

Meningococcal disease

Exploration of data from CDC Wonder

Objective:

**Model different vaccination scenarios for
Meningococcal disease in the US (national level)**

Required data:

- Meningococcal disease **trends** for the USA (CDC)
 - By serotype
 - By age
- **Vaccination** levels (National Immunization Survey-Teen)

Next step:

- Make the previous model **age/serotype structured**.

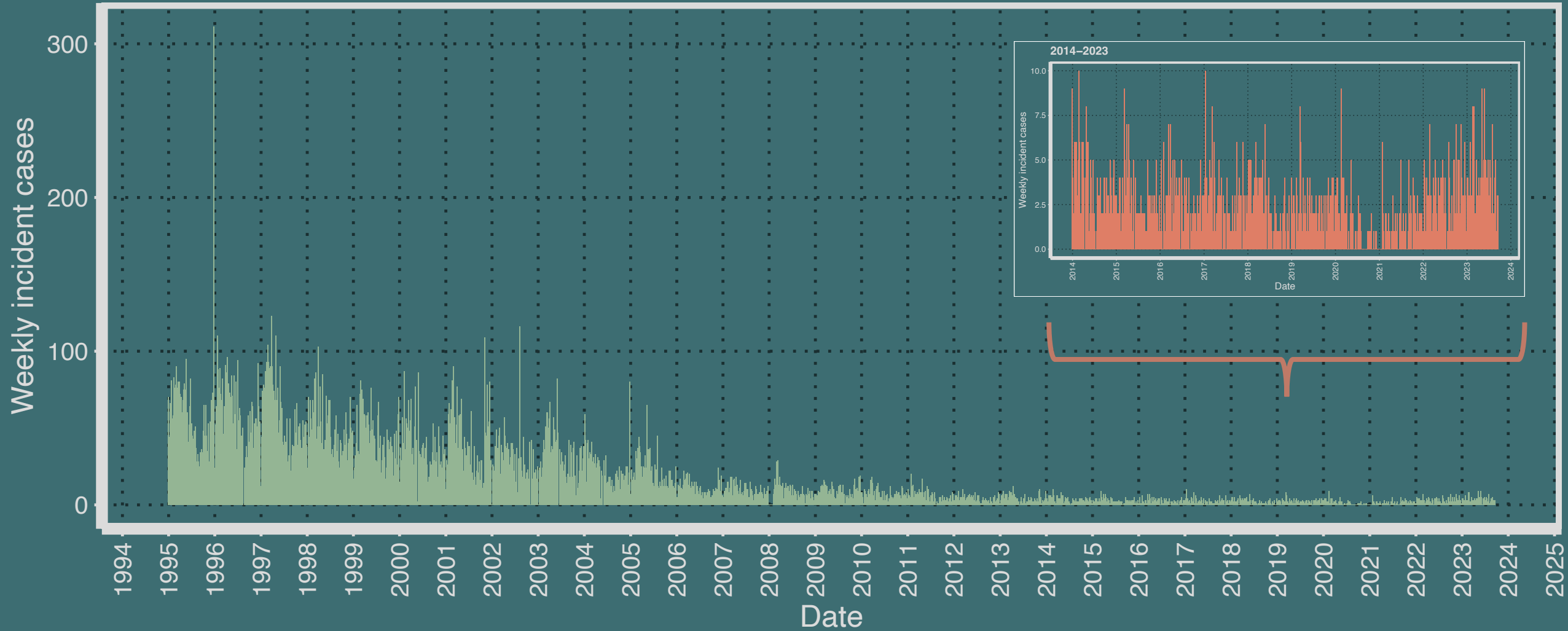
Overall trends (CDC)

Weekly data from:

https://wonder.cdc.gov/nndss/nndss_weekly_tables_menu.asp

Meningococcal disease by serogroup (incidence)

CDC Wonder / Socrata-API (NNDSS – Table I)



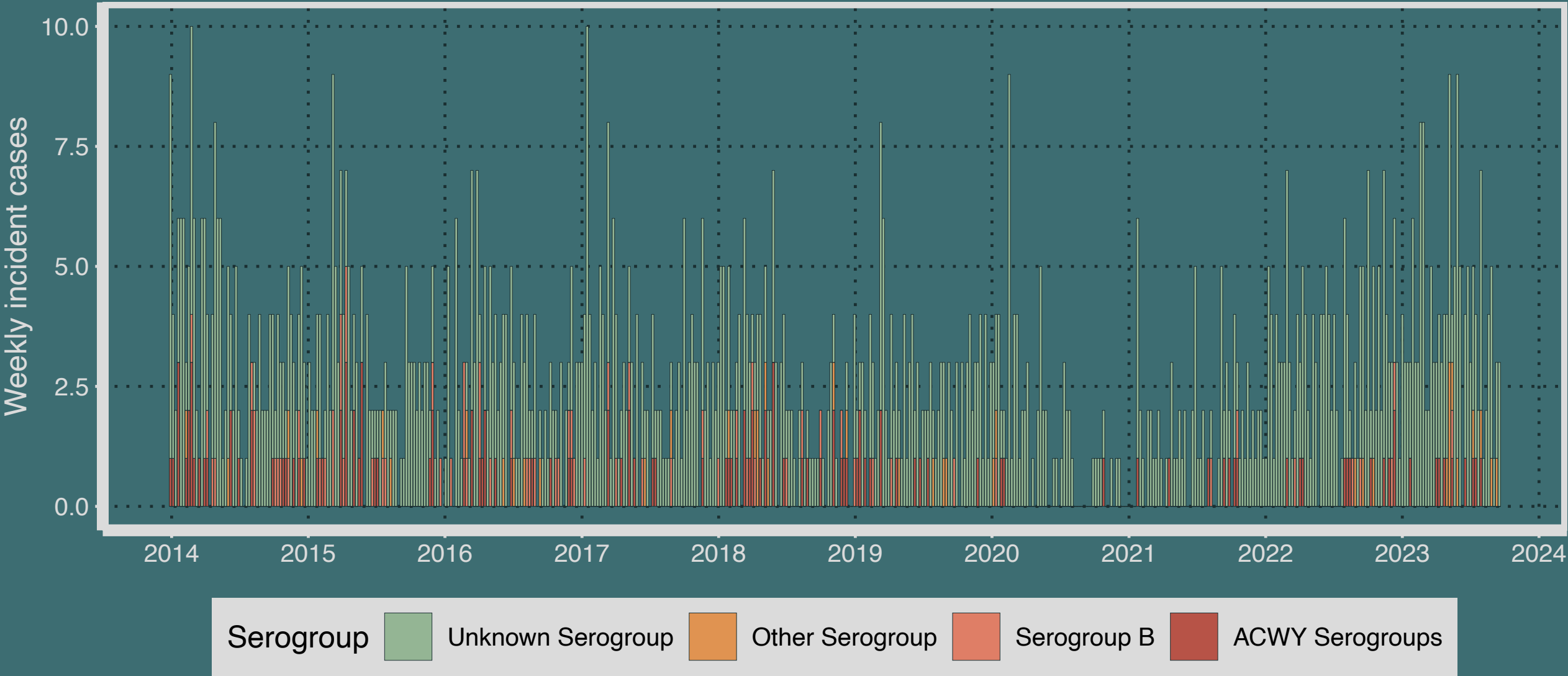
Weekly incidence data starts on 2006-01-01. Previous incidence cases recovered from weekly cummulative cases

Serotype trends (CDC)

Weekly data(since 2014 + in 2005) from:
https://wonder.cdc.gov/nndss/nndss_weekly_tables_menu.asp

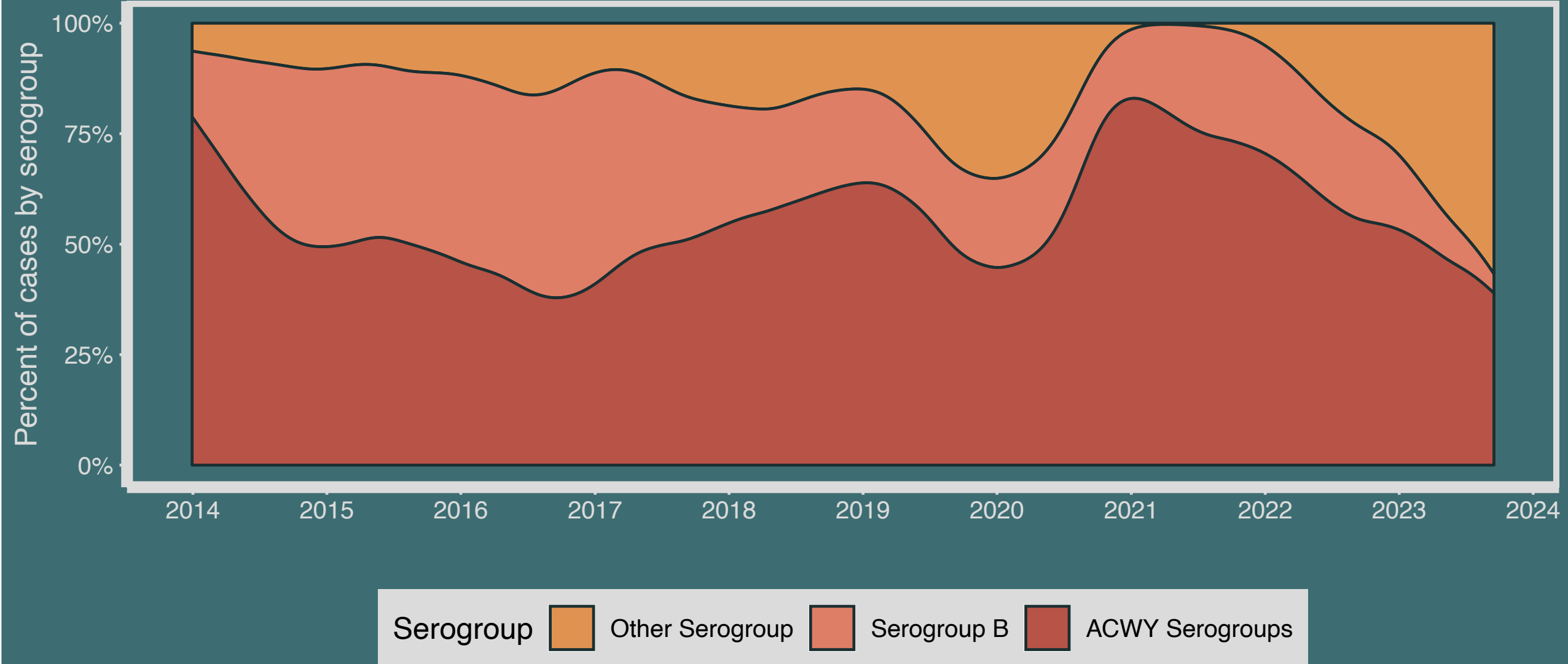
Meningococcal disease by serogroup

CDC Wonder / Socrata-API (NNDSS – Table I)



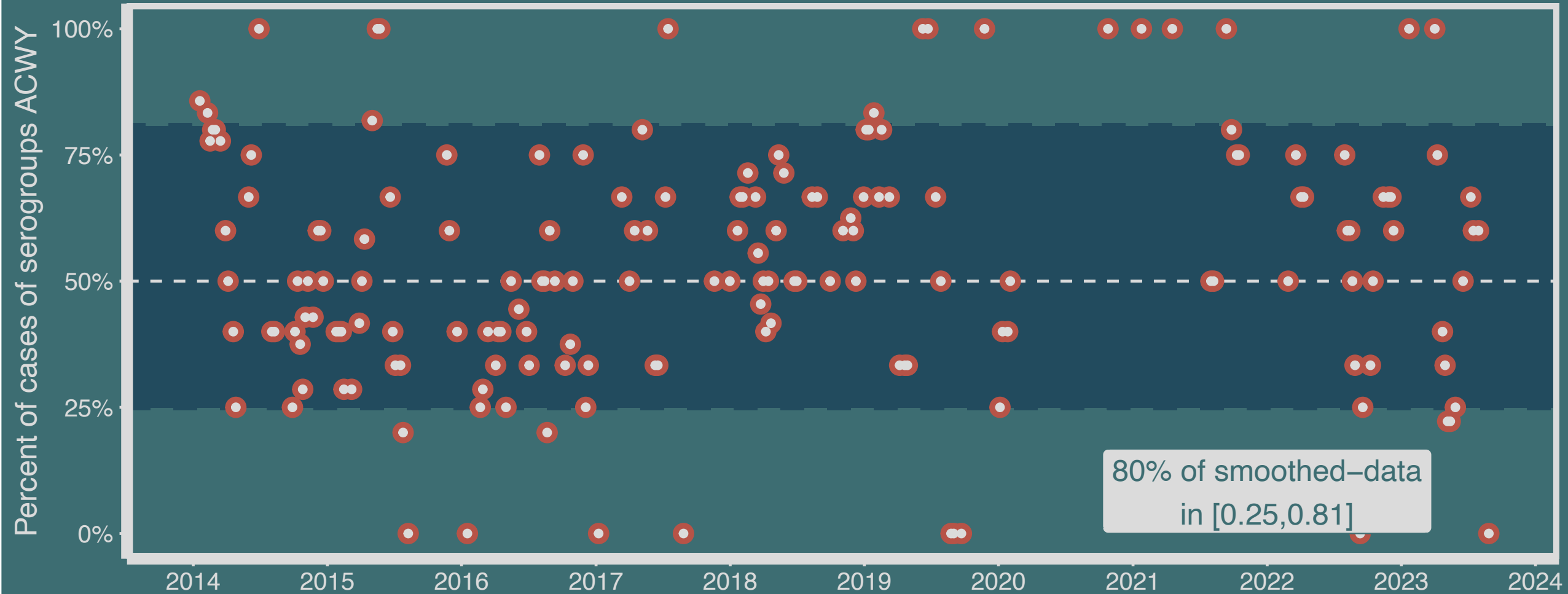
Meningococcal disease by serogroup (percent) in the US

CDC Wonder / Socrata-API



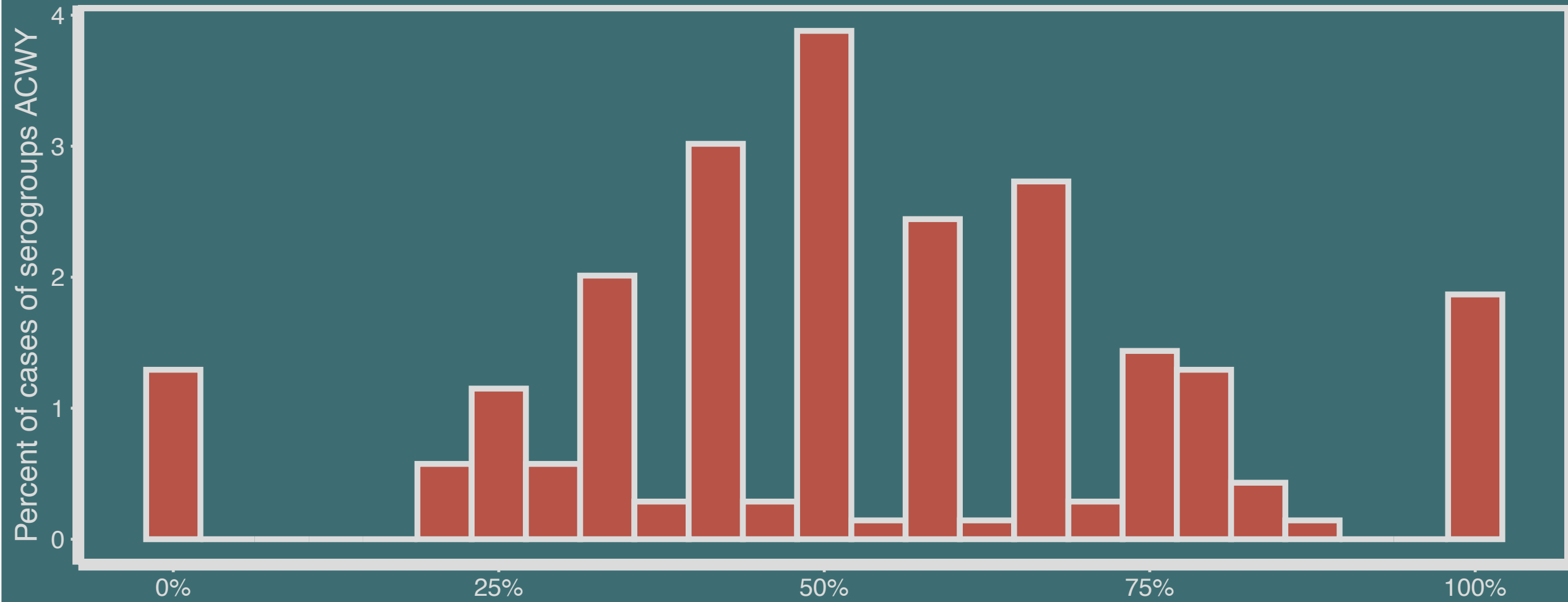
Positivity of serogroups A, C, W, and Y – Meningococcal disease

CDC Wonder / Socrata-API



Positivity of serogroups A, C, W, and Y – Meningococcal disease

CDC Wonder / Socrata-API



4-week rolling mean

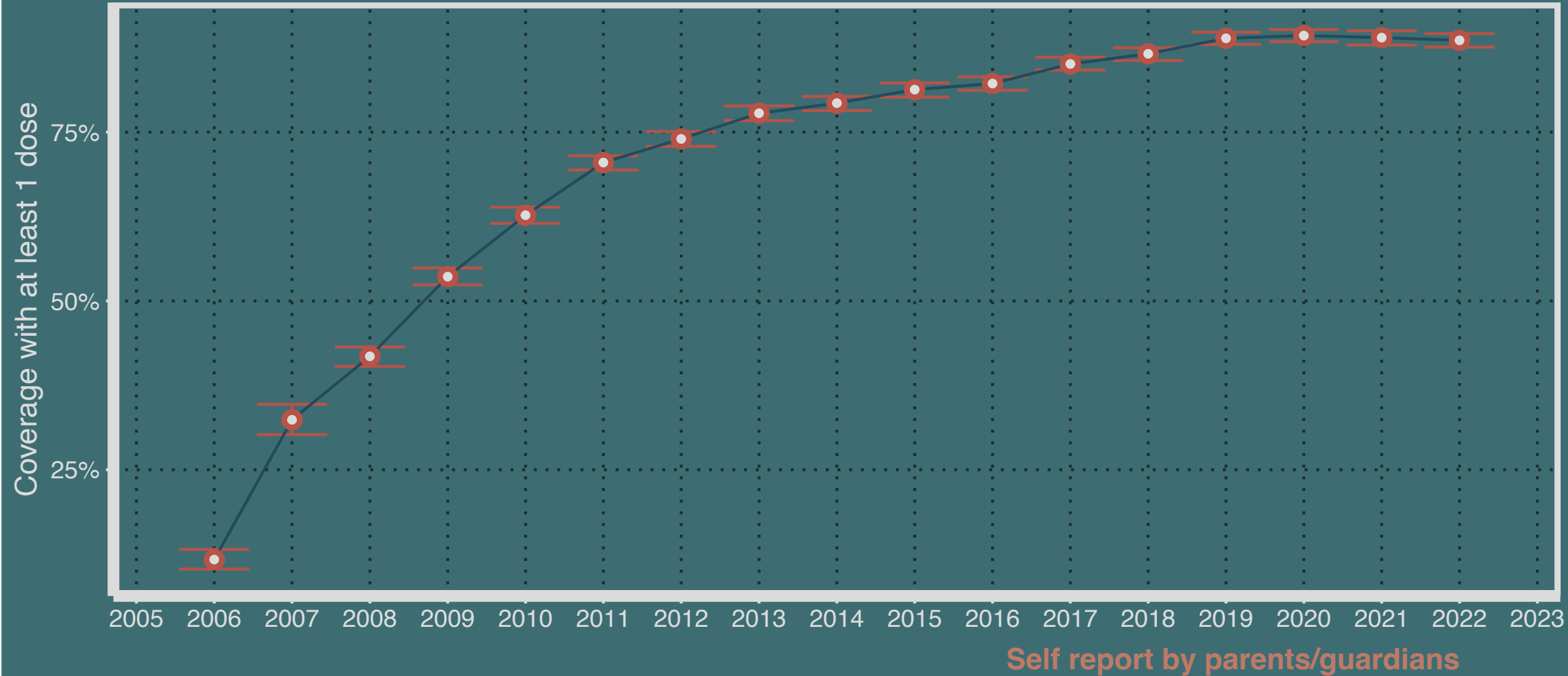
Vaccination (NCIRD)

National Immunization Survey-Teen data:

<https://data.cdc.gov/Teen-Vaccinations/Vaccination-Coverage-among-Adolescents-13-17-Years/ee48-w5t6>

Vaccination coverage of at least one dose of MenACWY vaccine

National Center for Immunization and Respiratory Diseases (NCIRD)

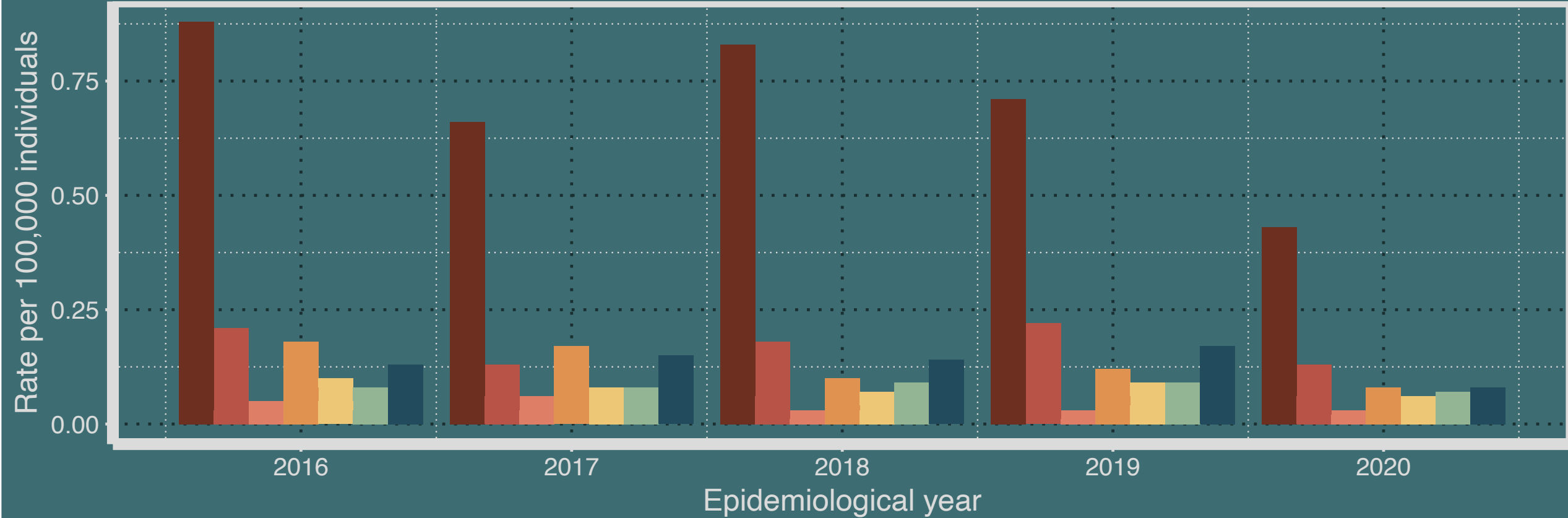


Age groups (CDC)

Yearly data(2016 to 2020) from:
https://wonder.cdc.gov/nndss/nndss_annual_tables_menu.asp

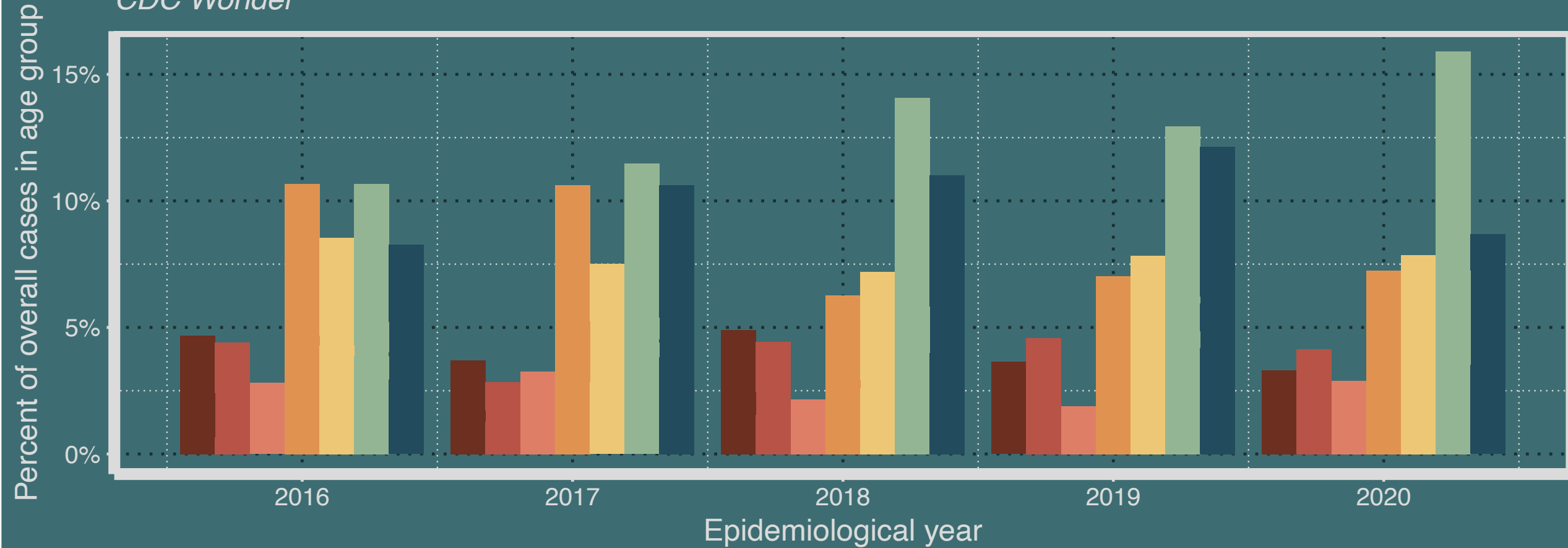
Meningococcal disease by age group (rates)

CDC Wonder



Meningococcal disease by age group (percent of cases)

CDC Wonder



Meningococcal disease by age group (percent of cases)

CDC Wonder

Percent of overall cases in age group

Which age groups make sense to cluster?

