**Title:** A Lung for a Lung (or Maybe a Liver): Smoking and binge-drinking as factors in pneumonia immunization

**Author**: Marleah Knights

**Support Persons**: Zachary Porreca, Dr. Julie Hicks Patrick

**Purpose**: Unhealthy behaviors have been indirectly linked with immunization (Holm et al., 2018; Olusanya et al., 2020;). However, few studies have confirmed this relationship. Therefore, we investigated the relationship between unhealthy behaviors – smoking and binge-drinking – and immunization rates.

**Methods**: Cross tabulations were conducted with the 2018 BRFSS national data to determine the relationship between unhealthy behaviors, specifically smoking and binge-drinking, and pneumonia immunization rates.

**Results**: Higher smoking rates were associated with lower pneumonia immunization rates. 72% of non-smoking respondents were vaccinated compared to 61% of current-smoking respondents χ2 (DF=1)=102.10. Likewise, a negative association between binge-drinking and immunization was found: 72% of non-binge-drinking respondents were vaccinated versus 63% of current binge-drinking respondents χ2 (DF=1)=36.12.

**Discussion/Conclusion**: A negative association was found between unhealthy behaviors and immunization rates. These behaviors may be important associated variables that should be considered in addressing low vaccination rates for diseases, such as COVID-19, observed in states such as WV.