BEST FOR ALL
#TNBestforAll

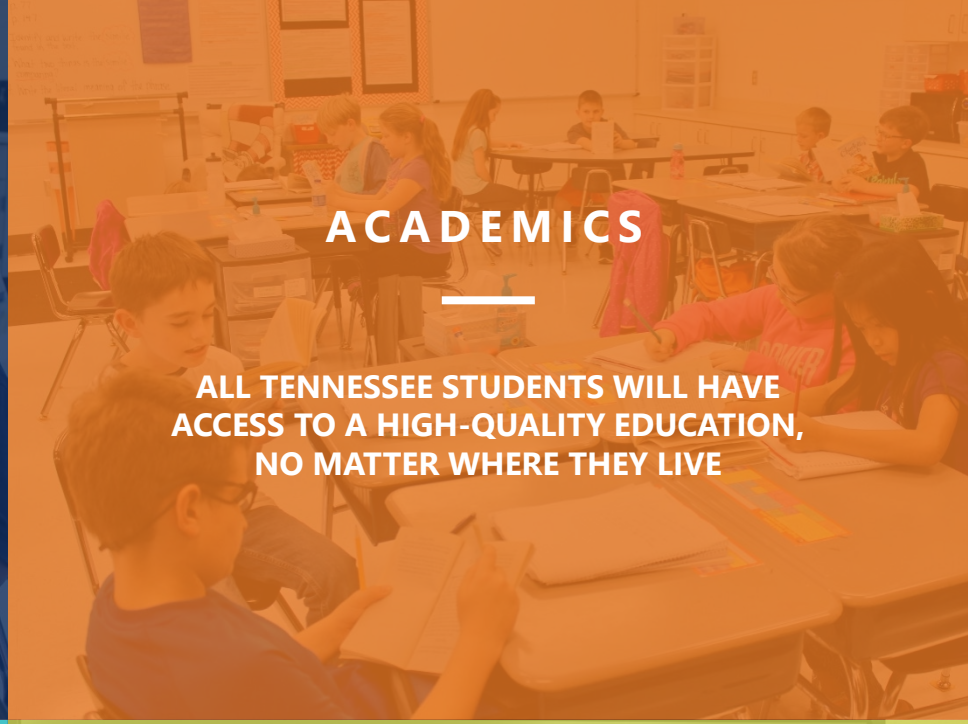
Lori Paisley | Senior Director
Amanda Johnson | School Nurse Coordinator
Mark Bloodworth | Data & Health Education Coordinator

Coordinated School Health/District Operations/Operations

TN Department of Education

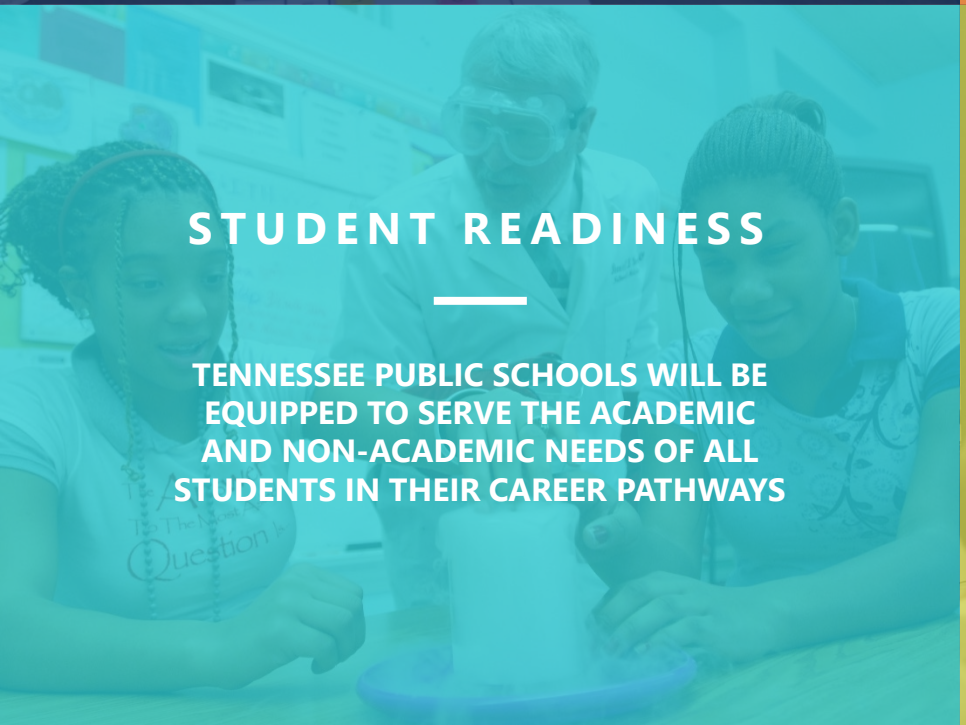
BEST FOR ALL

We will set all students on a path to success.



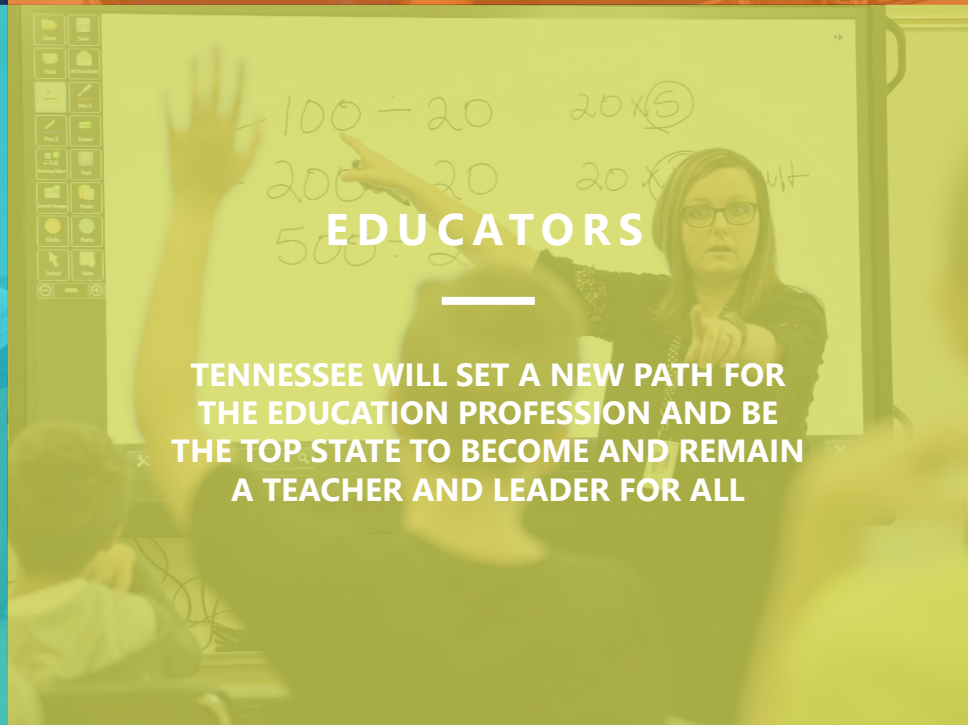
ACADEMICS

ALL TENNESSEE STUDENTS WILL HAVE ACCESS TO A HIGH-QUALITY EDUCATION, NO MATTER WHERE THEY LIVE



STUDENT READINESS

TENNESSEE PUBLIC SCHOOLS WILL BE EQUIPPED TO SERVE THE ACADEMIC AND NON-ACADEMIC NEEDS OF ALL STUDENTS IN THEIR CAREER PATHWAYS



EDUCATORS

TENNESSEE WILL SET A NEW PATH FOR THE EDUCATION PROFESSION AND BE THE TOP STATE TO BECOME AND REMAIN A TEACHER AND LEADER FOR ALL

BMI Best Practices

Department of Education

Children at Risk for Obesity

T.C.A. § 49-6-1401: Implementation of Program – Requirements – Reporting of Data

- Implement program to identify children at risk for obesity
- Train school staff/volunteers in taking BMI
- Complete BMI-for-age as defined by the CDC for students whose parents do not opt out
- Provide each student's parent with confidential health report card
- Transmit the results of the testing for each student to department of health

Children at Risk for Obesity

T.C.A. § 49-6-1402: Program Components

- Standard practices for maintaining confidentiality
- Method for determining BMI-for-age and tables to be used
- Form used to report student results to department of health
- Health report card to notify parents/guardians of results

Children at Risk for Obesity

T.C.A. § 49-6-1403: Tabulation and reporting of results

- Tennessee Department of Health (TDOH) is authorized to accept/tabulate results and to distribute only aggregate results at grade, school, county or statewide level

- TDOH shall provide the governor's office, the speaker of the senate and the speaker of the house a report of aggregate results of BMI by January 31st of each year.

Children at Risk for Obesity

T.C.A. § 49-6-1404: Nutrition and physical activity programs in schools where aggregate data suggests high rates of obesity

- Schools with high rates of overweight children are encouraged to expand existing or implement new school-based nutrition and physical activity programs designed to reduce those rates.

- Effectiveness of results could be determined by completing BMI-for-age on students whose parents/guardians who did not opt out.

Public Chapter 503 of 2021 Legislative Session

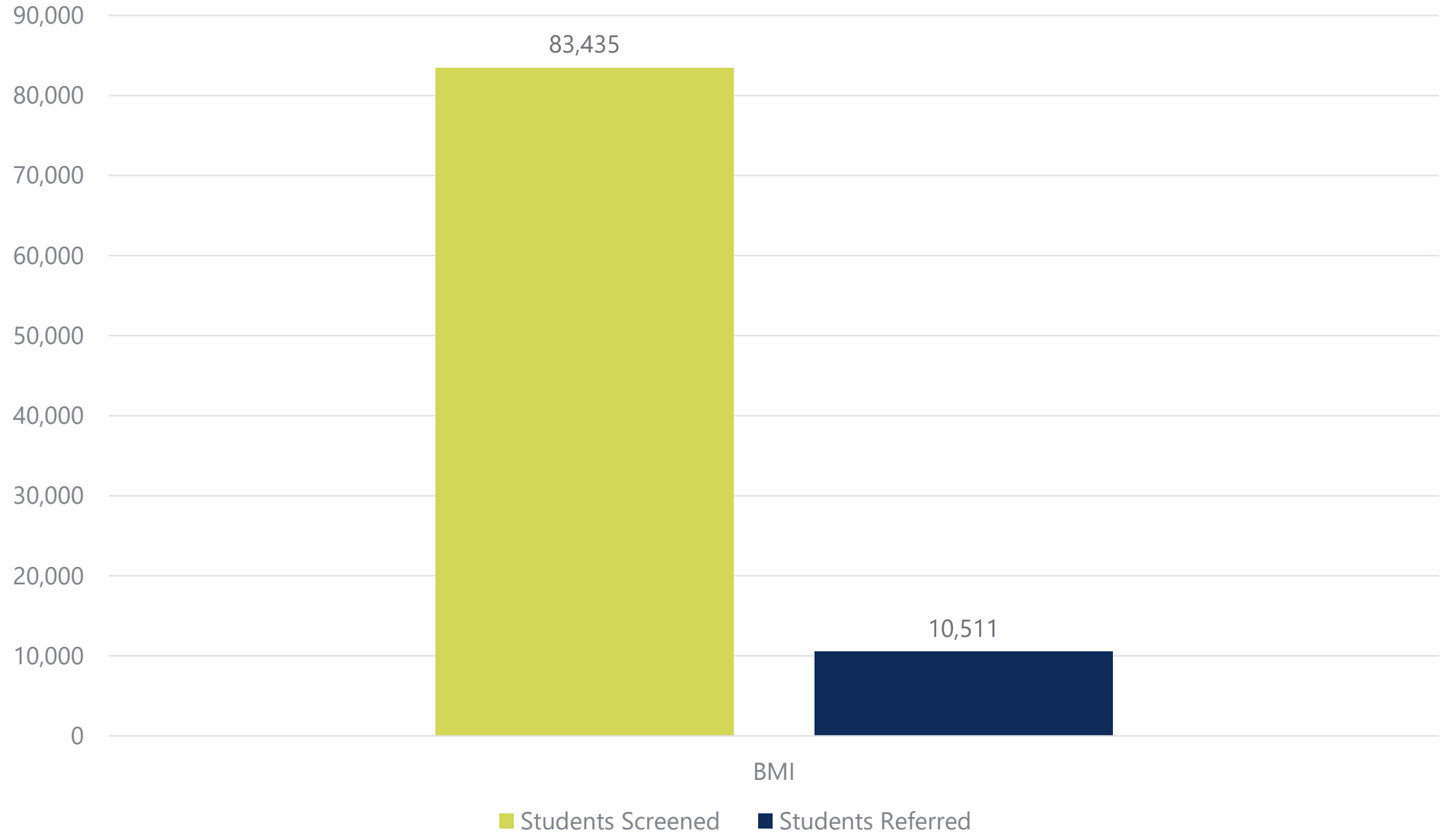
- Tennessee advisory commission on intergovernmental relations (TACIR) shall perform a comprehensive evaluation on the socioeconomic impact childhood obesity has in Tennessee and its short- and long-term effects.

- On or before January 31, 2023, TACIR shall report its findings and recommendations, including any proposed legislation, regarding childhood obesity to the legislature.

2020-21 Health Services Survey Data

- 74 LEAs did not perform BMI screenings
- 73 LEAs performed BMI screenings
  - 37 LEAs (51%) did not refer students

BMI Screenings, 2020-21



Why Does this Matter?

- Immediate Health Risks
  - High blood pressure and high cholesterol
  - Increased risk of impaired glucose tolerance, insulin resistance, and type 2 diabetes.
  - Breathing problems
  - Joint problems and musculoskeletal discomfort
  - Fatty liver disease, gallstones, and gastro-esophageal reflux
  - Psychological problems
  - Low self-esteem and lower self-reported quality of life
  - Social problems

Future Health Risks

- Children who have obesity are more likely to become adults with obesity
- Adult obesity is associated with increased risk of several serious health conditions including heart disease, type 2 diabetes, and cancer
- If children have obesity, their obesity and disease risk factors in adulthood are likely to be more severe

Reference: Childhood Obesity Causes & Consequences

School-Based Strategies & Interventions

SCHOOLS	
Healthy eating interventions in schools	
Increasing water access in schools	◆
Meal or fruit and vegetable snack interventions to increase healthier foods and beverages provided by schools	●
Multicomponent interventions to increase availability of healthier foods and beverages in schools	●
Supporting healthier snack foods and beverages sold or offered as rewards in schools	◆
Healthy eating interventions in combination with physical activity interventions	
Increasing water access combined with physical activity interventions in schools	◆
Meal or fruit and vegetable snack interventions combined with physical activity interventions in schools	●
Multicomponent interventions (meal or fruit and vegetable snack interventions + healthier snack foods and beverages) combined with a physical activity intervention in schools	◆
Supporting healthier snack foods and beverages sold or offered combined with physical activity interventions in schools	◆

● Recommended ◆ Insufficient Evidence

School Based Strategies & Interventions

- What Works: Obesity

- One Pagers
  - Behavioral Interventions to Reduce Screen Time Among Children
  - Digital Health Interventions for Adolescents with Overweight or Obesity
  - Interventions to Increase Availability of Healthier Foods and Beverages in Schools
  - Interventions to Increase Healthy Eating and Physical Activity in Schools
  - Meal or Fruit and Vegetable Snack Interventions Combined with Physical Activity Interventions in Schools

When to Refer?

- All parents/guardians of students screened should be provided with BMI results

- Parents/guardians of students categorized as underweight, overweight, and obese should receive recommendation for further evaluation (Referral)

- Health Services Survey (HSS) asks for
  - Number of students screened
  - Number of students referred
  - Number of completed referrals

- **DO NOT** include the number of underweight, overweight, or obese students on the HSS under "Number of students referred" unless the parent/guardian received recommendation for further evaluation

Referral Barriers

- Sensitive topic
  - Complaints
  - No follow up after referral
  - Do not want BMI information
  - Know their child is overweight/obese
  - Student access to letter
- Postage costs
- Staff changes
- Incomplete data

Referral Best Practices

- Auto generating level based on “failed” screenings with recommendations for follow up
- Sending through mail addressed to parent/guardian
- Do not give results to students
- Education provided by CSH/nurses to parents regarding importance of BMI screening and follow up, if needed.

Referral Best Practices

- Use terms such as “healthy weight” vs “normal weight”
- Avoid using “obese”
- Use terms such as “at risk for being overweight” or “might be overweight”
- Identify the student’s height, weight, and BMI-for-age percentile, and include a table defining BMI for-age percentile categories with images.
- Communicate that the student’s weight was found to be low/healthy/high for his/her height and age.

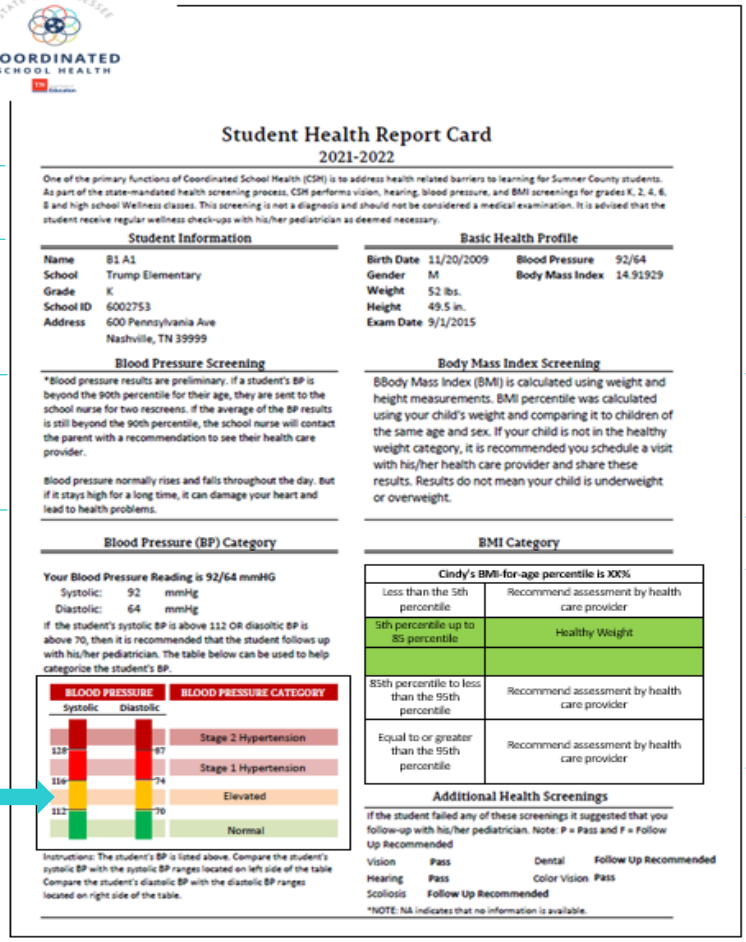
Proposed Changes in the Student Health Report Card

Updated Logo

Updated Description

Updated BP Language

Pre-Hypertensive is now Elevated BP



Student Health Report Card
2021-2022

One of the primary functions of Coordinated School Health (CSH) is to address health related barriers to learning for Sumner County students. As part of the state-mandated health screening process, CSH performs vision, hearing, blood pressure, and BMI screenings for grades K, 2, 4, 6, 8 and high school Wellness classes. This screening is not a diagnosis and should not be considered a medical examination. It is advised that the student receive regular wellness check-ups with his/her pediatrician as deemed necessary.

Student Information

Name	B1 A1
School	Trump Elementary
Grade	K
School ID	6002753
Address	600 Pennsylvania Ave Nashville, TN 39999

Basic Health Profile

Birth Date	11/20/2009	Blood Pressure	92/64
Gender	M	Body Mass Index	14.91929
Weight	52 lbs.		
Height	49.5 in.		
Exam Date	9/1/2015		

Blood Pressure Screening

*Blood pressure results are preliminary. If a student's BP is beyond the 90th percentile for their age, they are sent to the school nurse for two rescreens. If the average of the BP results is still beyond the 90th percentile, the school nurse will contact the parent with a recommendation to see their health care provider.

Blood pressure normally rises and falls throughout the day. But if it stays high for a long time, it can damage your heart and lead to health problems.

Body Mass Index Screening

BBody Mass Index (BMI) is calculated using weight and height measurements. BMI percentile was calculated using your child's weight and comparing it to children of the same age and sex. If your child is not in the healthy weight category, it is recommended you schedule a visit with his/her health care provider and share these results. Results do not mean your child is underweight or overweight.

Blood Pressure (BP) Category

Your Blood Pressure Reading is 92/64 mmHG

Systolic: 92 mmHg
Diastolic: 64 mmHg

If the student's systolic BP is above 112 OR diasoltic BP is above 70, then it is recommended that the student follows up with his/her pediatrician. The table below can be used to help categorize the student's BP.

BLOOD PRESSURE		BLOOD PRESSURE CATEGORY
Systolic	Diastolic	
		Stage 2 Hypertension
128	97	
		Stage 1 Hypertension
116	74	
		Elevated
112	70	
		Normal

Instructions: The student's BP is listed above. Compare the student's systolic BP with the systolic BP ranges located on left side of the table Compare the student's diastolic BP with the diastolic BP ranges located on right side of the table.

BMI Category

Cindy's BMI-for-age percentile is XX%	
Less than the 5th percentile	Recommend assessment by health care provider
5th percentile up to 85 percentile	Healthy Weight
85th percentile to less than the 95th percentile	Recommend assessment by health care provider
Equal to or greater than the 95th percentile	Recommend assessment by health care provider

Additional Health Screenings

If the student failed any of these screenings it suggested that you follow-up with his/her pediatrician. Note: P = Pass and F = Follow Up Recommended

Vision	Pass	Dental	Follow Up Recommended
Hearing	Pass	Color Vision	Pass
Scoliosis	Follow Up Recommended		

*NOTE: NA indicates that no information is available.

Updated BMI Language

Updated BMI Table

Updated Coding:
P=Pass
F= Follow Up Recommended

Updates to BMI on Student Health Report Card

- Proposed Language:
  - Body Mass Index (BMI) is calculated using weight and height measurements. BMI percentile was calculated using your child's weight and comparing it to children of the same age and sex. If your child is not in the healthy weight category, it is recommended you schedule a visit with his/her health care provider and share these results. Results do not mean your child is underweight or overweight.

Cindy's BMI-for-age percentile is XX%	
Less than the 5th percentile	Recommend assessment by health care provider
5th percentile up to 85 percentile	Healthy Weight
85th percentile to less than the 95th percentile	Recommend assessment by health care provider
Equal to or greater than the 95th percentile	Recommend assessment by health care provider

Error in the screening process

Department of Education

Error

• Error describes the difference between a value obtained from a data collection process and the 'true' value for the population. The greater the error, the less representative the data are of the population.

Types of Error

- **Random Error**
  - Difference between scales from one year to the next can create random error
  - Try to be consistent with the type/brand scale you use and make sure they are calibrated
- **Systematic error**
  - If students are always measured wearing the same shoes, then the measurement will be consistent but will not be a true weight/height (systematic bias)
- **Misclassification**
  - Wrong birthday puts the student in a different age range which in turn classifies them incorrectly

Standard Error of Measure

The true score is always an unknown because no measure can be constructed that provides a perfect reflection of the true score.

Summary Report of TN Public School Weight Status Data 2019-20

Table 1. Prevalence of Overweight or Obese* Assessed Students in Tennessee Public Schools, by County, 2016-17, 2017-18, 2018-19 and 2019-20 School Years

County	2016-17		2017-18		2018-19		2019-20		Percent of Population Assessed 2019-20
	Percent overweight or obese	95% confidence interval	Percent overweight or obese	95% confidence interval	Percent overweight or obese	95% confidence interval	Percent overweight or obese	95% confidence interval	
Tennessee	39.2	39.1 - 39.4	39.2	39.0 - 39.3	39.5	39.4 - 39.7	39.7	39.5 - 39.9	62.2

Variation

- The quality of measurement data is vital for the accurate classification
- As a coordinator you oversee the methods you use to carry out your screening process so look for ways to ensure consistency from school to school
- Measurements for BMI (unlike blood pressure, vision, hearing) will usually only be made once so it is vital that every effort is made to ensure consistent measures are made between students

Observer Variations

Variations in recording observations arise for several reasons including bias, errors, and lack of skill or training.

There are two principal types:

- Inconsistency in recording repeat results (intra-observer variation)
- Failure of different observers to record the same results (inter-observer variation)

Technical Limitations

Technical equipment may give incorrect results for several reasons, including:

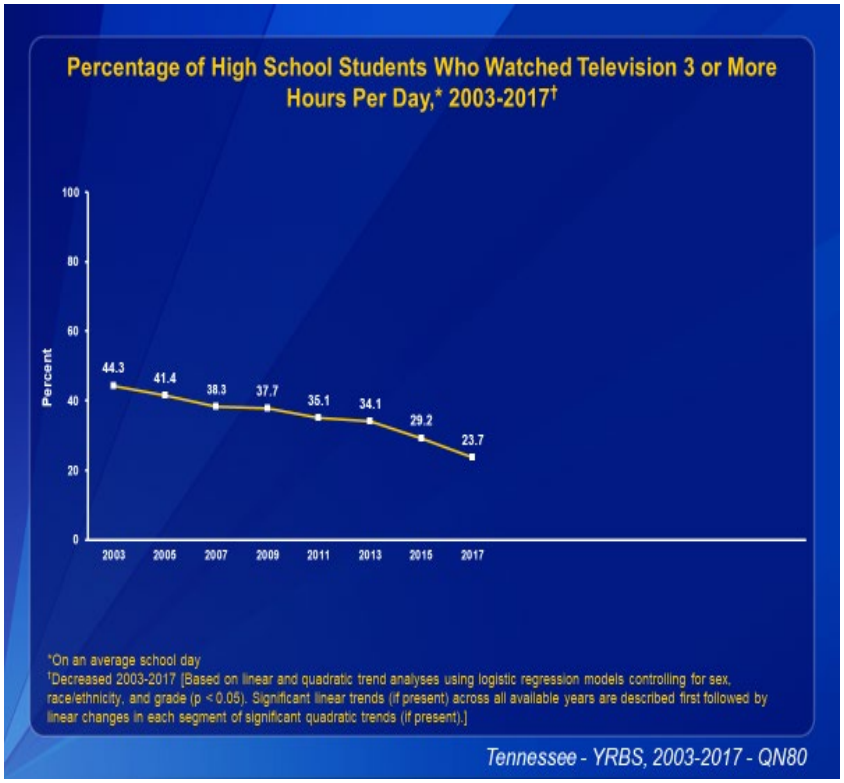
- The method is unreliable (using wrong charts)
- Faults in the test system (defective instruments, poor calibration)
- Absence of an accurate test

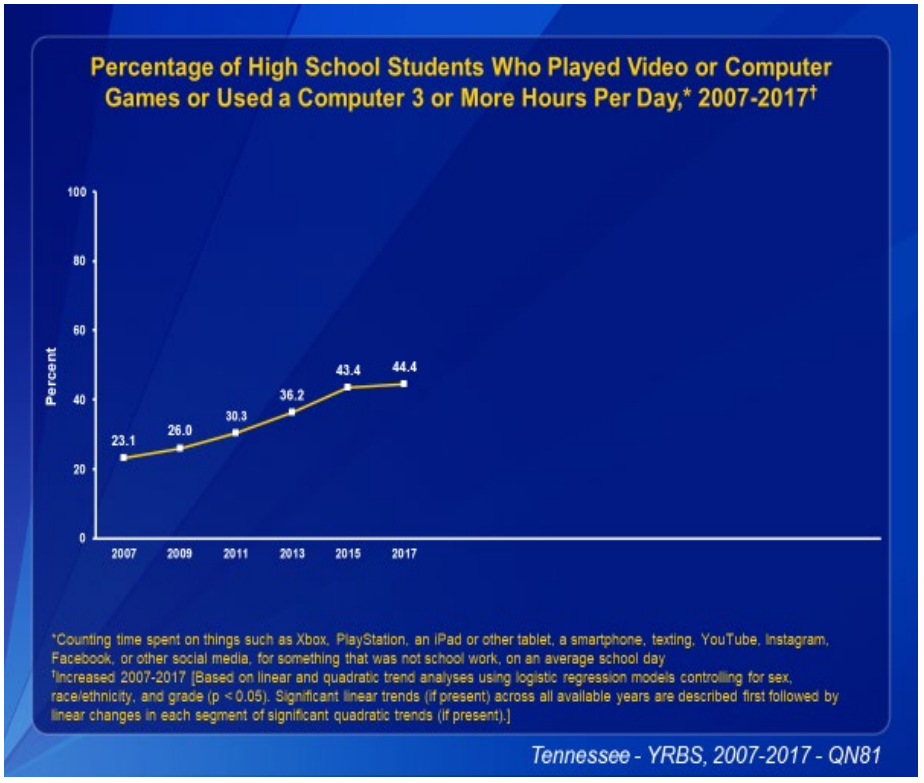
Avoiding variations in your screening process

- Using clearly defined diagnostic criteria
- Observing participants under similar conditions
- Training observers
- Using calibrated, easy-to-use equipment
- Employing standardized measurement methods

Interpreting Results

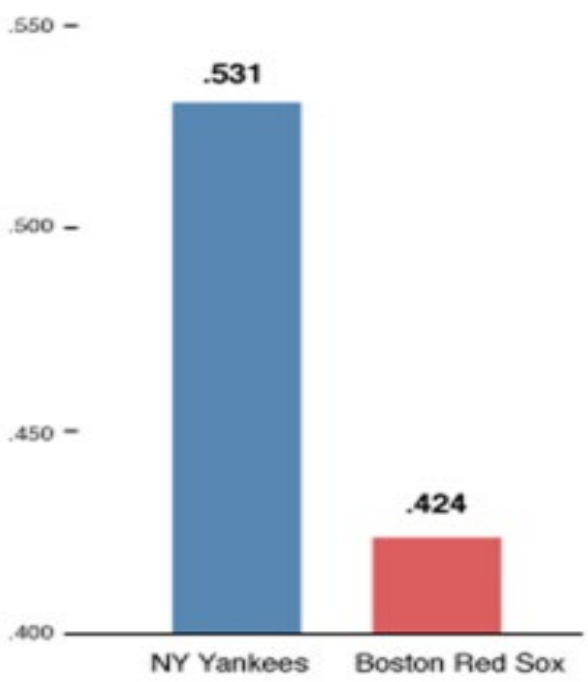
- Get the full story





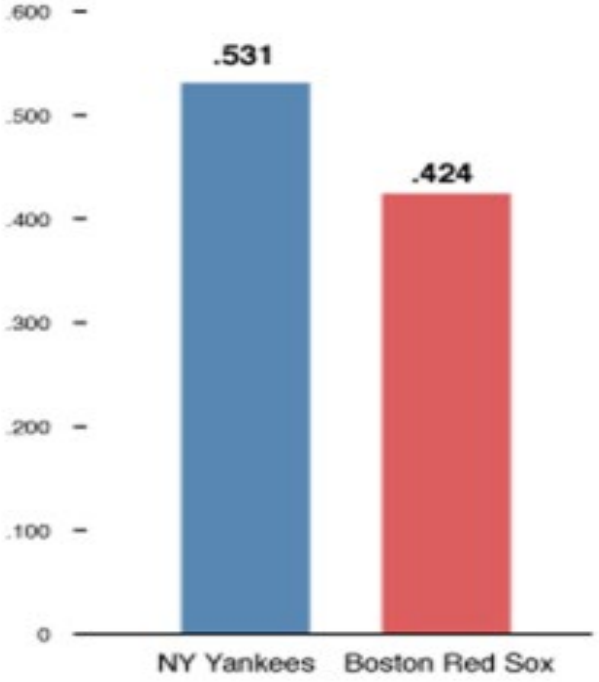
Percentage of victories

WRONG



Percentage of victories

RIGHT



Breakout Session

1. Break into groups of 5 people

2. Within your group, answer the following questions:
   - Identify a barrier to sending BMI referrals for students with BMIs not in the normal range (underweight, overweight, obese).
   - Identify a strategy for successfully sending BMI referrals

Lori Paisley Lori.Paisley@tn.gov
Amanda Johnson Amanda.Johnson@tn.gov
Mark Bloodworth Mark.Bloodworth@tn.gov

TN Department of Education