Overweight and obesity have risen rapidly among US children and adolescents, reaching epidemic proportions in recent years. The standard measure for monitoring children’s weight status is Body Mass Index (BMI), which is calculated based on weight and height.

Schools can play an important role in addressing childhood obesity, and school-based BMI screening may be a useful strategy in these efforts. However, BMI screening is not without controversy. Despite initial concerns about potential adverse effects of widespread school-based BMI measurement (e.g., burden on schools, confidentiality issues of student BMI), evaluation on the first four years of Arkansas’ statewide BMI screening efforts in public schools has shown several beneficial outcomes but few adverse effects.

The Institute of Medicine recommends that schools annually measure each student’s weight and height, calculate BMI percentile, and provide this information to parents and students. Furthermore, during the past few years an increasing number of states have addressed the issue of school-based BMI screening with legislation requiring or suggesting such practices.

With this study, we sought to examine state, district, and school-level BMI screening and reporting activities, and to evaluate the implementation of state and district policies in US elementary schools.

### Methods

#### State Laws

Statutory (legislative) and administrative (regulatory) laws governing school-level requirements for BMI effective as of the beginning of the 2007-08 school year were obtained for each of the 50 states and the District of Columbia via primary legal research through searches of the Lexis-Nexis state legal databases. All state data were confirmed against secondary sources available from Trust for America’s Health, NASBE, NCSL, and others.

#### School District Policies

We used a mixed-methods approach to obtain district policies, including Internet searches with telephone, email, and mail follow-up. Policies were coded using a three-level ordinal scheme as follows: 0) no policy, 1) weak policy that suggests but does not require BMI measurement, or requires only for certain grades, and 2) strong policy that requires BMI measurement, either with or without parental reporting. Only those policies in place by the first day of the 2007-08 school year were used in these analyses. Data were weighted to provide inference to all public schools in the U.S., and to adjust for nonresponse. Our sample of districts included 602 districts serving elementary-level students.

#### Elementary School Survey

Survey data were obtained from a nationally-representative sample of public and private elementary school districts in the U.S. We distributed a mail-back survey to school principals in the spring of 2008, to gather information on school policies and practices during the 2007-08 school year. A $100 incentive was offered for completing the survey. After follow-up efforts (emails and phone calls), we received completed surveys from 1084 elementary schools (final response rate of 74.4%). We asked principals to indicate whether/how often their school measured student BMI, and, if measured, whether results were reported to parents. Data were weighted to provide inference to US elementary schools, and to adjust for school-level nonresponse on the survey.

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We thank the Robert Wood Johnson Foundation for supporting this research.

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### Results

#### Public school practices as a function of state laws and district policies

We examined the correspondence of school-level BMI activities with state-level laws and district-level policies. These analyses were conducted for public schools only.

School practices varied considerably and significantly (p < .0001) depending on state-level laws. As shown below, among 25 public schools within states with laws requiring student BMI measurement, nearly all measured student BMI. Among 213 public schools in states that suggest BMI measurement, the majority measured student BMI. Among 440 schools in states with no laws regarding BMI measurement, the majority (64.8%) did not measure student BMI.

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#### Multivariate predictors of school practices

We examined whether district policies and state laws were significant predictors of whether schools engaged in any student BMI-related activities (measurement of all or some students, either with or without reporting). Covariates included in the model included school size, student racial/ethnic characteristics, free/reduced lunch participation, and region of the country. District policy was not a significant predictor of school practices. However, state law was a significant predictor. In our final model, several variables significantly predicted school practices (only significant variables are shown here):

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### Discussion and Conclusions

Overall, approximately half of the elementary schools in the US reported participating in some sort of student BMI-related screening activities. These practices were less common among private schools than public schools. Among schools that measure BMI, only two-thirds report the information to parents. Among public schools, district policies were not significantly associated with school practices, but state laws were associated with school practices indicative that state laws do matter in this area. School-level BMI activities are more common in schools with higher proportions of Latino students, in the Northeast and Southern US, and in states with laws regarding school-based BMI activities.