(SD)= 0.46Î¼g/L). Concurrent with urine sampling, neuropsychological tests tapping memory, executive function, sustained attention and working memory were combined into a standardized z-score (mean 0, SD 1, 25th and 75th percentiles -0.68 and 0.72, respectively). We used linear models to estimate change in cognition per cadmium interquartile range, incorporating NHANES sampling weights, adjusting for demographic characteristics, diet, lead, and active tobacco use (classified by self-report or serum cotinine levels >10ng/mL). RESULTS/ANTICIPATED RESULTS: A baseline model showed that an IQR (0.38 Î¼g/L) increase in urinary cadmium exposure was associated with a 13% standard deviation lower cognitive z-score (95%CI: -0.19, -0.06), after adjusting for sampling weight and urinary creatinine (measure of urine dilution). This association was attenuated to 7% standard deviation lower cognitive z-score (95% CI -0.13, -0.02) after adjusting additionally for demographic characteristic of sex, age, age^2, race/ethnicity, marital status, education level, and poverty income ratio. Models further adjusted for smoking status (active/former/never), blood lead concentration, and key dietary sources of cadmium showed IQR increase in urinary cadmium exposure associated with 7% standard deviation lower cognitive z-score (95%CI: -0.14, -0.01). DISCUSSION/SIGNIFICANCE: Our findings suggest cadmium exposure is associated with lower cognitive scores even after accounting for confounding influence of diet, tobacco use and lead exposure. Alternate explanations include selection bias due to dropping persons missing needed variables and using concurrent cognitive measures rather than cognitive measures of over time.

Flavored tobacco sales restrictions and e-cigarette use among high school students in California

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OBJECTIVES/GOALS: Flavored tobacco sales restrictions (FTSRs) are implemented to reduce access to flavored tobacco products. We examined the association between seven local FTSRs implemented in 2018/2019 and e-cigarette use among high school students in the Bay Area region of California. METHODS/STUDY POPULATION: We analyzed data from the California Healthy Kids Survey using a difference-in-differences (D-I-D) strategy. We compared pre- and post-policy changes one year after implementation in current tobacco use (e-cigarettes and cigarettes) among students exposed (n=20,832) versus unexposed (n=66,126) to a FTSR. Exposed students attended school in a city with a FTSR. Other outcomes included ever use of e-cigarettes, ever marijuana use in an e-cigarette, and ease of access to e-cigarettes. RESULTS/ANTICIPATED RESULTS: Pre- to post-policy, current tobacco use did not change in exposed students (e-cigarette: 10.5% to 11.1%; cigarette 2.6% to 2.5%) and decreased in unexposed students (e-cigarette: 12.8% to 11.4%; cigarette: 2.2% to 1.7%). FTSRs were not associated with a change in odds of current e-cigarette (adjusted D-I-D OR: 1.25, 95% CI: 0.95, 1.65) or cigarette use (adjusted D-I-D OR: 1.24, 95% CI: 0.94, 1.63), relative to unexposed students. For both exposed and unexposed groups, there was a 54-57% increased odds of reporting ease of access to e-cigarettes and a 29-35% increased odds of ever using marijuana in an e-cigarette. No change was detected for ever e-cigarette use. DISCUSSION/SIGNIFICANCE: Local FTSRs in California were not associated with a decrease in e-cigarette or cigarette use one-year post-implementation. Increased ease of access and marijuana use may be explanatory factors.

Clinical Presentations of Adult and Pediatric SARS-CoV-2-Positive Cases in a Community Cohort

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OBJECTIVES/GOALS: The spectrum of disease caused by SARS-CoV-2 ranges from asymptomatic detection to severe illness, with varying presentations by age. Therefore, we aimed to compare the clinical characteristics between children and adults with SARS-CoV-2. METHODS/STUDY POPULATION: From March 20, 2020, to August 18, 2021, we conducted SARS-CoV-2 surveillance in individuals from metropolitan Nashville, TN. Children with multisystem inflammatory syndrome were excluded. Analyses were restricted to individuals with SARS-CoV-2 infection confirmed by detection of viral RNA in nasal specimens using reverse-transcription quantitative polymerase chain reaction (RT-qPCR) and/or by detection of serum IgG to the SARS-CoV-2 spike and nucleocapsid proteins using enzyme-linked immunosorbent assay (ELISA). Those with negative RT-qPCR results, but a positive ELISA within 4-6 weeks of symptom onset, were classified as SARS-CoV-2 positive. Clinical characteristics between children and adults were compared with Pearson's chi square. Illness duration was compared using Kaplan Meier estimators. RESULTS/ANTICIPATED RESULTS: Overall, 426/826 (49%) individuals (children: 57 [13%]; adults: 369 [87%]) were SARS-CoV-2 positive, with median ages of 12 and 41 years, respectively. Most individuals were female (54%) and white, non-Hispanic (79%). Compared to adults, children were more likely to be asymptomatic (children: 16% vs. adults: 5%; p=0.001). In contrast, symptomatic adults were more likely to report cough (71% vs. 56%), wheezing (21% vs. 8%), shortness of breath (45% vs. 19%), ageusia (67% vs. 23%), and anosmia (64% vs 27%) than symptomatic children (p<0.05). Mean illness duration was shorter in children than adults: 7 days (95% CI: 5.1, 8.9) vs. 14 days (95% CI: 12.4,15.0), respectively. A total of 5% (18/352) of adults reported symptoms lasting ? 4 weeks (range: 31-96 days), whereas all symptoms in children resolved by 31 days. DISCUSSION/SIGNIFICANCE: Overall, children with SARS-CoV-2 present with a shorter and milder disease course compared to adults. Further studies are needed to understand SARS-CoV-2 illness severity across the lifespan.

Characterizing Physician Suicide in the U.S. (2003-2017)

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OBJECTIVES/GOALS: Suicide is a growing public health problem with the rate of suicide increasing 33% since 1999. Physicians are not immune to this growing problem. Physicians represent a unique population that has been understudied with respect to suicide. The aim of the study is to investigate risk factors unique to physicians compared to the general population. METHODS/STUDY POPULATION: Using data from the National Violent Death Reporting System, a nationwide CDC database which aggregates