# Final Report
## due November 16, 2021 by 11:59 PM

### Lindsey Weyant, Ali Raich, Aden Clemente

### 11/16/21

#Load Data

```
census_api_key("abc8289fa2ba274ced76d97c7f8ee31666a2c931", overwrite = TRUE, install = TRUE)
```

## Your original .Renviron will be backed up and stored in your R HOME directory if needed.

## Your API key has been stored in your .Renviron and can be accessed by Sys.getenv("CENSUS_API_KEY").
## To use now, restart R or run `readRenviron("~/.Renviron")`

## [1] "abc8289fa2ba274ced76d97c7f8ee31666a2c931"

```
if (FALSE) {
census_api_key("abc8289fa2ba274ced76d97c7f8ee31666a2c931", install = TRUE)
# First time, reload your environment so you can use the key without restarting R.
readRenviron("~/.Renviron")
# You can check it with:
Sys.getenv("CENSUS_API_KEY")
}
```

#Research Question:

How do measles vaccination rates vary across the country and demographics in schools?

overall vaccination status vs. state, overall vaccination status vs. type of school, each type of exemption (personal, religious, and medical) vs. state exemption vs. type of school. To analyze vaccination and exemption rates by states, we will use spatial data to show the change in these rates across the country. Then, we can use two-sample t-tests to test for significance of vaccination and exemption rates between different types of schools. If there are significantly lower vaccination rates in private schools vs. other types of schools, this will support our main hypothesis.
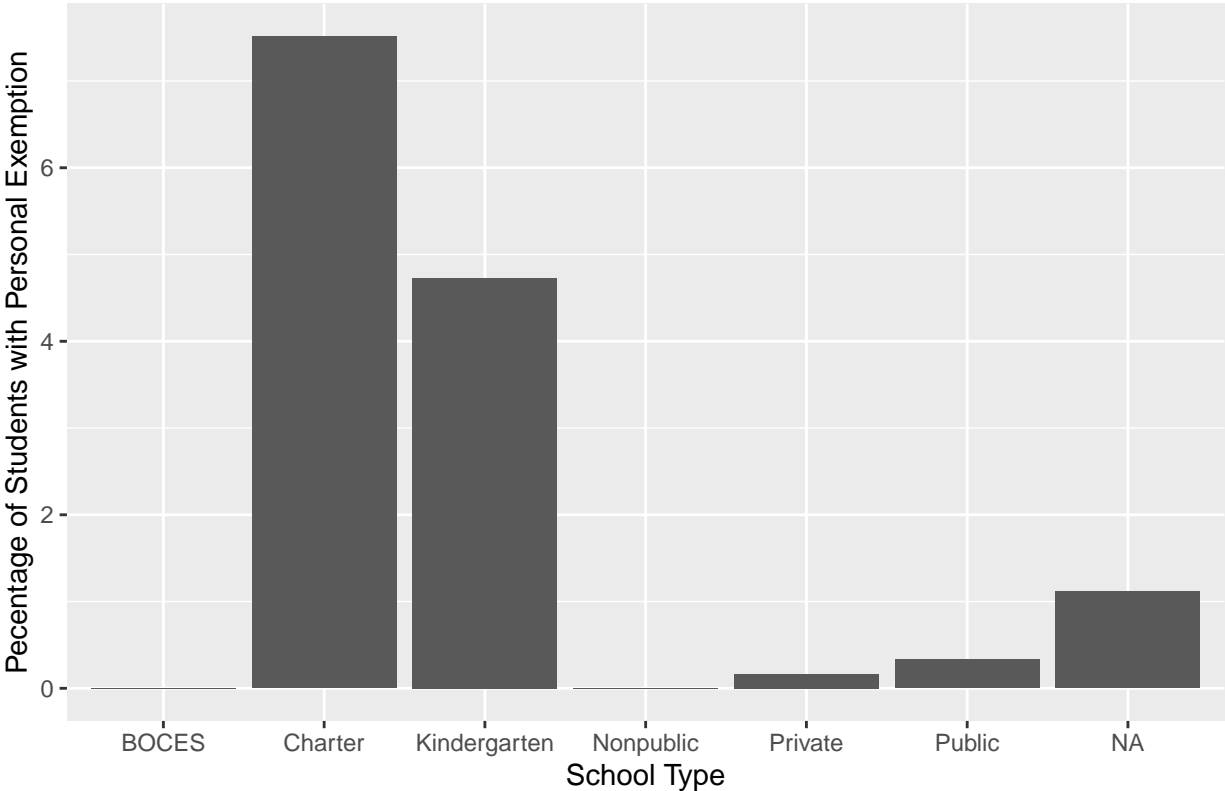
## Measles Vaccination Rates Across Different School Types
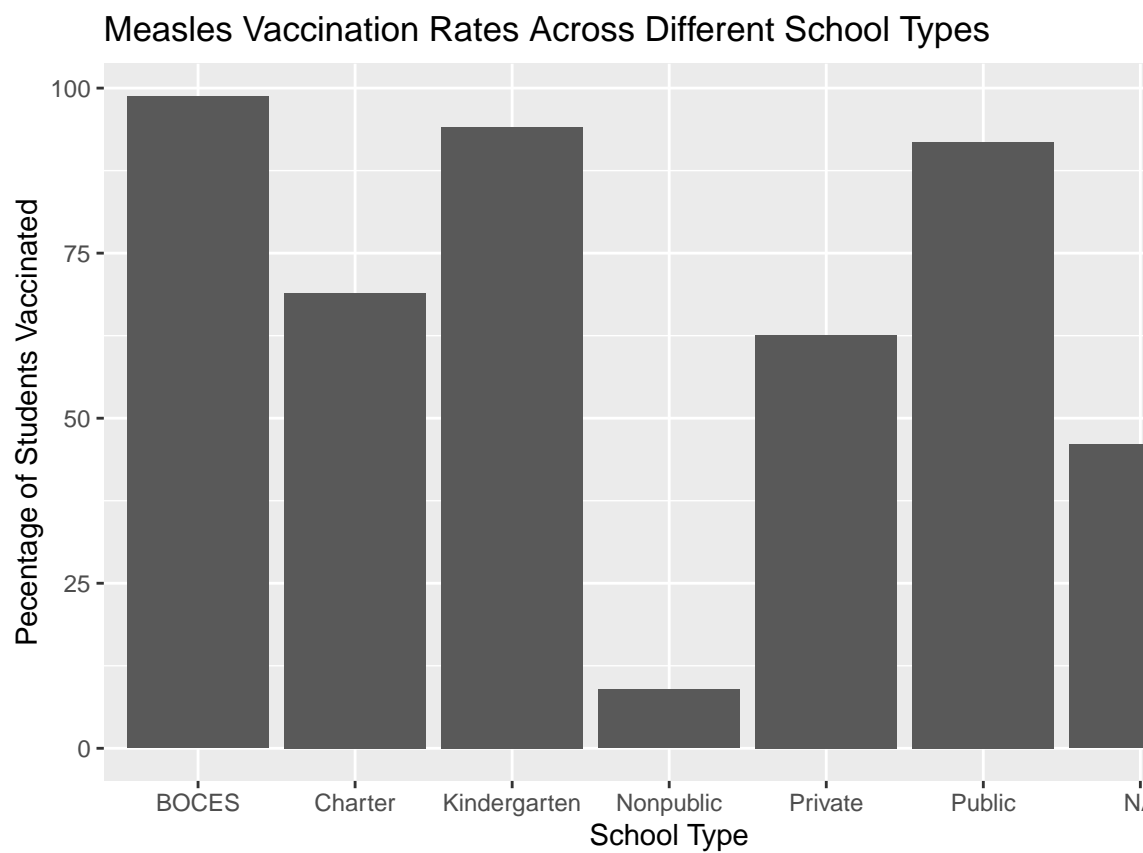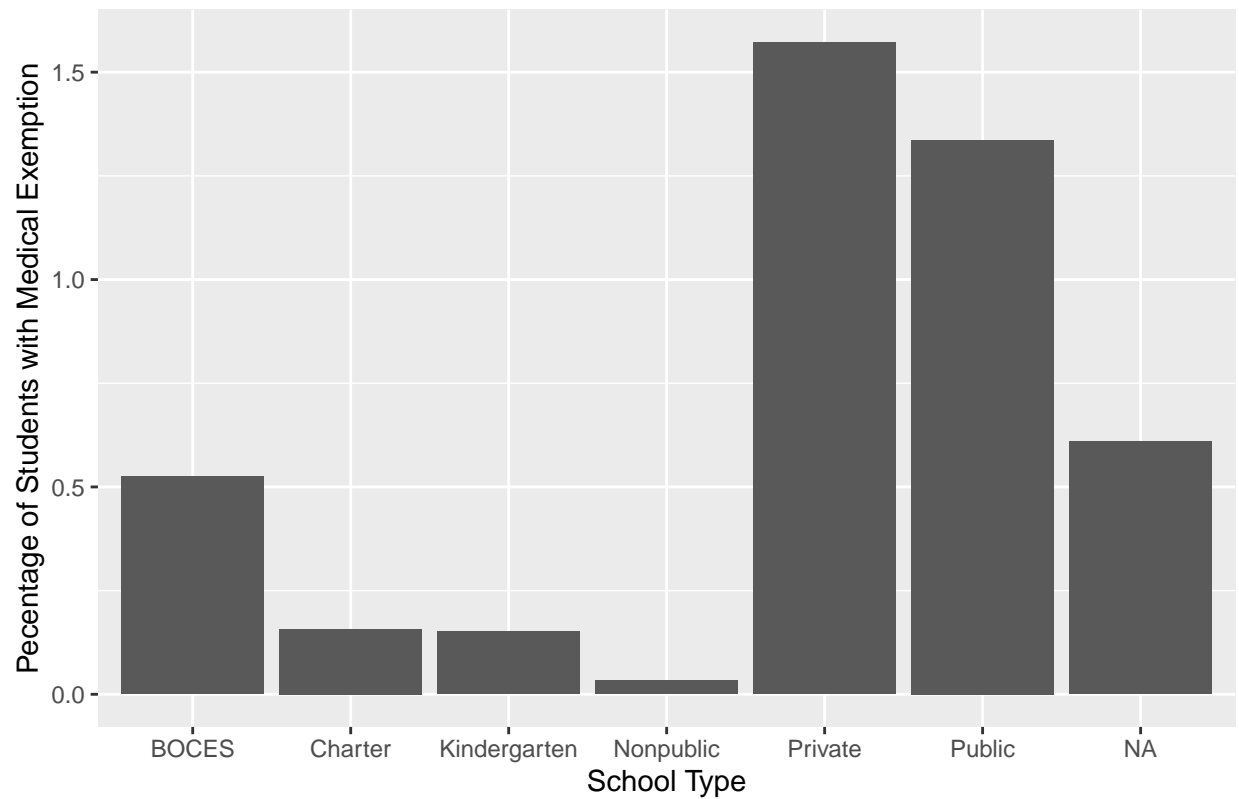


#Preliminary Bar Graphs

## Religious Exemption Rates Across Different School Types
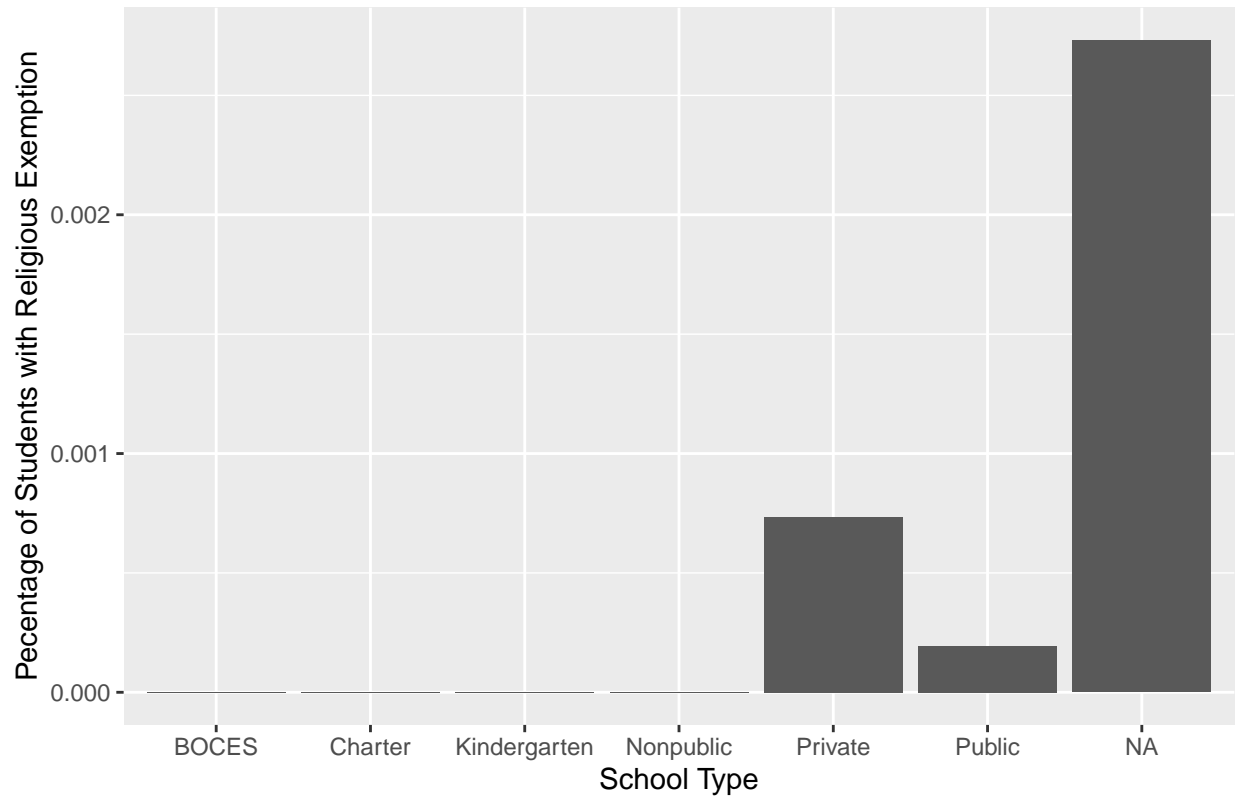
## Personal Exemption Rates Across Different School Types

# Medical Exemption Rates Across Different School Types



```
measles %>%
  ggplot(aes(x = overall, y = state)) +
  geom_point() +
  labs(x = "Vaccination Rate", y = "State", title = "Vaccination Rate by State")
```

Vaccination Rate by State