

The state of Colorado has relatively low vaccination rates for varicella, DTaP, and PCV13 as compared to the rest of the United States. Gaps in vaccination coverage present a risk for vaccine preventable diseases (VPDs) in both children and adults. We hypothesize in “Correlation of Vaccine-Preventable Illness and Vaccination Rates in the Community” that geographic areas with lower vaccination rates will experience higher rates of corresponding VPDs and that newly available data from Colorado schools can be used to demonstrate and monitor this association. The results of this research could be used as a communication tool for key stakeholders in communities across the state, in addition to highlighting the importance of local data collection to educators, parents, and healthcare workers. In this study, we will assess vaccination rates and VPD incidence to investigate this relationship geographically and temporally via Spearman correlation and univariate and multivariable modeling. Longitudinal presentation of these data identified fluctuating vaccination rates in the state of Colorado, in addition to increasing cases of pneumococcal disease. Correlation and linear modeling analyses either did not reveal statistically significant relationships between vaccination rate and corresponding disease incidence in Colorado counties, or these relationships were not meaningful in the context of this study. Limitations to the validity and scope of this data, in addition to confounding variables that are more difficult to account for, likely prevented this study from identifying such a relationship. Despite this, school-based vaccination data may still prove useful for public health purposes, but future investigations may consider alternative uses for such data in addition to prospective data collection.