estimates, the least expensive of the 3 methods. A possible explanation for this finding is that parent estimates yielded relatively high sensitivity and specificity, leaving limited room for improvement. A European study of preschool children reported lower sensitivity (47%) and similar specificity (93%) of parent estimates relative to our findings and reached the same conclusion: parent measurements did not improve overweight/obese status classification over parent estimates.4

Our study has some limitations. The children included in this sample were predominantly non-Hispanic black and Hispanic and were from low-income households, limiting the generalizability of our findings to other populations. In addition, the subsample from the New Jersey Child Health Study that we used depended on parents’ willingness to participate in additional measurements. However, the demographic characteristics of the subsample were similar to those of the overall New Jersey Child Health Study.

Our study indicates that parent estimates and parent measurements of children’s height and weight are both effective in classifying weight status. Therefore, when professionally measured data cannot be collected, parent estimates represent the most efficient alternative, as they are less resource intensive than parent measurements but without any trade-off in accuracy.

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Assessment of Underage Sales Violations in Tobacco Stores and Vape Shops

In 2018, the US Centers for Disease Control and Prevention announced a 78% increase in vaping from 2017 to 2018 among high school students, an epidemic characterized by increased use of flavored tobacco products.1 With a goal to reverse this trend, the US Food and Drug Administration (FDA) announced its intent to limit sales of flavored (excluding menthol) tobacco products to age-restricted (adult-only) locations, such as tobacco and vape shops.2 However, the 2017 California tobacco purchase survey3 reported that tobacco and vape shops had the highest rate of underage sales compared with other types of tobacco retailers. We investigated whether disparate violations persisted in 2018 and whether the FDA’s intention to limit the sale of flavored tobacco products to age-restricted locations is adequate.

Methods | This study used data from the 2018 sample (n = 1746) of the California Tobacco Control Program’s Young Adult Tobacco Purchase Survey that was drawn from the statewide tobacco retail license list. The data were collected by the California State University, Sacramento. Their institutional review board did not consider this study to involve human subjects’ research.

From March through June 2018, decoys (aged 18-19 years) were randomly assigned to purchase either cigarettes (n = 1123) or vape products (n = 498), such as e-liquids and e-cigarettes. The sample also included stores that were considered noncompletes (n = 98) and stores where decoys asked for other tobacco products (eg, little cigars or cigars) (n = 27). According to the standard protocol, decoys did not carry identification (ID) and told the truth about their age. A trained chaperone observed whether ID was requested from the decoy and whether a sale occurred. Tobacco and vape shops were
defined as retailers that primarily sell tobacco products. Data were weighted to account for sampling design. Rao-Scott χ² tests (2-sided with significance set at P < .05) were performed to examine the association between retailer type and outcomes using SAS, version 9.4 (SAS Institute Inc).

**Results** | Although FDA regulation requires retailers to check ID for all persons under 27 years, 49.8% of tobacco and vape shops failed to check ID for underage decoys when decoys attempted to purchase vape products. The violation rate in tobacco and vape shops was significantly higher than for other types of retailers (P < .05) (Figure, A). Furthermore, 44.7% of tobacco and vape shops sold vape products to underage decoys also at a higher rate compared with other tobacco retailers (P < .05) (Figure, B). Overall sales violations were higher for vape products compared with cigarettes (χ² = 4.3938; P < .05) (Figure, B).

**Discussion** | Tobacco and vape shops had a worse record for checking ID and preventing underage sales, which may undermine the FDA's plan to restrict youth access to flavored tobacco products. This concern is not unique to California. Other states, including North Carolina and Oklahoma, reported underage sales rates of 20% or higher in tobacco and vape shops in federal fiscal year 2019.

The FDA's 2009 ban on the sale of flavored cigarettes was associated with reduced smoking among youth; however, research suggests the association was lessened because of the availability of menthol cigarettes and other flavored tobacco products. Evidence is needed to show that limiting the sale of these tobacco products to age-restricted locations will prevent sales to minors. Although this study did not record whether retailers posted age-restricted entry signs at their shops, the study results suggest a higher rate of sales violations by retailers whose primary business is the sale of an age-restricted product.

Presumably tobacco and vape shops would be the most compliant with age-of-sale laws, particularly in states where license suspension or revocation would jeopardize the business. However, these results suggest that the FDA's proposal to relegate sales of flavored tobacco products to adult-only facilities are not likely to be effective without significant age-verification requirements and increases in the number and frequency of compliance checks that the FDA conducts. An effective plan to limit sales of flavored tobacco products to youth may include accountability throughout the tobacco distribution chain (including manufacturers and distributors), retailer education, and enforcement. States can further limit the availability and affordability of flavored tobacco by increasing the minimum legal sales age to 21 years, restricting sales of flavored tobacco (including menthol), prohibiting self-service displays, and pursuing tax and nontax mechanisms to increase price.

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- Concept and design: Vuong, Henriksen, Zhang
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- Critical revision of the manuscript for important intellectual content: All authors
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COMMENT & RESPONSE

Does a Diagnosis of Community-Acquired Pneumonia in a Child Always Require Antibiotics?

To the Editor This letter is in response to the Tribble et al article, “Comparison of Antibiotic Prescribing for Pediatric Community-Acquired Pneumonia in Children’s and Non-Children’s Hospitals,” published online December 10, 2018.

Tribble et al determined that physicians at children's hospitals provided guideline-recommended treatment for community-acquired pneumonia (CAP) more frequently than physicians at non-children's hospitals. They report that the guidelines indicate that hospitalized children with CAP should be treated with penicillin, amoxicillin, or ampicillin. However, there is evidence that there is frequently overdiagnosis and overtreatment of CAP resulting from those recommendations.

Overdiagnoses of pneumonia occur especially among children younger than 6 years. At a university hospital outpatient clinic in Turkey, 126 children diagnosed as having CAP and prescribed antibiotics were subsequently reevaluated in a Pediatric Chest Disease Department of the same hospital. That reevaluation determined that the diagnosis of pneumonia was not supported in 40% of the patients, and antibiotics were judged to be unnecessary in 85%. An observational study was performed with 516 children younger than 5 years at 4 hospitals in India diagnosed and treated for pneumonia. The study found that 43% had, rather than pneumonia, what the investigators called “wheezy disease” consistent with asthma or bronchiolitis, neither of which should be routinely treated with antibiotics.

A comprehensive assessment of the etiology of children with CAP requiring hospitalization was performed at 3 US hospitals. A viral or bacterial pathogen was identified in 81% of 2222 children with radiographic evidence of pneumonia and having diagnoses of CAP. At all ages, viral pathogens were identified as the major etiology associated with pneumonia in those children. To examine the effectiveness of routine use of antibiotics, a placebo-controlled clinical trial of amoxicillin in children with CAP was performed in 1126 children younger than 6 years. Treatment failures by day 4 were only 4% and 7% in the amoxicillin and placebo group, respectively, and there were no further treatment failures by day 14. Thus, most of the patients improved without antibiotics, consistent with the relative infrequency of bacteria as a cause of pneumonia.

A combination of clinical assessment, laboratory biomarkers, and radiology can generally distinguish the few patients with bacterial pneumonia requiring antibiotic treatment from most children with CAP who have a viral etiology and are not likely to benefit from antibiotics.

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In Reply We appreciate Weinberger’s letter, which highlights an important challenge in the treatment of children with community-acquired pneumonia (CAP): distinguishing between viral and bacterial infection. Indeed, antibiotics should only be prescribed for children with presumed bacterial CAP, and undoubtedly, there are children who receive antibiotics for CAP who do not have bacterial pneumonia.

As Weinberger noted, younger children are more likely to be overdiagnosed as having bacterial pneumonia. This is particularly true in outpatient settings and when using clinical criteria (such as the World Health Organization tachypnea-based definition) alone, as observed in the study by Ginsburg et al, in which amoxicillin had little benefit over placebo. For this reason, the 2011 US pediatric CAP guidelines state that in outpatient settings, “antimicrobial therapy is not routinely required for preschool-aged children with CAP, because viral pathogens are responsible for the great majority of clinical disease.”

In contrast, among hospitalized children diagnosed as having CAP, there is likely a greater proportion of children with bacterial infection. Jain et al provide estimates from 2015, in which a bacterial etiology was identified in 15% of patients with radiographic and clinical CAP. However, their study was limited by inability to obtain direct lung samples for bacteria. Only 4% of patients had pleural fluid available for analysis, and only 1% each had endotracheal tube specimens or bronchoalveolar lavage specimens. While viruses were detected in the