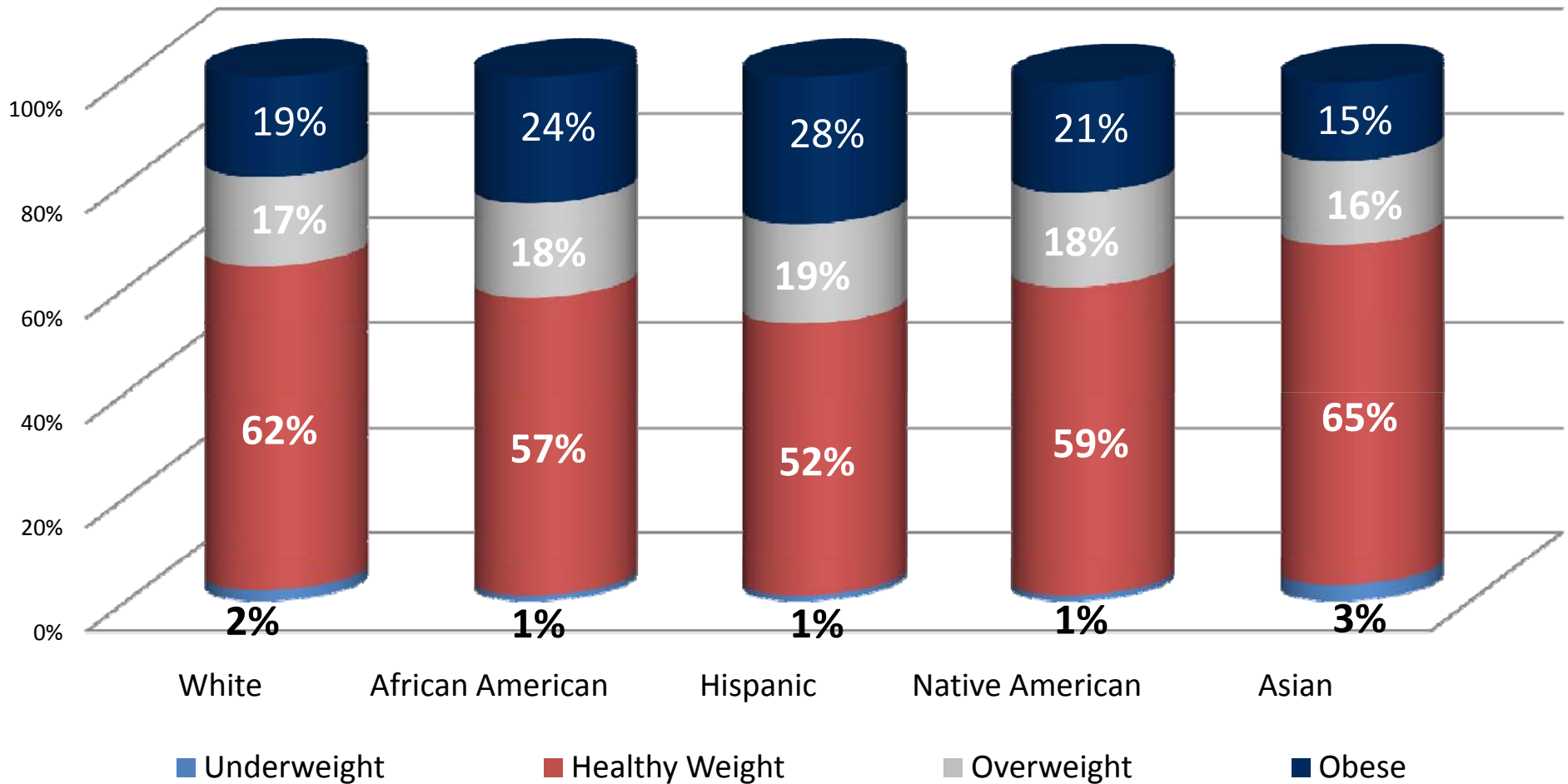
Males



- Underweight
- Health Weight
- Overweight
- Obese

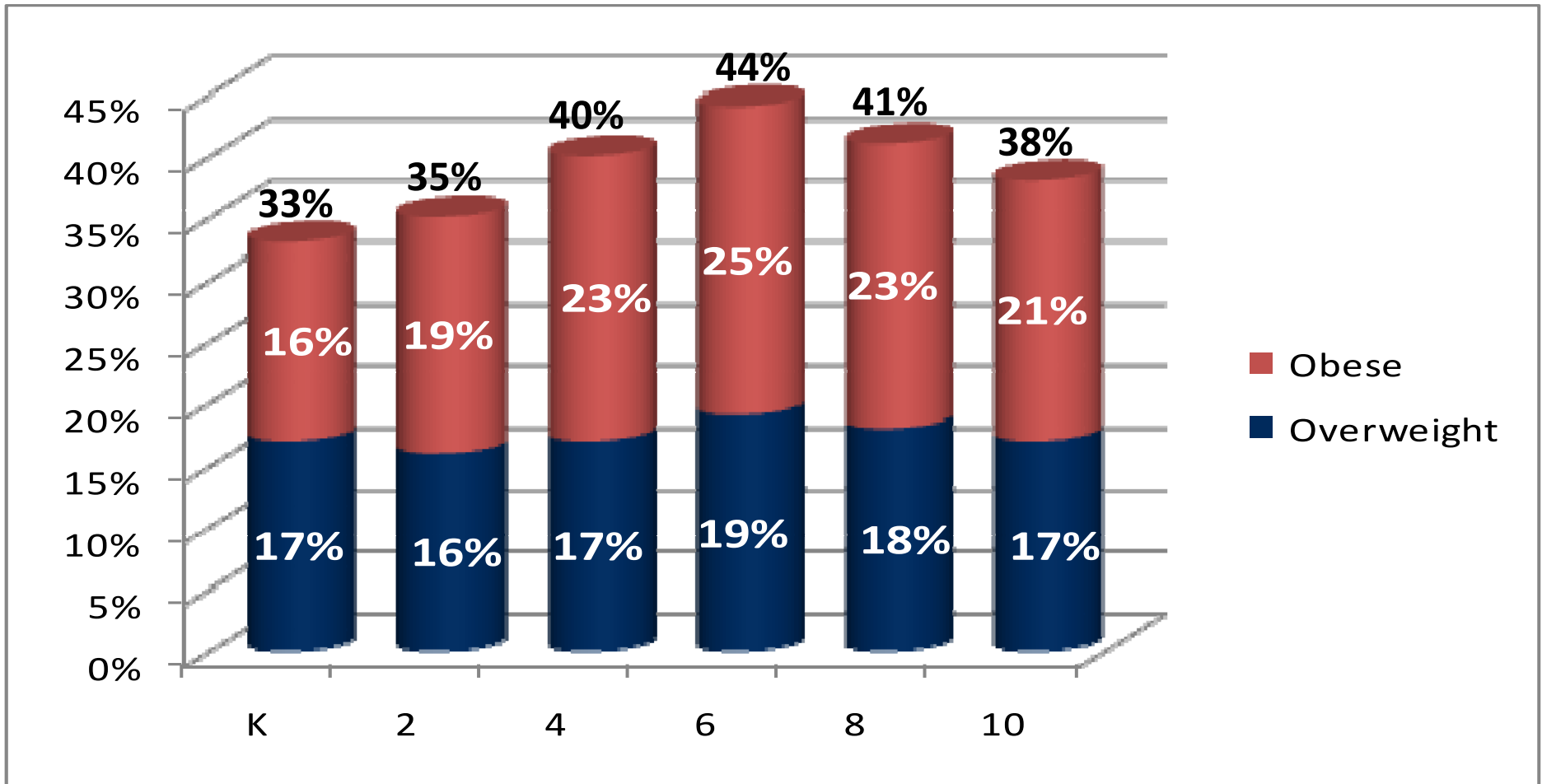
Source: Arkansas Center for Health Improvement, Year Seven Assessment of Childhood and Adolescent Obesity in Arkansas (Fall 2009-Spring 2010)

BMI Classification by Ethnic Group (2009-2010)



Source: Arkansas Center for Health Improvement, Year Seven Assessment of Childhood and Adolescent Obesity in Arkansas (Fall 2009-Spring 2010)

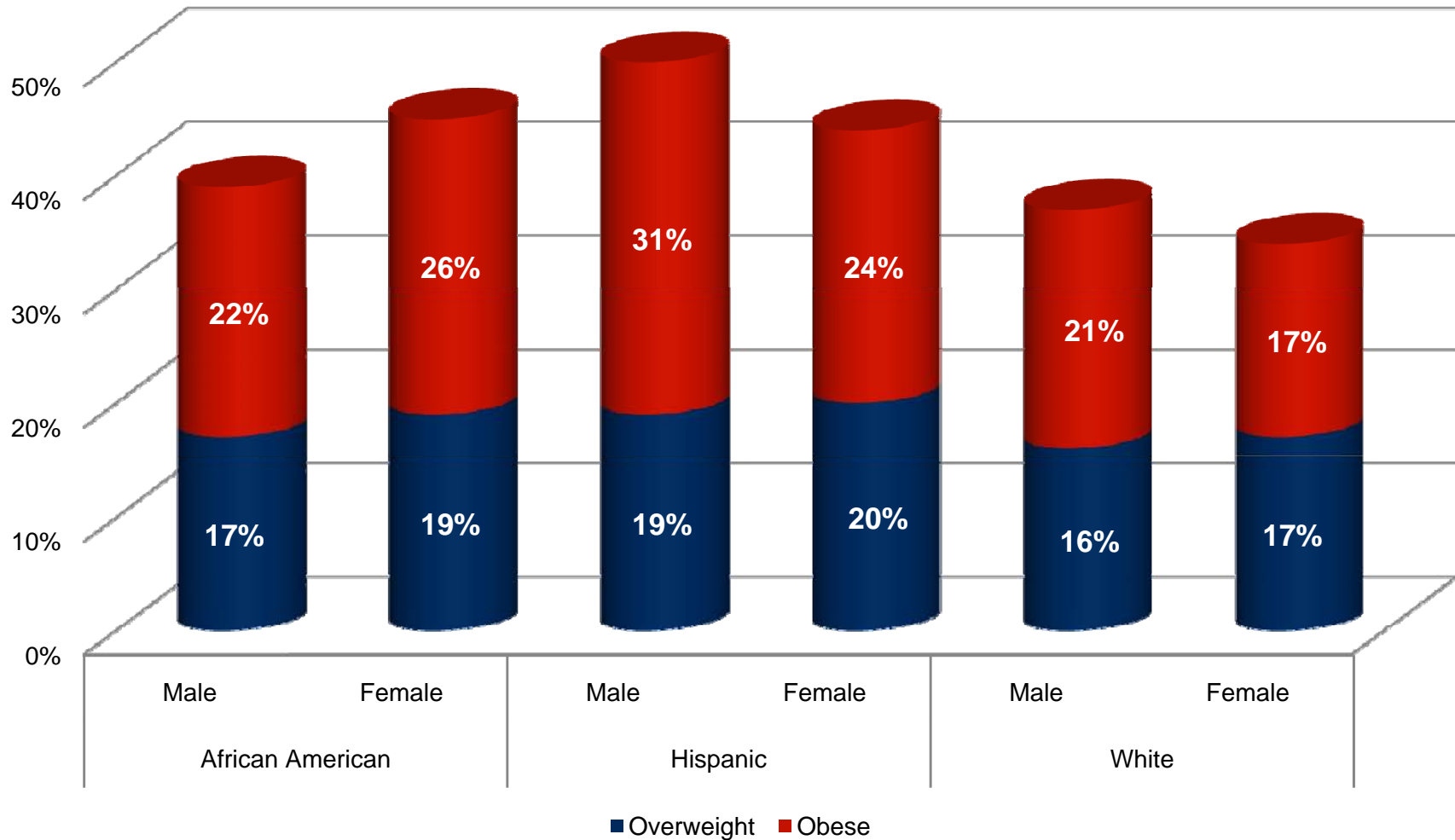
BMI Classification by Grade (2009-2010)



Source: Arkansas Center for Health Improvement, Year Seven Assessment of Childhood and Adolescent Obesity in Arkansas (Fall 2009-Spring 2010)

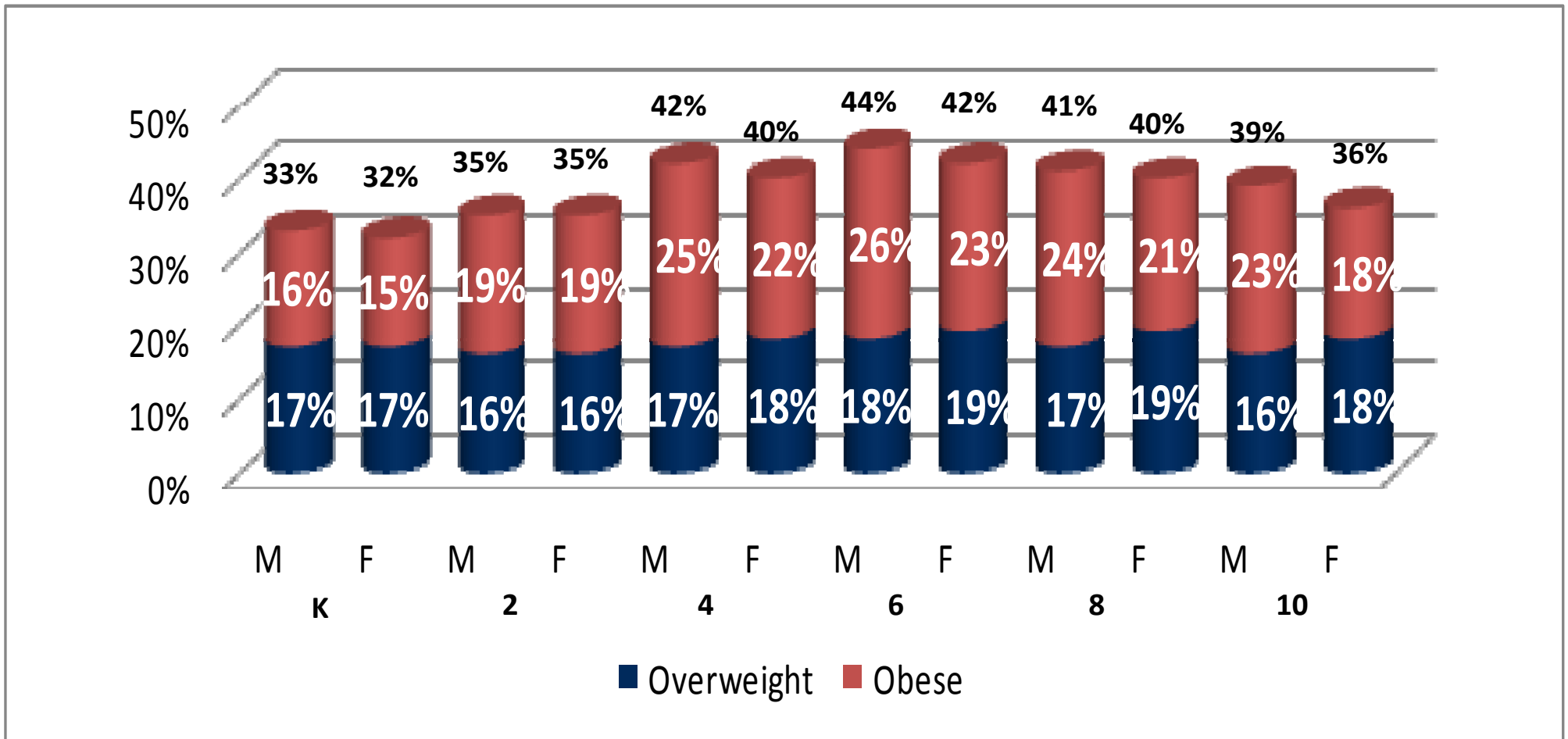


BMI Classification by Gender and Ethnic Group (2009-2010)



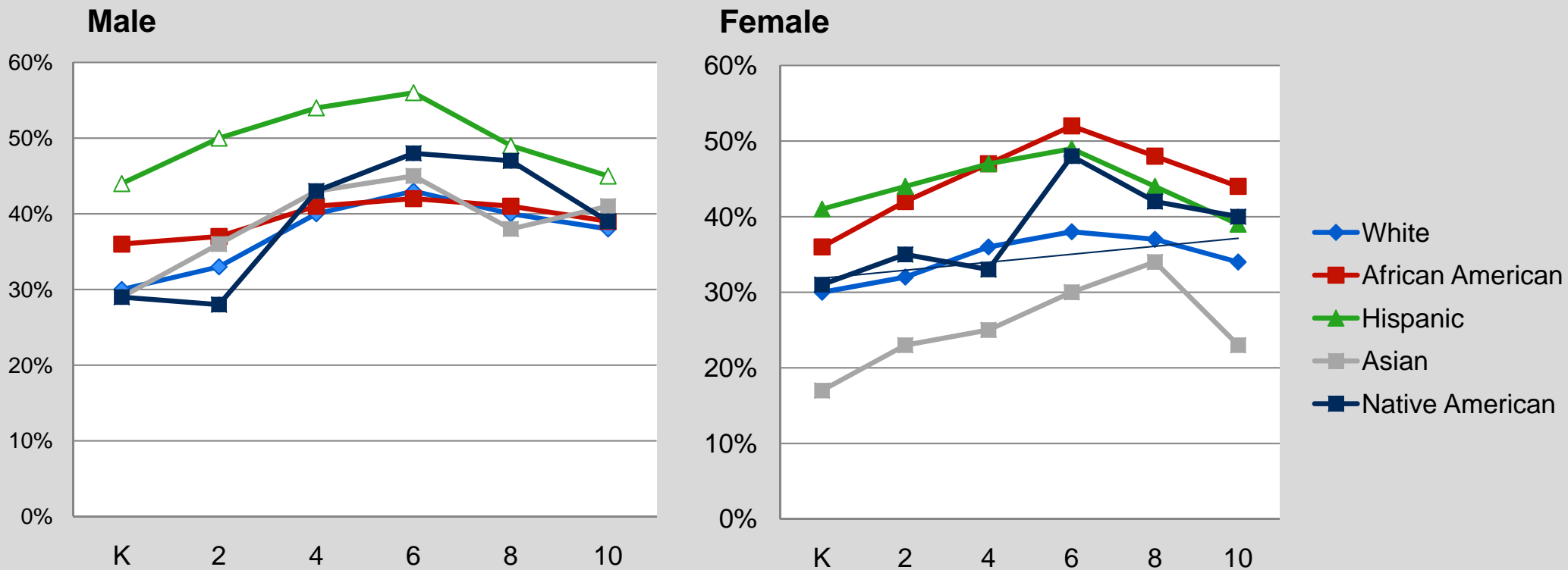
Source: Arkansas Center for Health Improvement, Year Seven Assessment of Childhood and Adolescent Obesity in Arkansas (Fall 2009-Spring 2010)

BMI Classification by Gender and Grade (2009-2010)



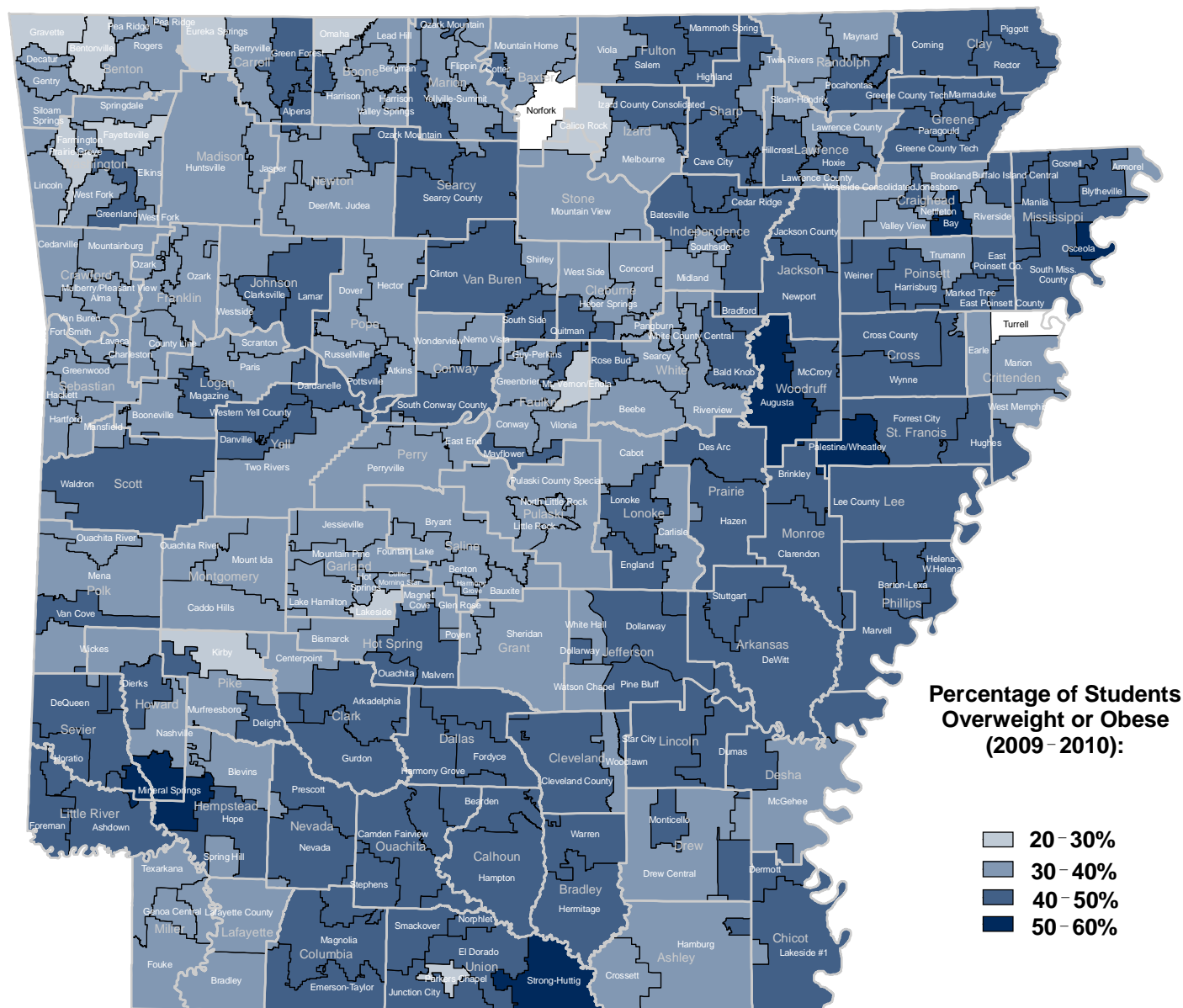
Source: Arkansas Center for Health Improvement, Year Seven Assessment of Childhood and Adolescent Obesity in Arkansas (Fall 2009-Spring 2010)

BMI Classification by Gender, Ethnic Group, and Grade (2009-2010)



Source: Arkansas Center for Health Improvement, Year Seven Assessment of Childhood and Adolescent Obesity in Arkansas (Fall 2009-Spring 2010)

Percentage of students classified as overweight or obese by Arkansas public school district (2009–2010)



Percentage of Students Overweight or Obese (2009–2010):

- 20–30%
- 30–40%
- 40–50%
- 50–60%

Source: Arkansas Center for Health Improvement, Year Seven Assessment of Childhood and Adolescent Obesity in Arkansas (Fall 2009-Spring 2010)

Contact Information

Michelle Justus, MS, RD, LD

Director of Arkansas Obesity Initiatives

(501) 526-ACHI (2244)

justusmichelleb@uams.edu

www.achi.net

