**Analysis of Child Vaccination Availability, Access, and Uptake in the State of Georgia**

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Childhood vaccines are proven to prevent common, severe illnesses in infants and children. However, for various reasons, routine childhood vaccine uptake in Georgia has declined in recent years. Therefore, there is a need to understand what potential behavioral and social drivers of vaccination could lead to this decline. Some potential drivers that will be analyzed are the following: geographical data (health districts 1-10), race/ethnicity, parental insurance status, and age. In order to understand what social drivers are the most impactful, the following research question has been developed: **What is the most up-to-date status across various one-year age cohorts and combinations of age cohorts for all age-appropriate and indicated routine childhood vaccines?** The various routine childhood vaccines in question are as follows: Hepatitis B, Rotavirus, DTaP, Hib, Pneumococcal, Polio, COVID-19, Influenza, MMR, Chickenpox, and Hepatitis A. To answer this, various analyses will be conducted.

Analyses will be conducted using data from the Georgia Registry of Immunization Transactions and Services (GRITS) database with cooperation between Emory-University-based teams and the Georgia Department of Public Health.

Data will be included from Routine childhood vaccinations for children born on or after Jan 1, 2014, vaccine provider data, and vaccine order data since Jan 1, 2014.

Firstly, a descriptive statistics table (**Table 1)** will be created by organizing patients by birth cohort, including information on Sex, Age, Race/Ethnicity, Health District, and Parental insurance status. Each column will represent the labeled birth cohort starting in 2014 and ending in 2023. Each cohort will be color-coded for easier readability and will include an overall column from every cohort marked in grey. The rows will include the previously mentioned variables.

Vaccine adherence will be determined by first grouping into **three groups by one-year cohort or combination of birth cohorts (Table 2)** following the ([CDC Guidelines](https://www.cdc.gov/vaccines/imz-schedules/child-easyread.html)) schedule:

* Routine schedule – Received all age-appropriate vaccines by CDC recommended timeline: Hepatitis B, Rotavirus, DTaP, Hib, Pneumococcal, Polio, COVID-19, MMR, Chickenpox, and Hepatitis A.
* Alternative Schedule – Did not receive two or more age-appropriate routine vaccines
* Unknown – Missing data or incorrect data found

Table 2 will display this information, following each child from birth to 4-6 years of age for each 1-year birth cohort. It will start with the overall vaccine adherence per single vaccine, which is divided into each cohort with vaccine-specific adherence. The cohort's vaccine adherence will be measured in the three previous categories and follow the color coding shown in Table 1.

A secondary analysis will be conducted to assess the disparities in the timeliness of vaccine uptake by one-year cohorts and a combination of birth cohorts.