

## Supplemental Online Content

Oke I, Slopen N, Hunter DG, Wu AC. Vision testing for adolescents in the US. *JAMA Ophthalmol*. Published online October 12, 2023. doi:10.1001/jamaophthalmol.2023.4475

**eMethods.** The National Survey of Children's Health 2018 and 2019

This supplementary material has been provided by the authors to give readers additional information about their work.

**eMethods.** The National Survey of Children's Health 2018 and 2019

*i. Survey description*

The National Survey of Children's Health (NSCH) is an annual cross-sectional survey conducted by the Data Resource Center for Child & Adolescent Health and sponsored by the US Department of Health and Human Services. The primary goal of the NSCH is to provide a comprehensive overview of the health and well-being of children aged 0-17 years in the US. The survey questions cover multiple domains including physical health, emotional health, behavior, family context, and the child's living environment.

*ii. Sampling and Recruitment*

The NSCH utilizes a stratified random sampling approach to obtain a nationally representative sample of children under 18 years of age. The sampling frame includes residential addresses from the US, which are chosen for possible inclusion in the survey. One child is randomly selected from each identified household to be the subject of the comprehensive questionnaire. Data collection involves a detailed questionnaire administered to parents or primary caregivers of the selected children. The primary mode of administration is a web-based, self-administered survey. Participants receive an initial mail-based notification followed by online survey access details. Non-responders are sent up to two additional mailings, which include paper questionnaires.

*iii. Survey respondents*

Survey participants are the parents or primary caregivers deemed most knowledgeable about the health and well-being of the selected child. This includes biological parents, adoptive parents, stepparents, and other legal guardians.

*iv. Management of missing data*

The NSCH dataset contains missing data due to non-response or incomplete responses. Completed responses were adjusted in their weightage to counteract non-response biases and achieve representative estimates for the US population. The NSCH also provides imputed data files for the missing values of several variables used in this analysis (race and ethnicity, caregiver education, and household income) that were calculated using sequential regression imputation methods. The imputation approach aimed to estimate the missing data based on existing patterns and relationships within the dataset. The percentage of individuals with missing values in the remaining variables used in this analysis (insurance type, household generation, primary household language) ranged from 0.5% to 1.7% and these were excluded from the regression models.

For additional details on the NSCH, please refer to the documentation provided by the U.S. Census Bureau and the Maternal and Child Health Bureau.