

# Trends of Vaccine-Preventable Diseases in Montana



DEPARTMENT OF  
**PUBLIC HEALTH &  
HUMAN SERVICES**

# Reportable Conditions Covered

- Pertussis (whooping cough) (*Bordetella pertussis*)
- Varicella (chickenpox) (Varicella zoster virus)
- Mumps
- Invasive pneumococcal disease (IPD) (*Streptococcus pneumoniae*)
- Invasive *Haemophilus influenzae*
- Meningococcal disease (*Neisseria meningitidis*)



# What we'll look at

- Incidence of select VPD cases will be described by
  - Age
  - Race
  - County of Residence
  - Vaccination status
  - Vital status (deaths)
  - Outbreaks of disease
  - Time period
    - Pre-COVID (2015-2019)
    - COVID (2020-2022)
    - Post-COVID (2023)



# Why are Trends Important?

- Target interventions to populations
  - Vaccination
  - Education
- Evaluating interventions
  - Increase or decrease in cases?
  - Overall changes or certain populations?
- Changing trends
  - COVID-19 impacted disease transmission
  - Competing germs – ebb and flow
  - Seasonality

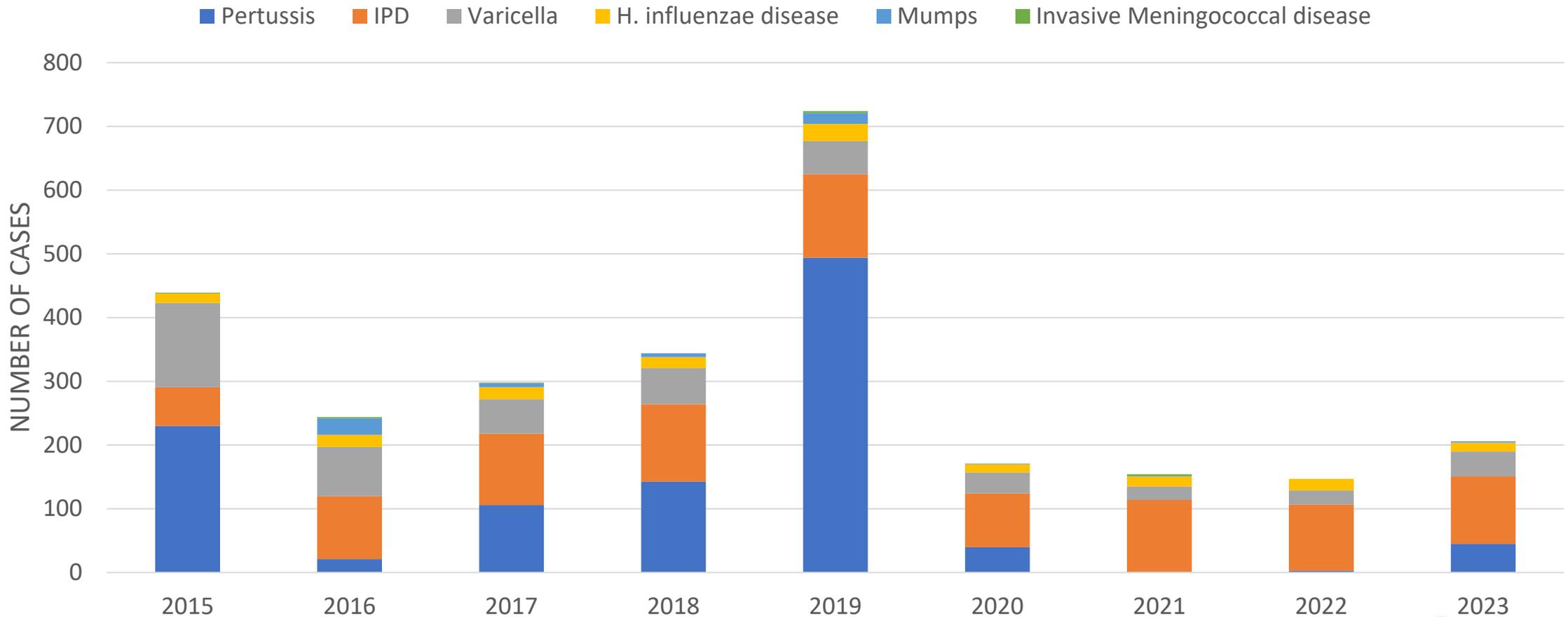


**Disclaimer:  
2023 data are preliminary**

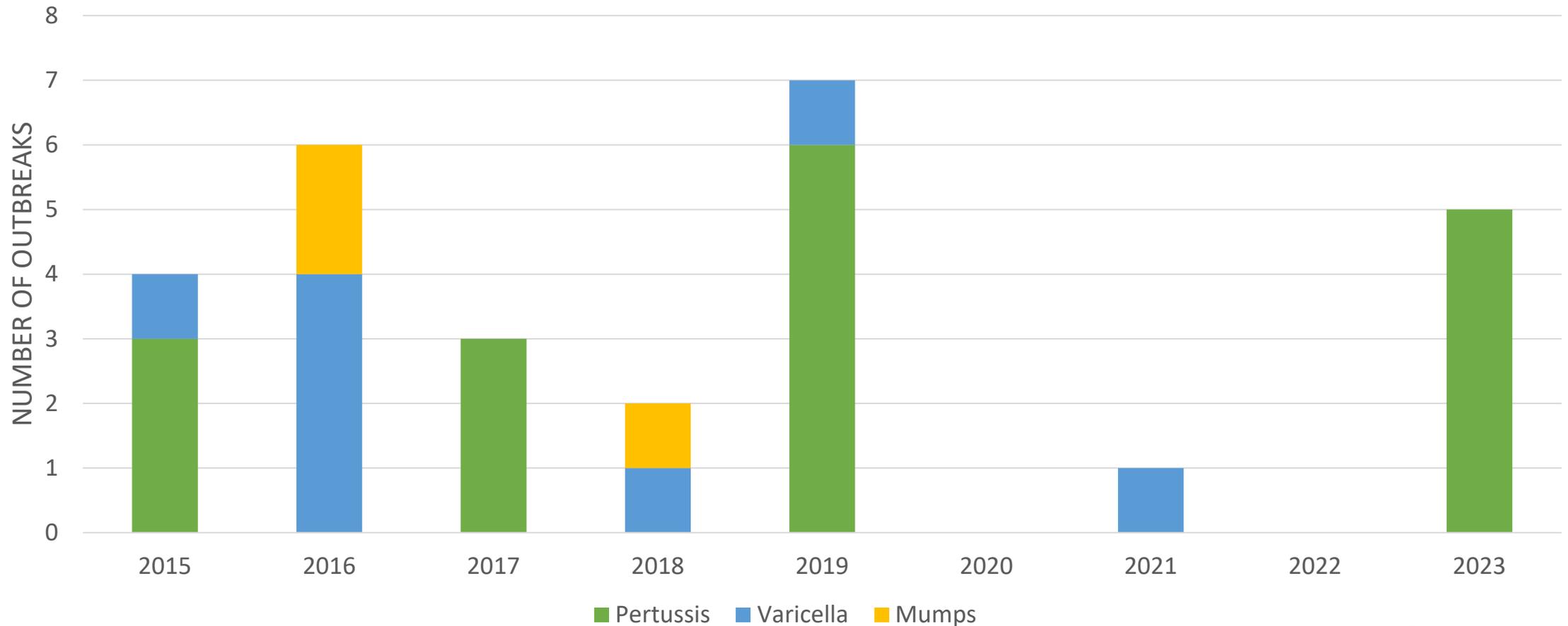


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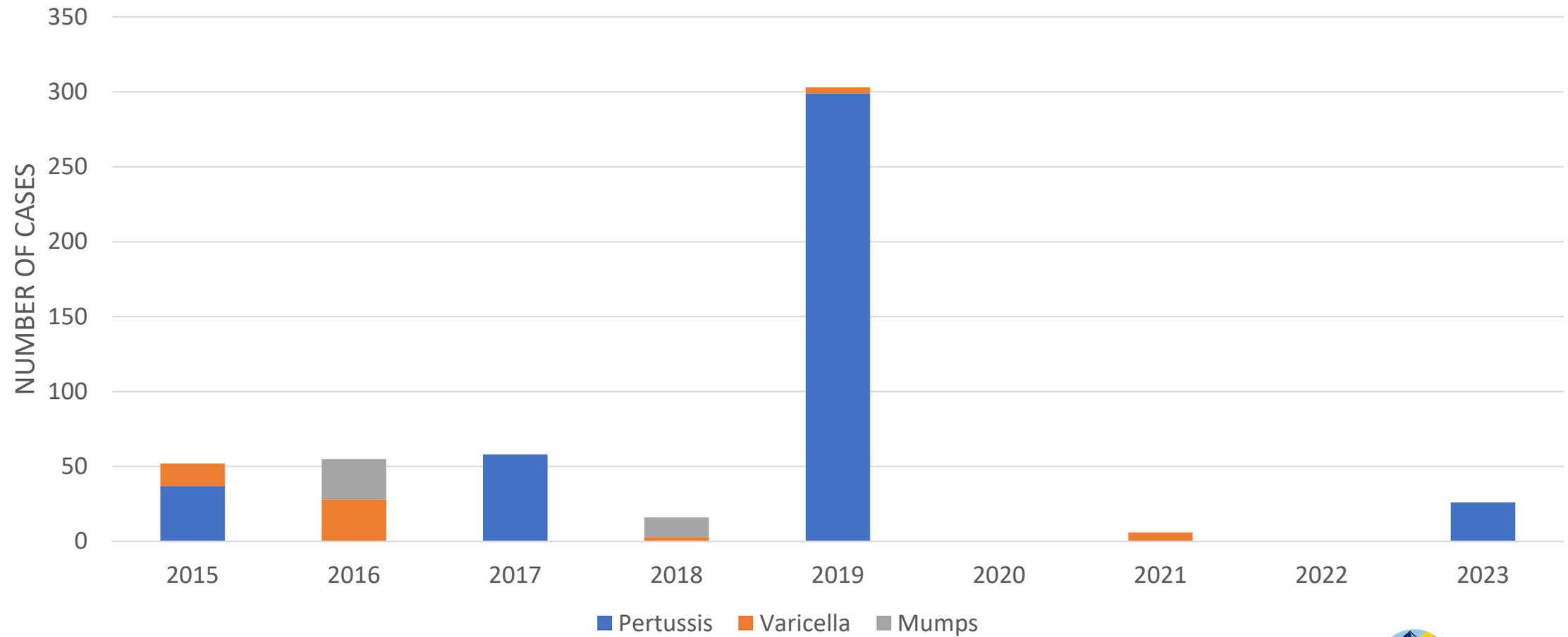
# Overall Cases of Disease by Year, Montana, 2015-2023



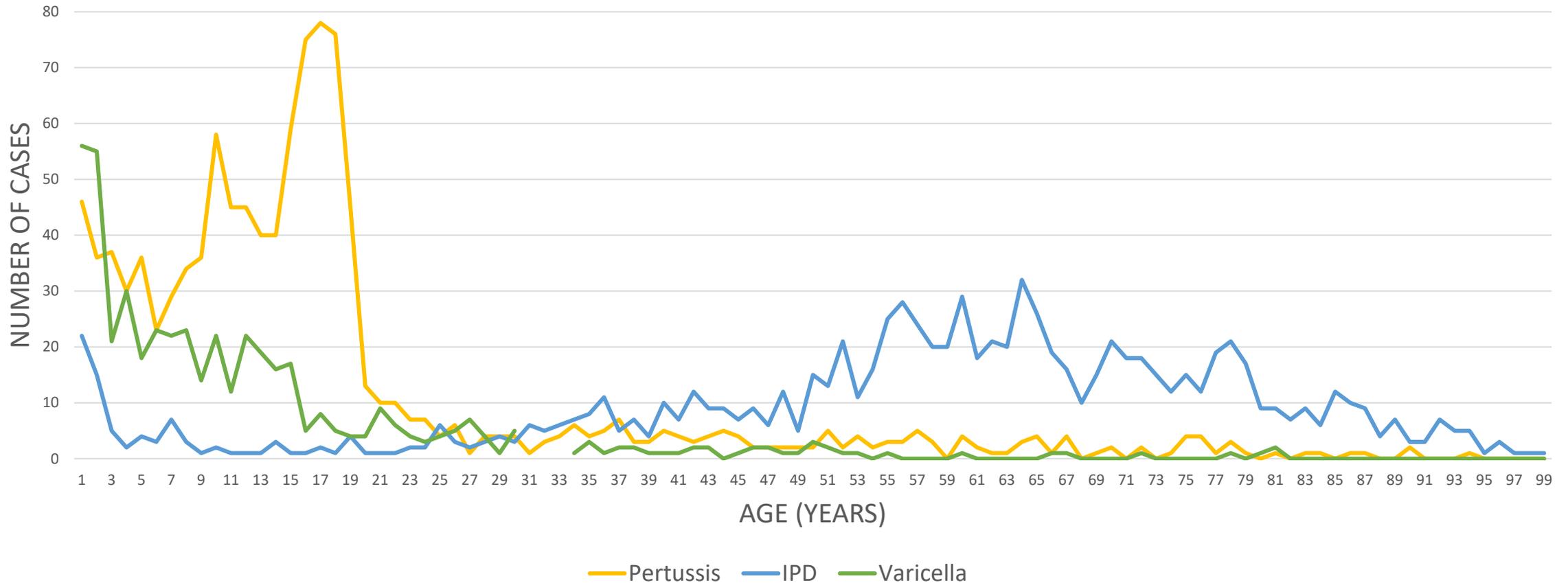
# Number of Outbreaks by Year, Montana, 2015-2023



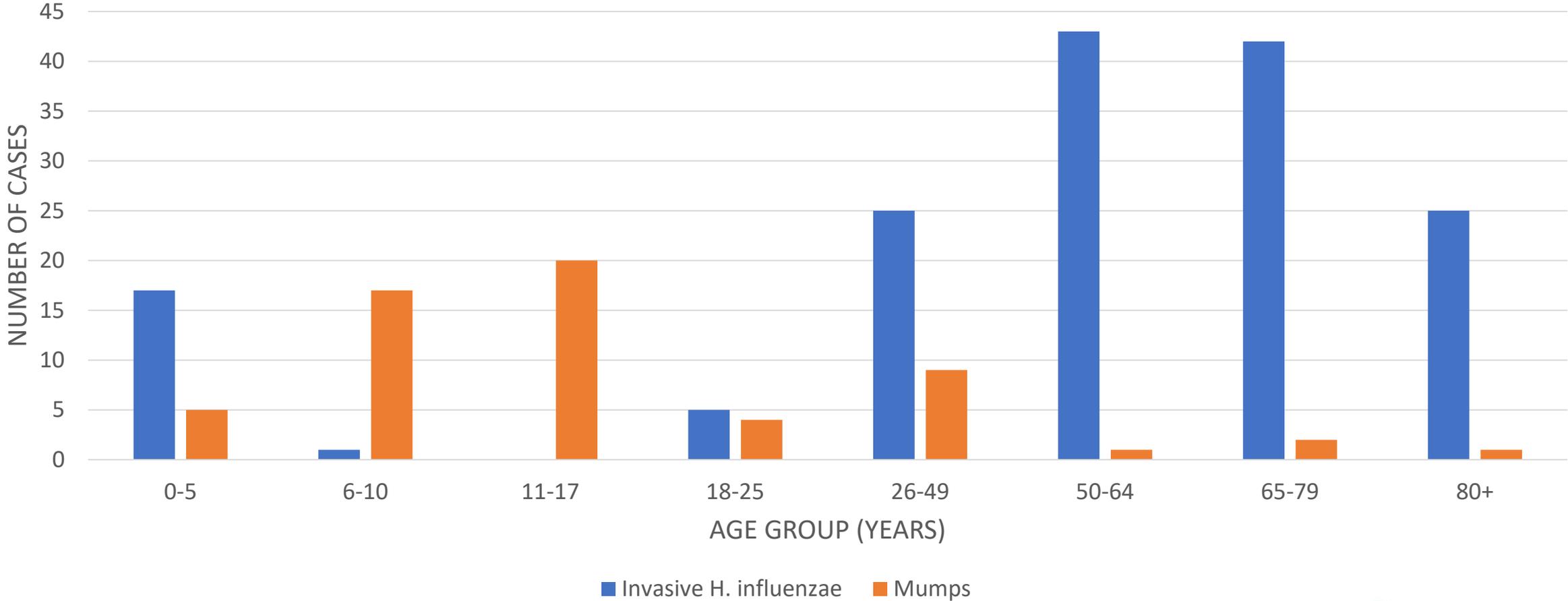
# Outbreak-Related Cases by Year, Montana, 2015-2023



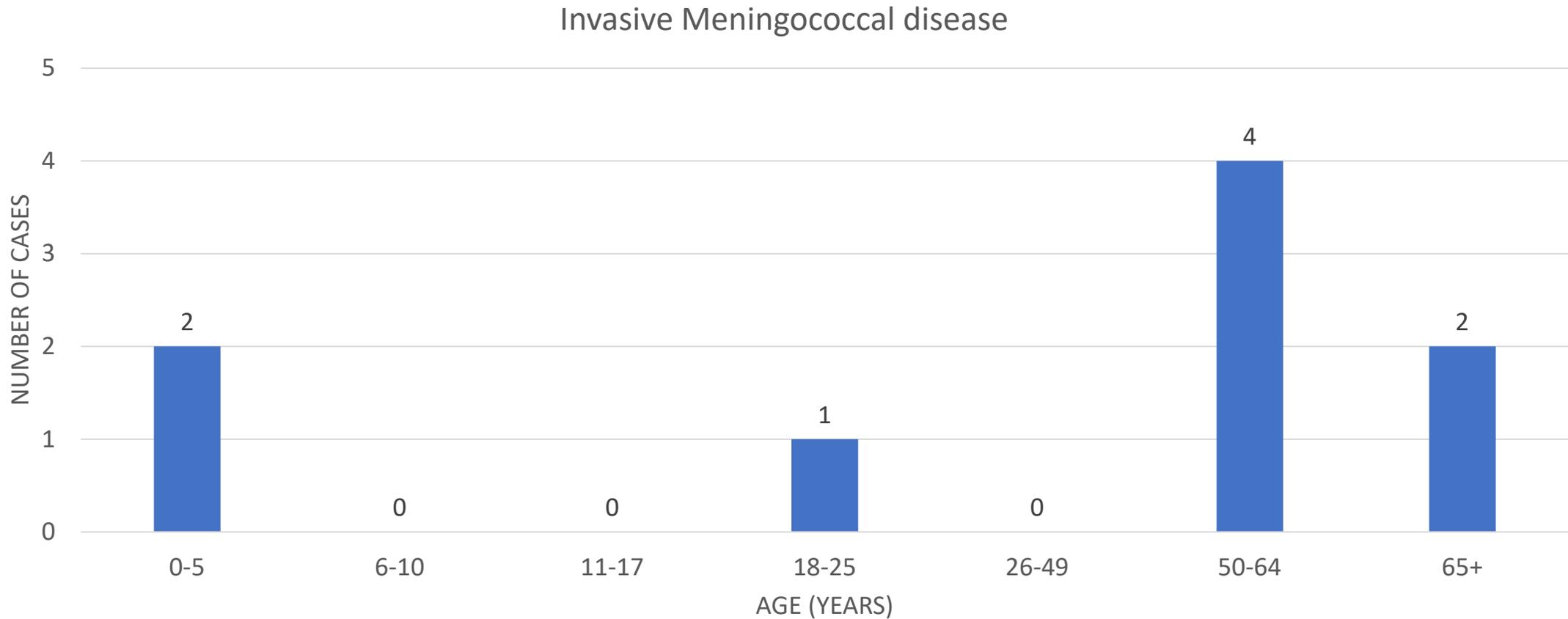
# Cases by Age and Disease, Montana, 2015-2023



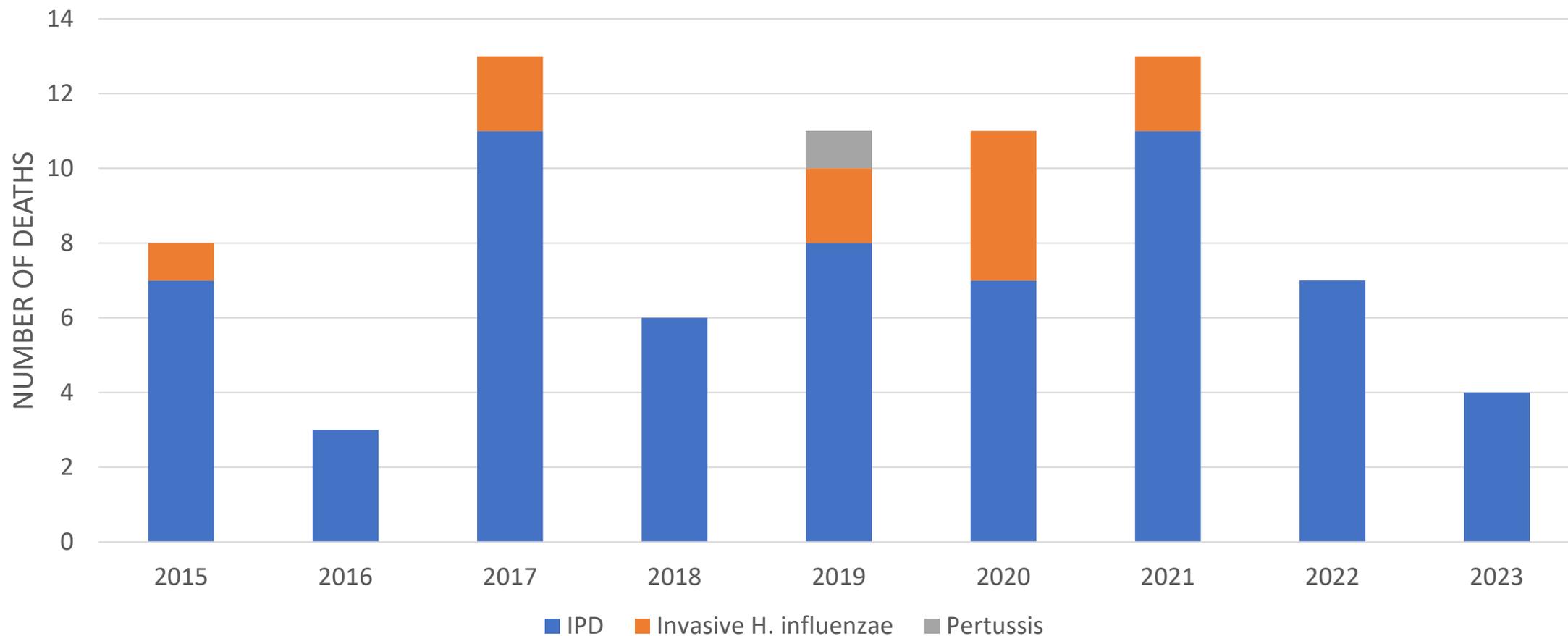
# Cases by Age Group, Montana, 2015-2023



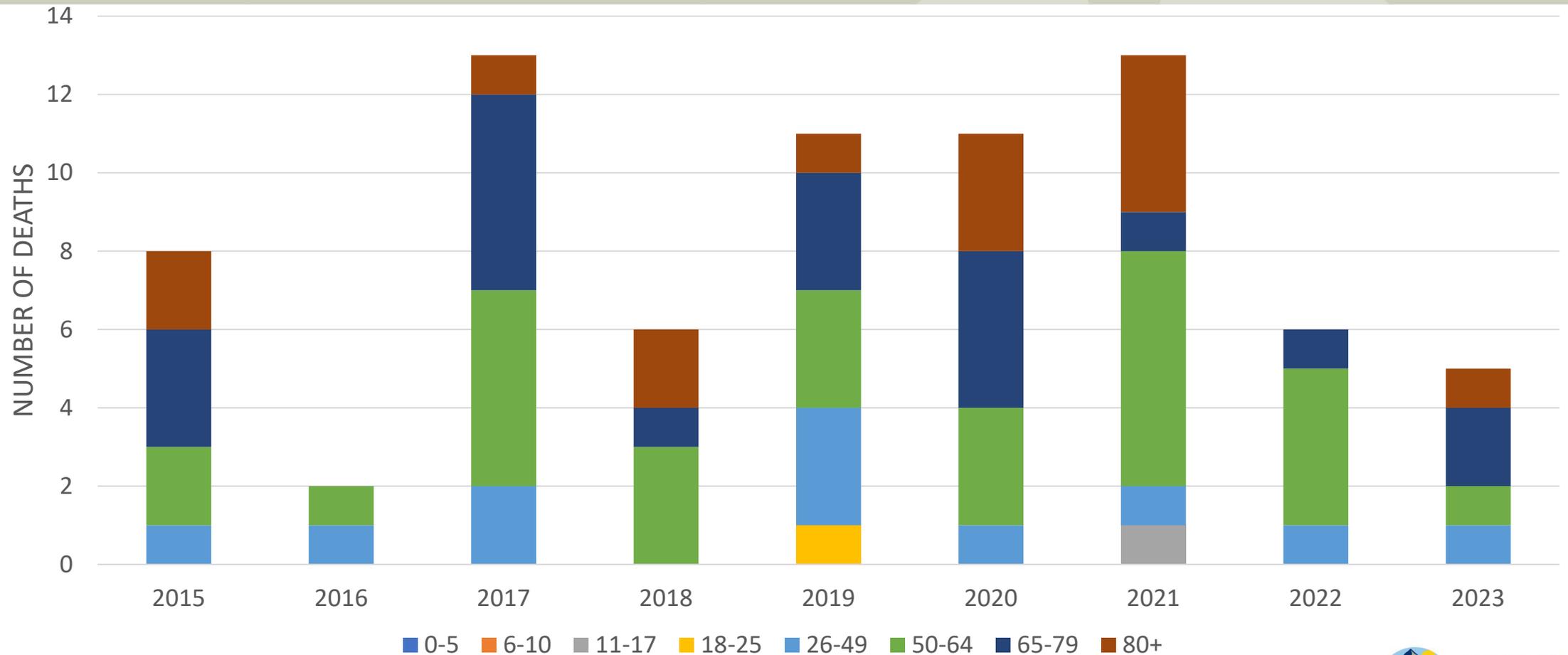
# Cases by Age Group, Montana, 2015-2023



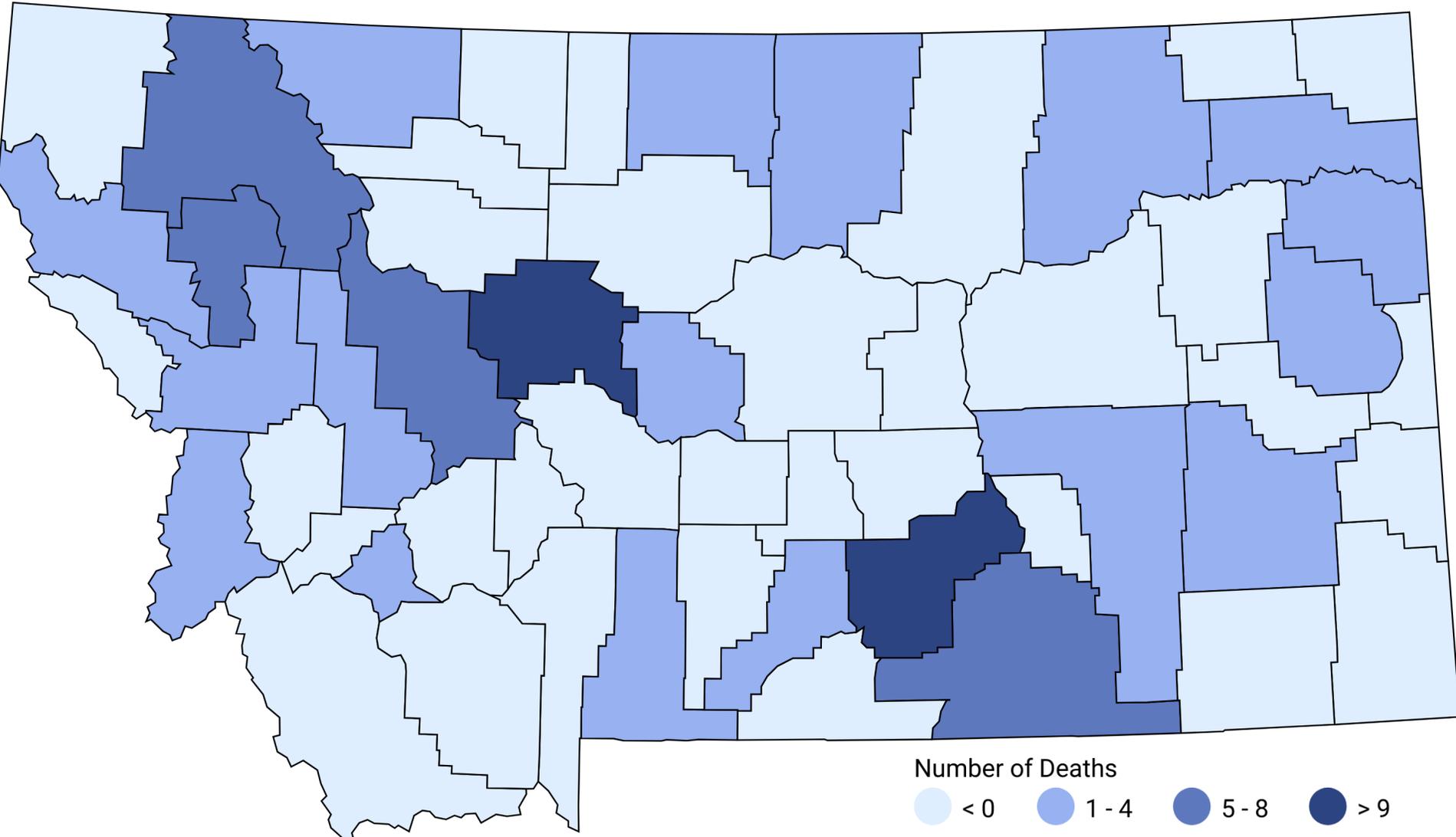
# VPD Deaths by Year and Disease, Montana, 2015-2023



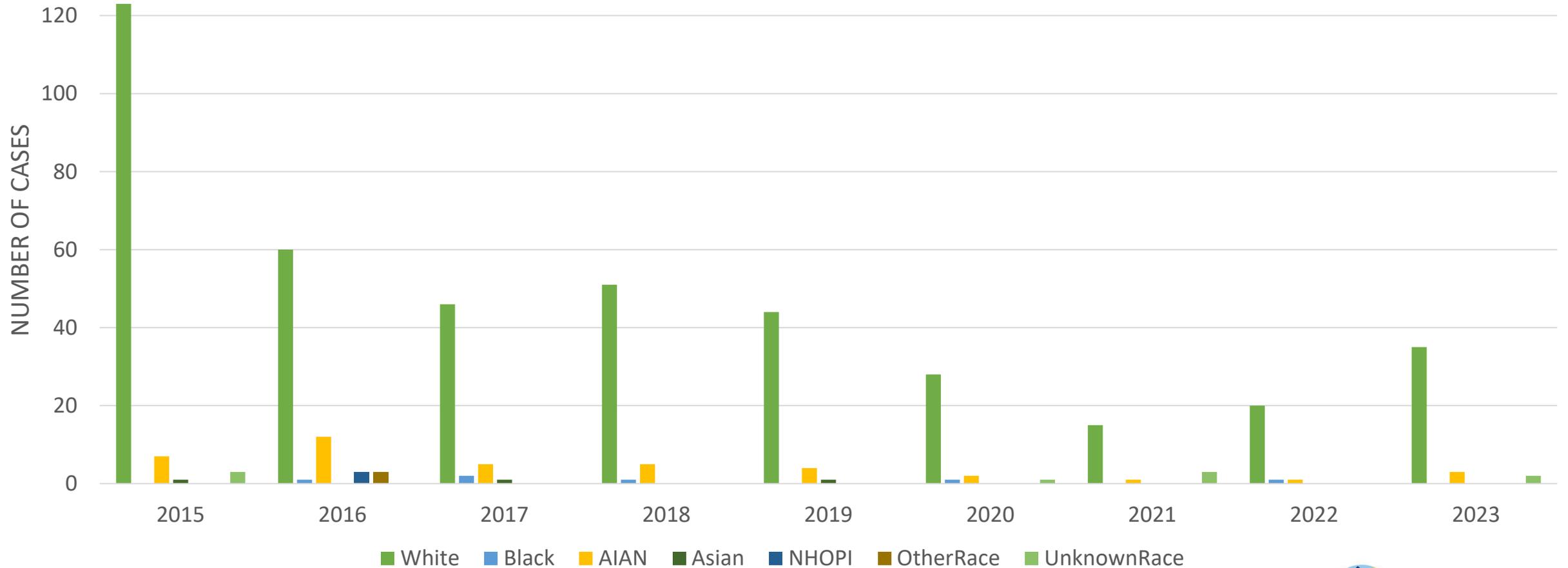
# Deaths Caused by IPD, *H. influenzae*, and Pertussis, by Year and Age Group, Montana, 2015-2023



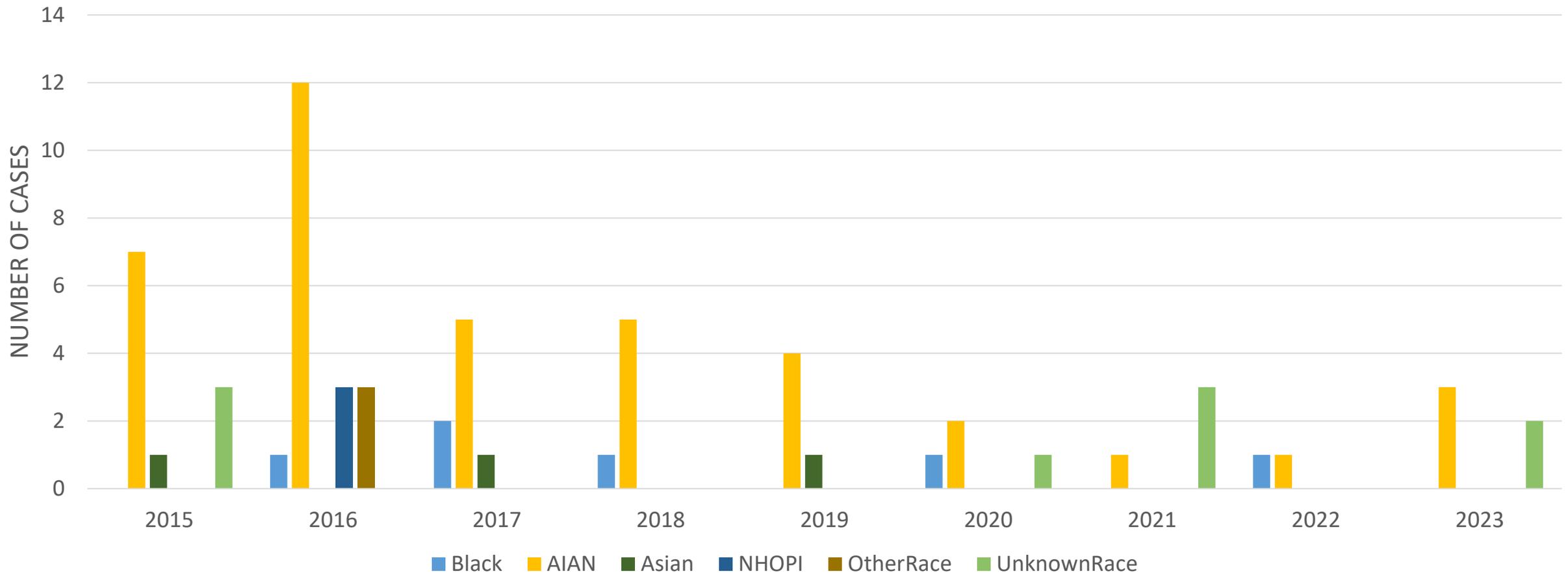
# Total VPD Deaths by County, 2015-2023



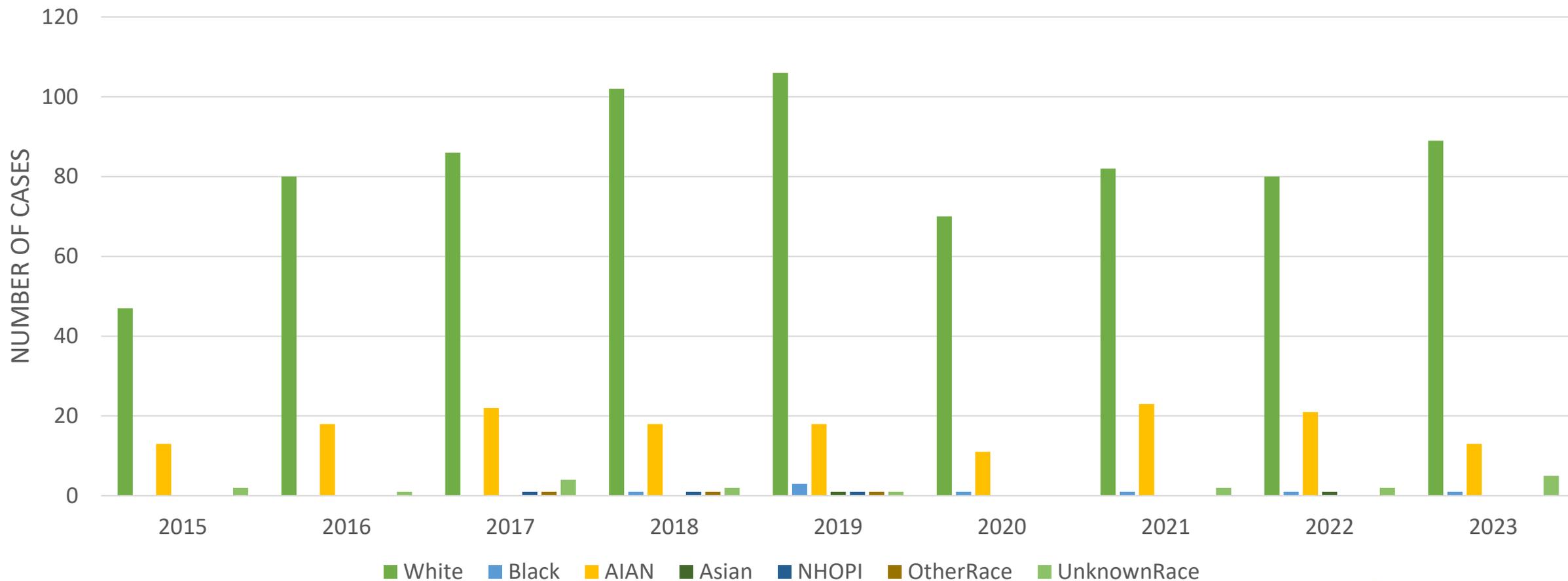
# Varicella Cases by Race and Year, Montana, 2015-2023



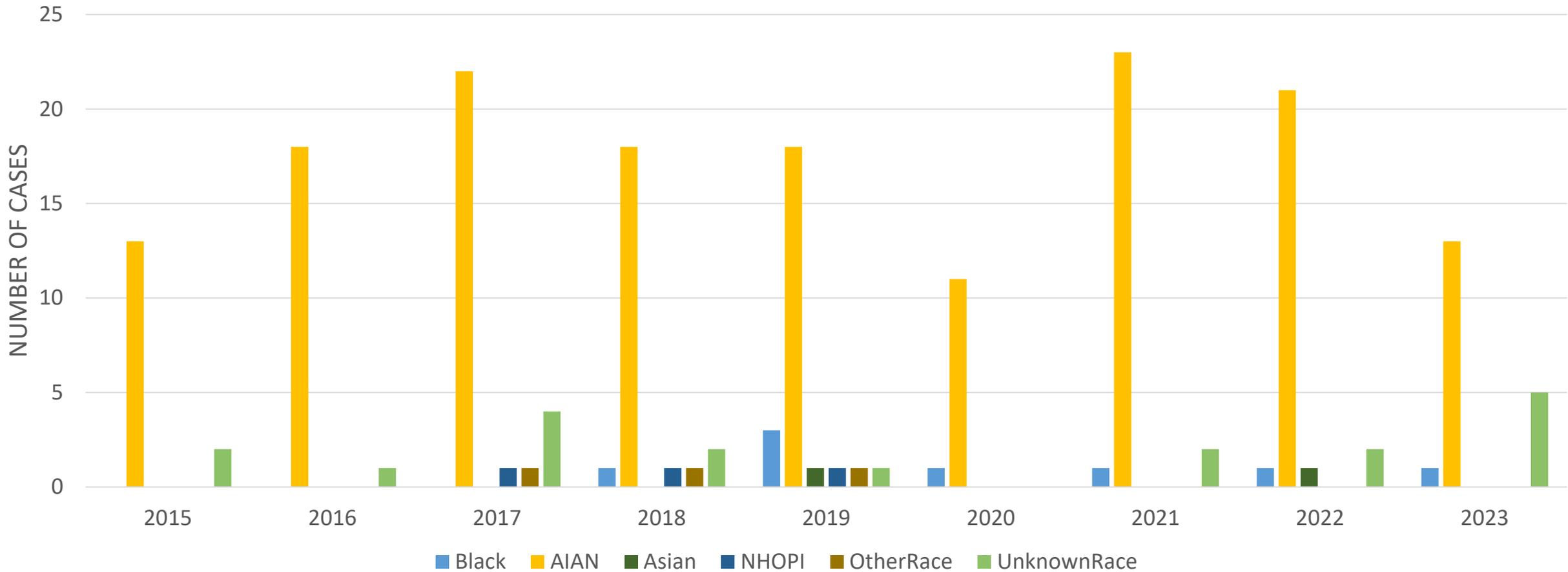
# Non-white Varicella Cases by Race and Year, Montana, 2015-2023



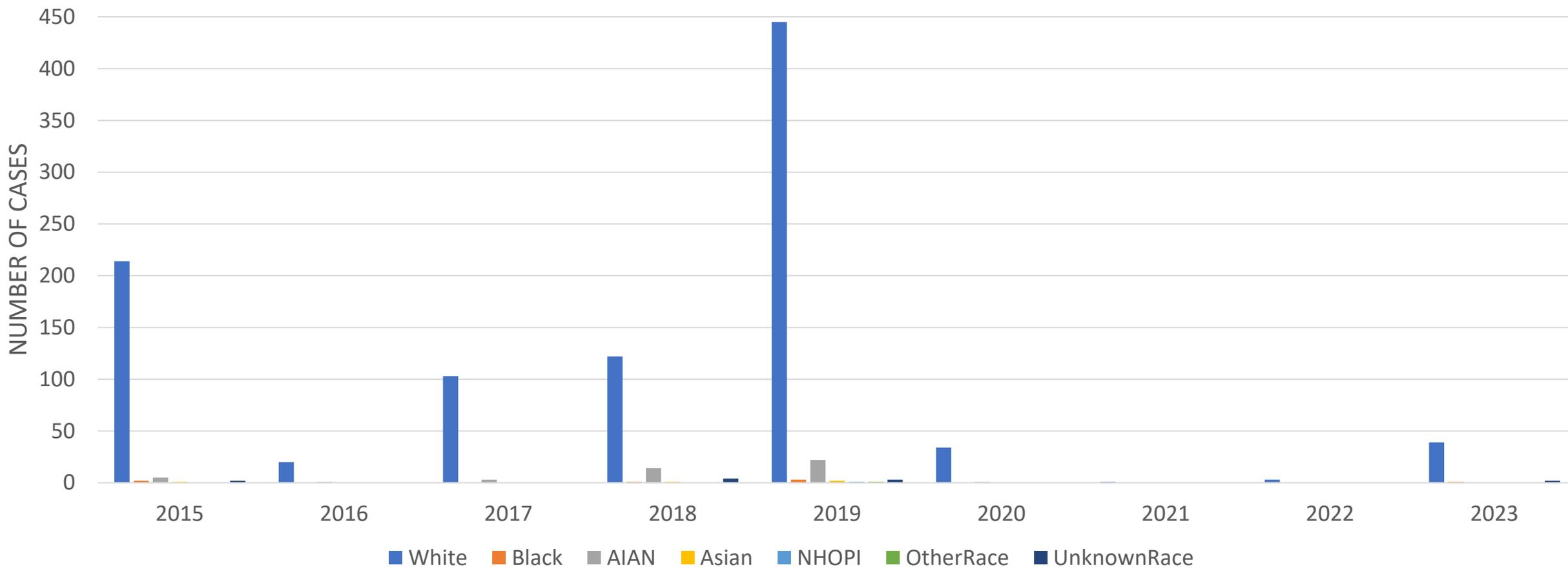
# IPD Cases by Race and Year, Montana, 2015-2023



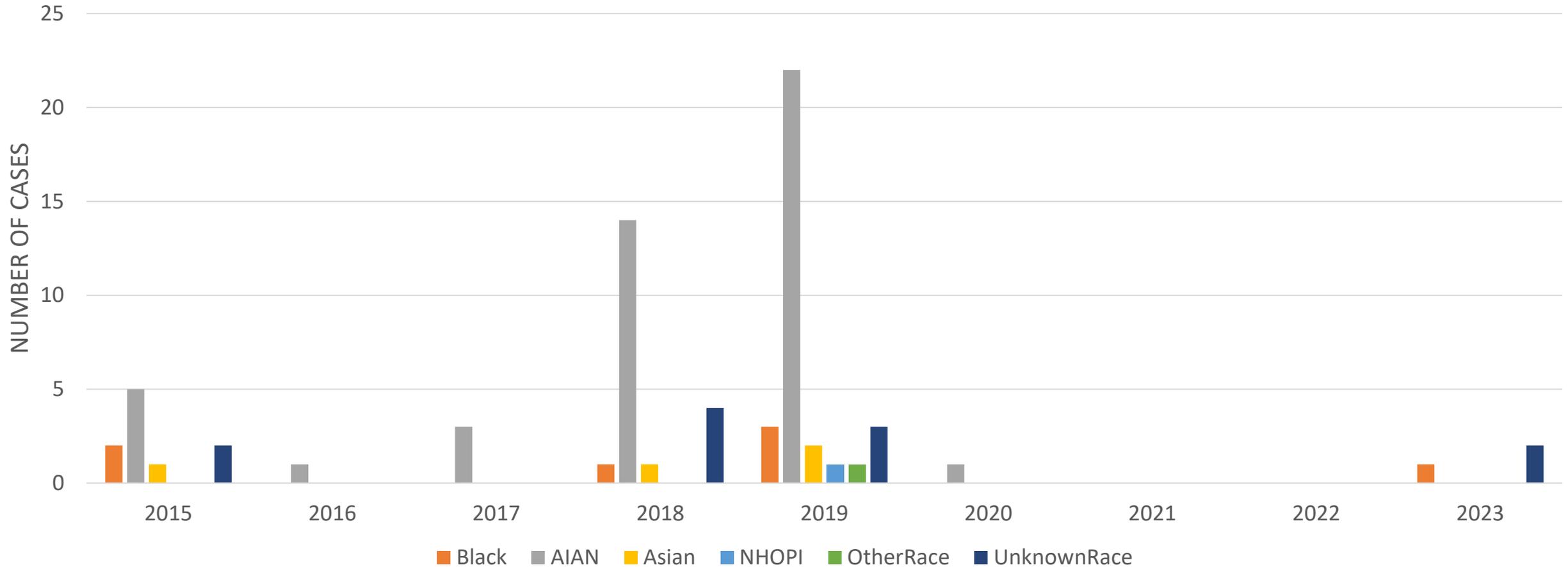
# Non-white IPD Cases by Race and Year, Montana, 2015-2023



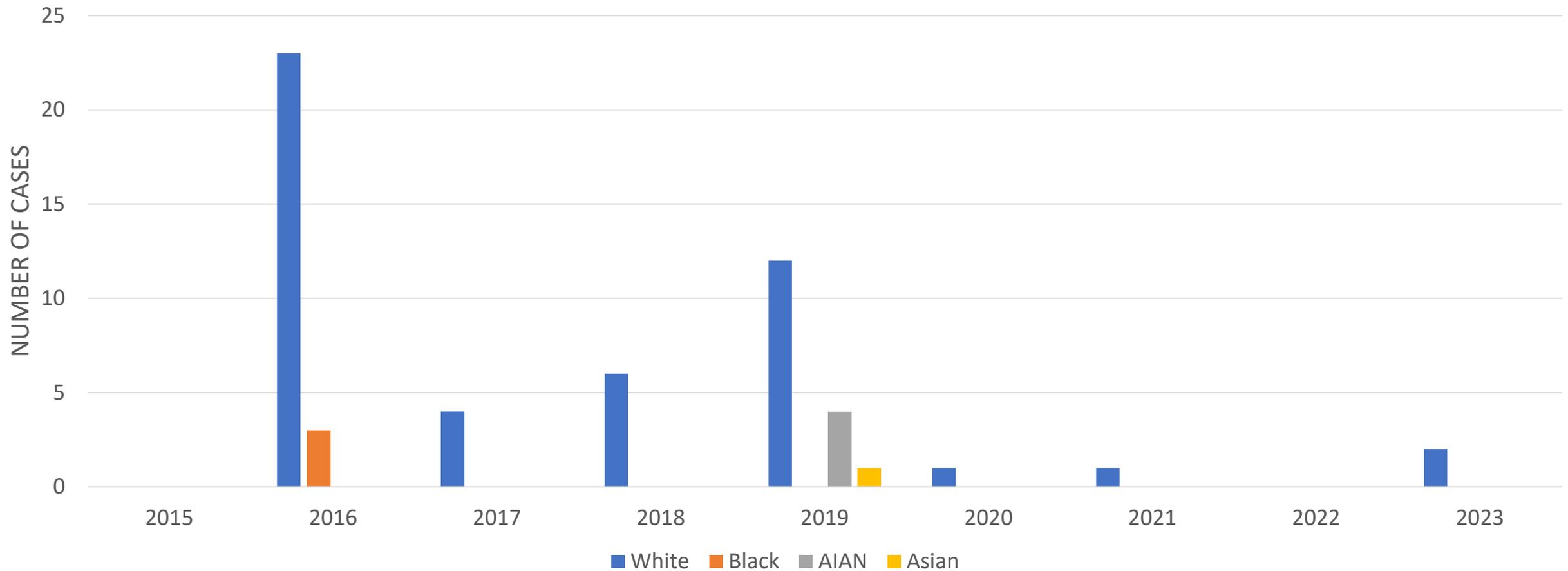
# Pertussis Cases by Race and Year, Montana, 2015-2023



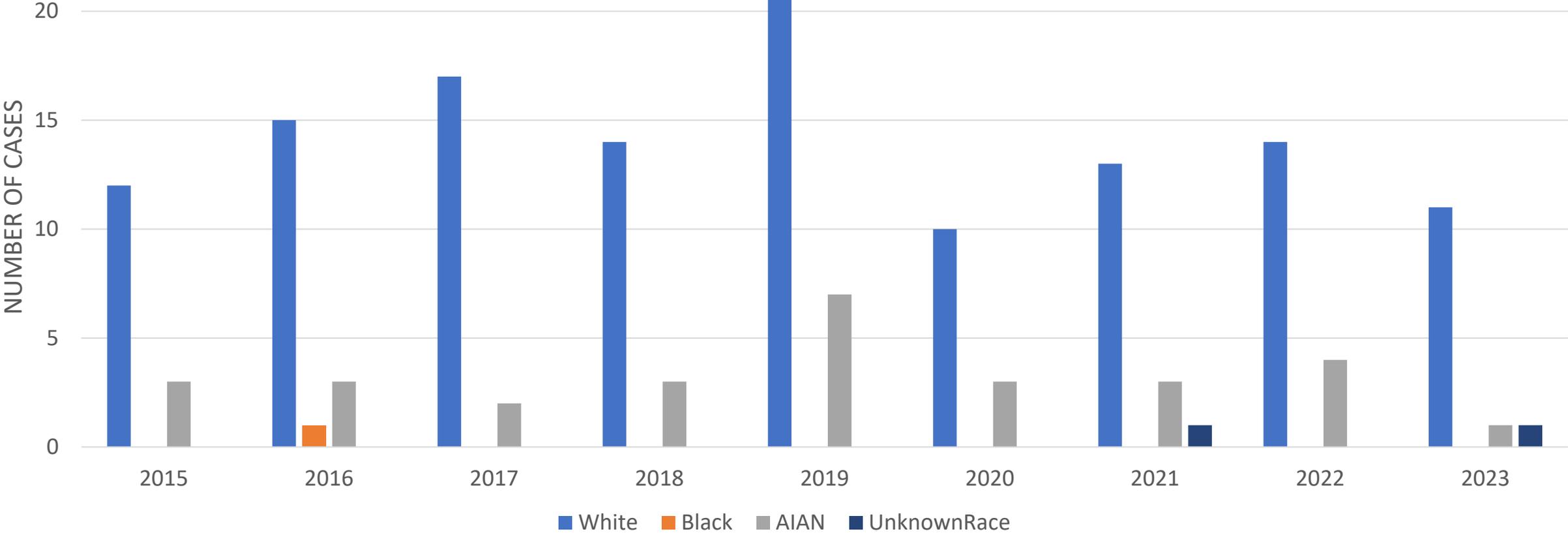
# Non-white Pertussis Cases by Race and Year, Montana, 2015-2023



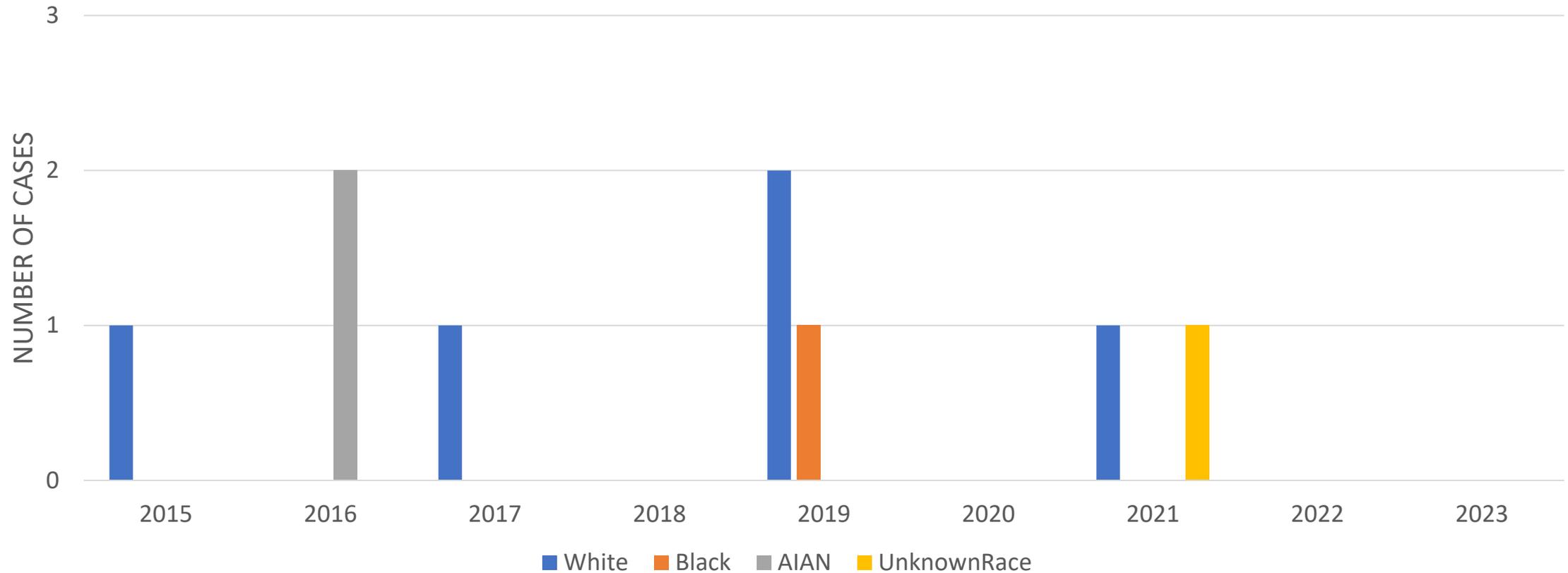
# Mumps Cases by Race and Year, Montana, 2015-2023



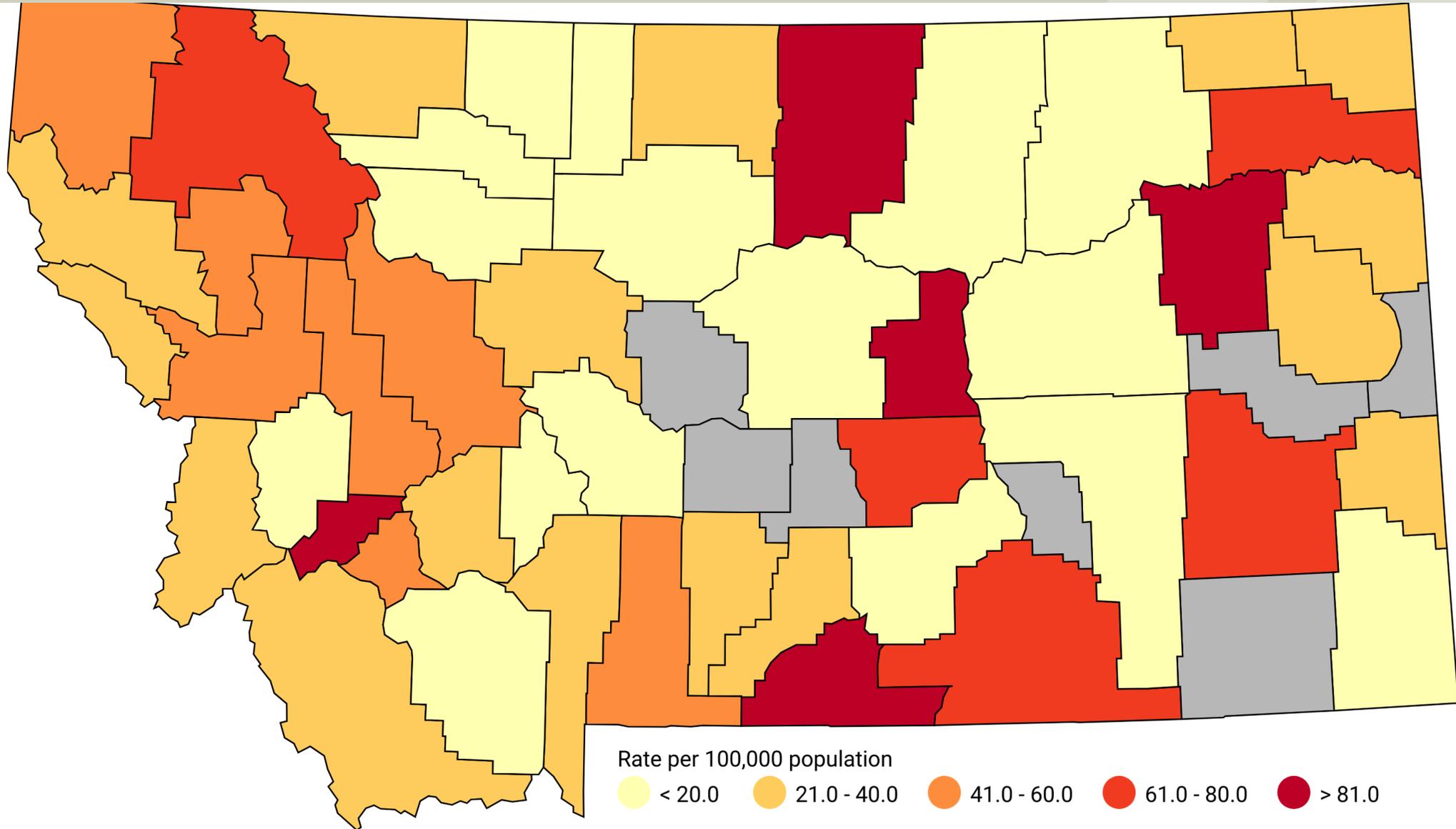
# Invasive *H. influenzae* Cases by Race and Year, Montana, 2015-2023



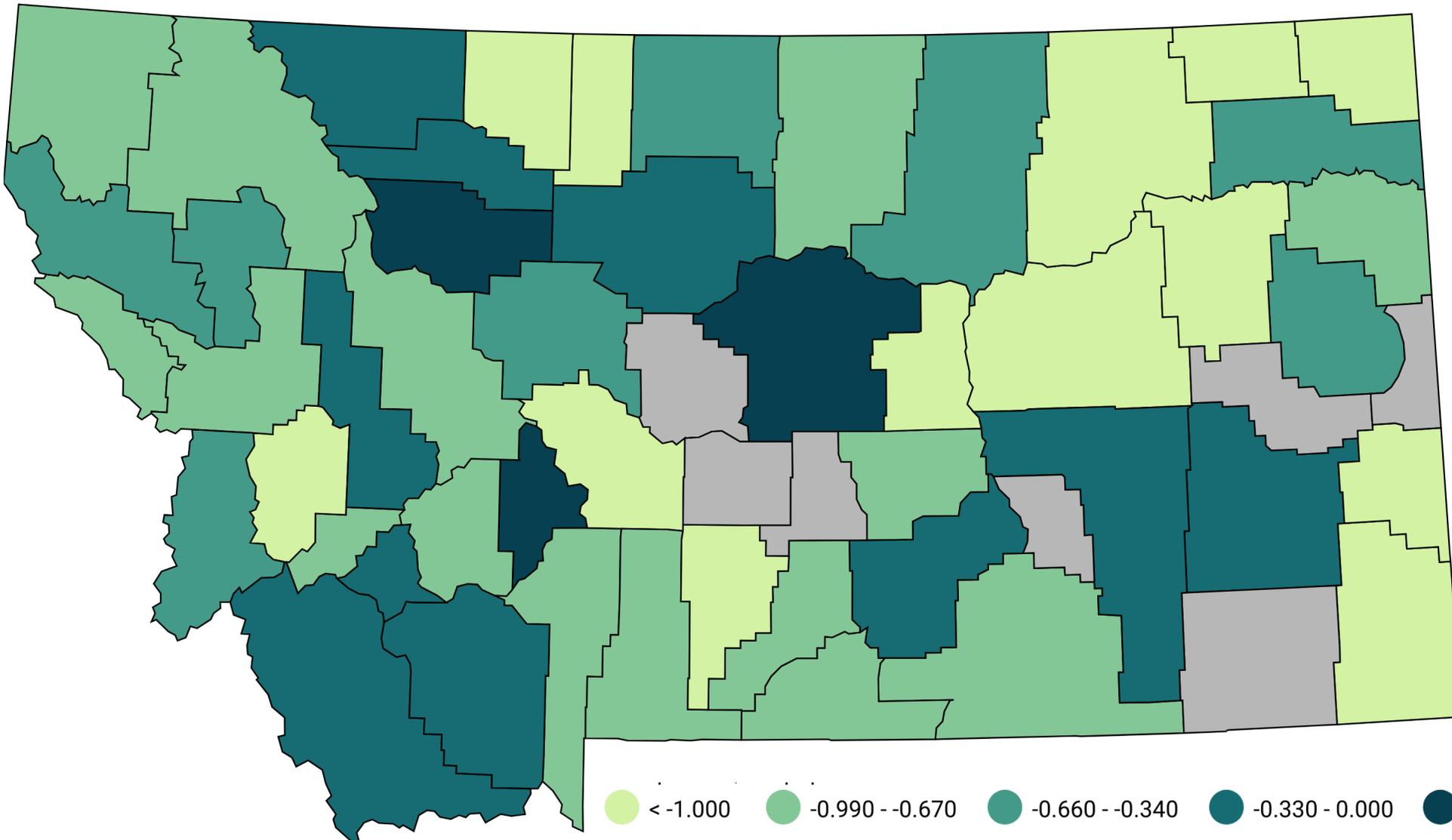
# Meningococcal Diseases Cases by Race and Year, Montana, 2015-2023



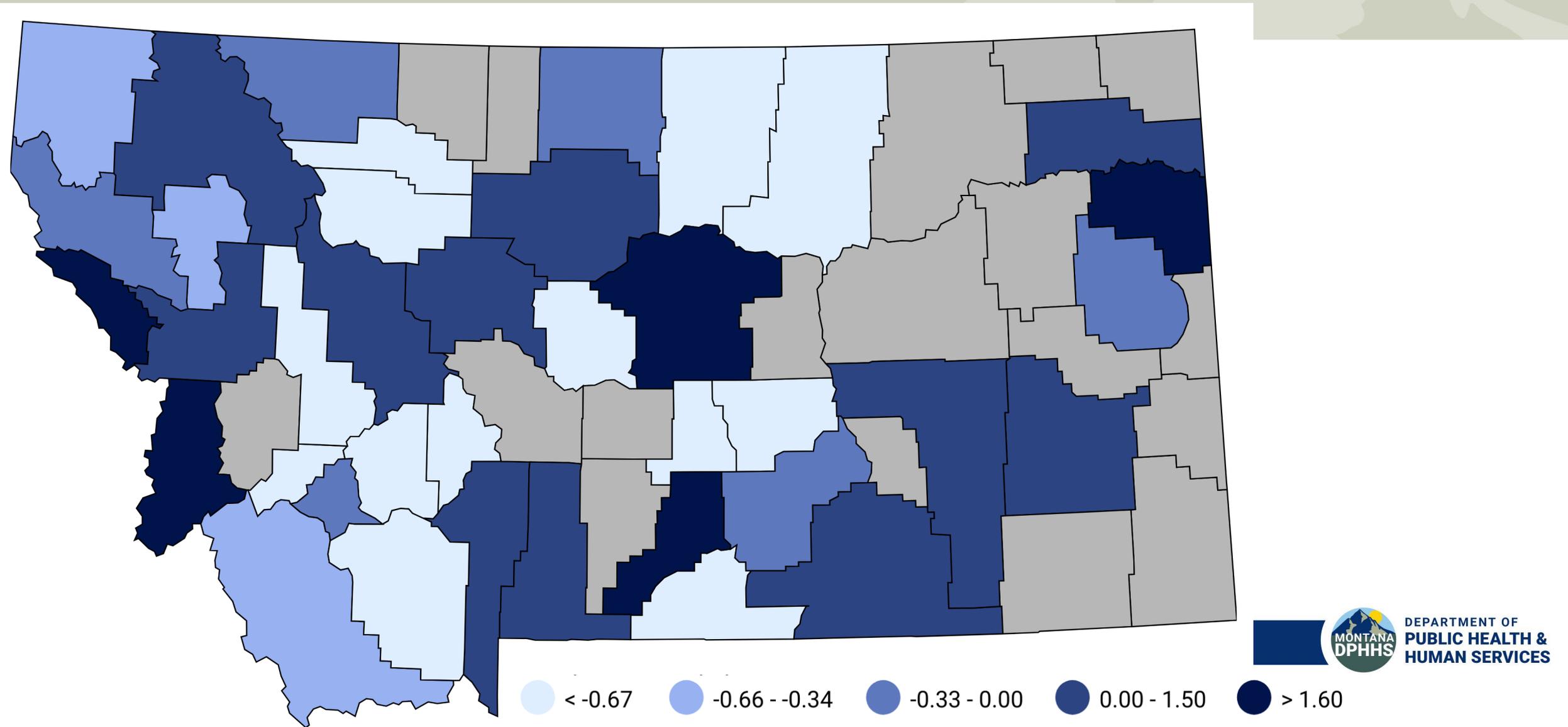
# Pre-COVID VPD Average Rate by County, Montana 2015-2019



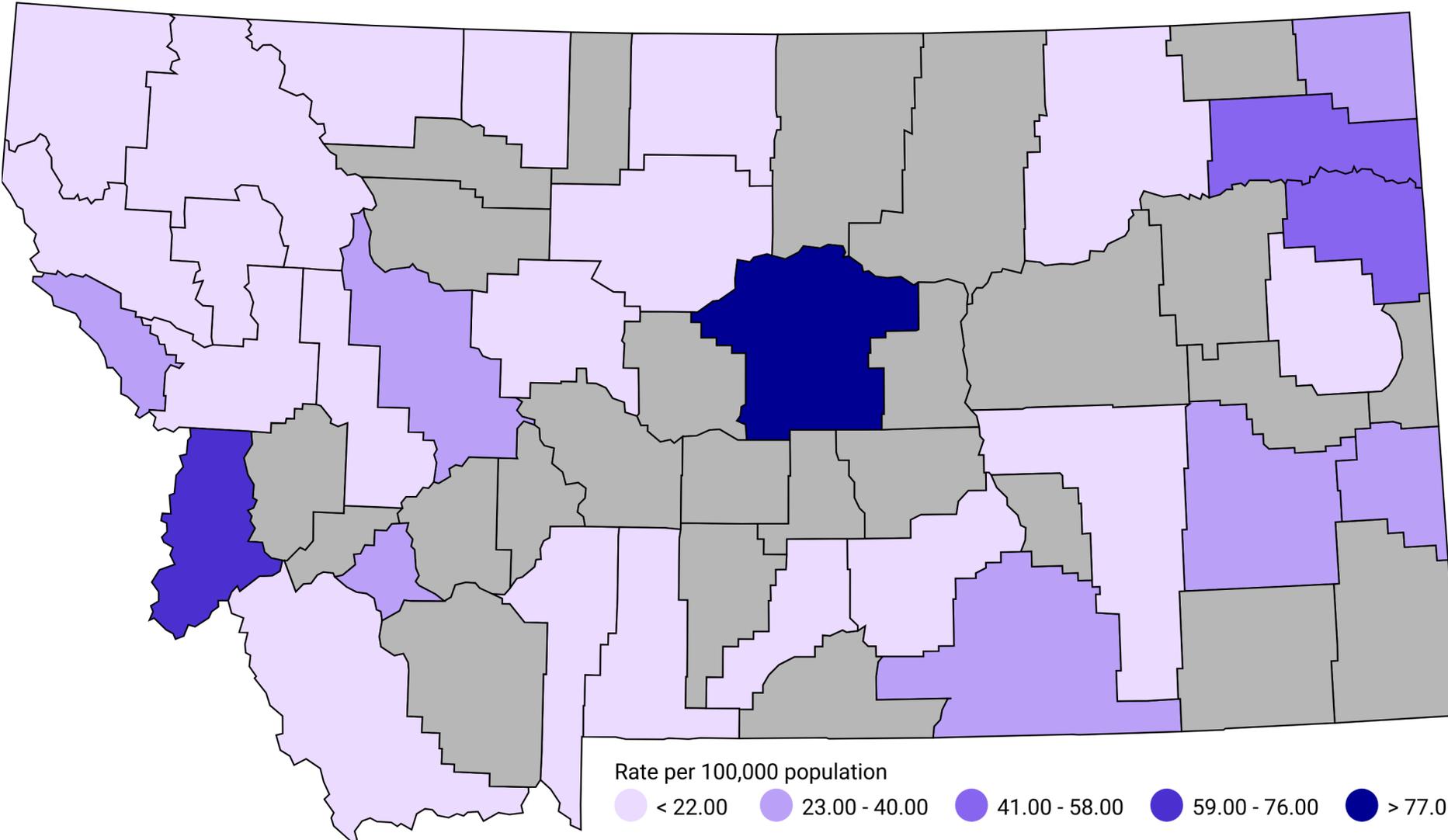
# Change in VPD Rates from Pre-COVID to COVID, Montana



# Change in VPD Rates from COVID to Post-COVID, Montana, (2020-2022 average – 2023)

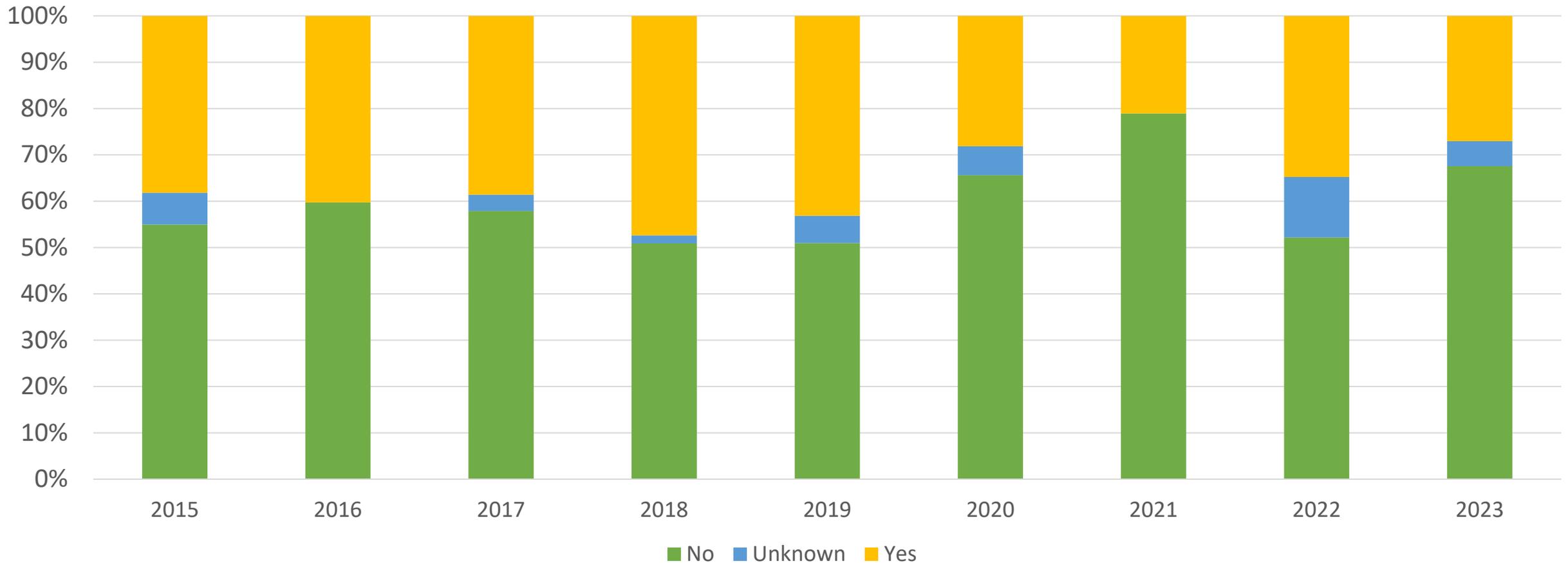


# VPD Rates by County, Montana, 2023\*

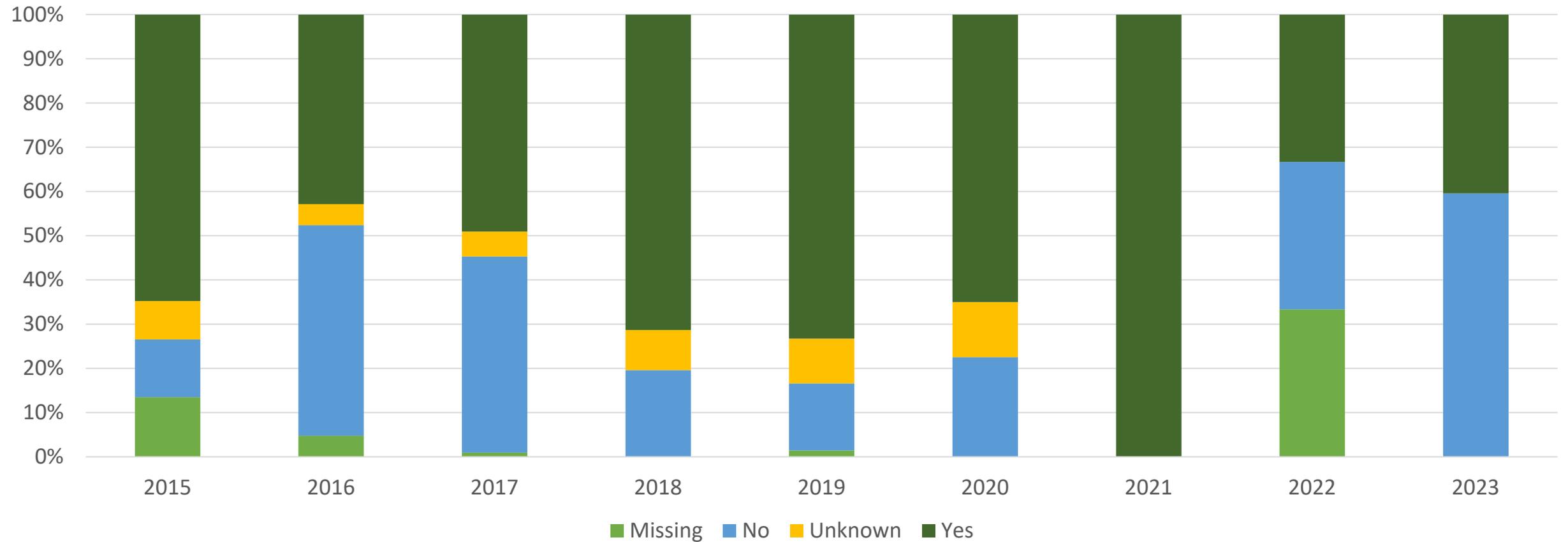


\*Data are preliminary

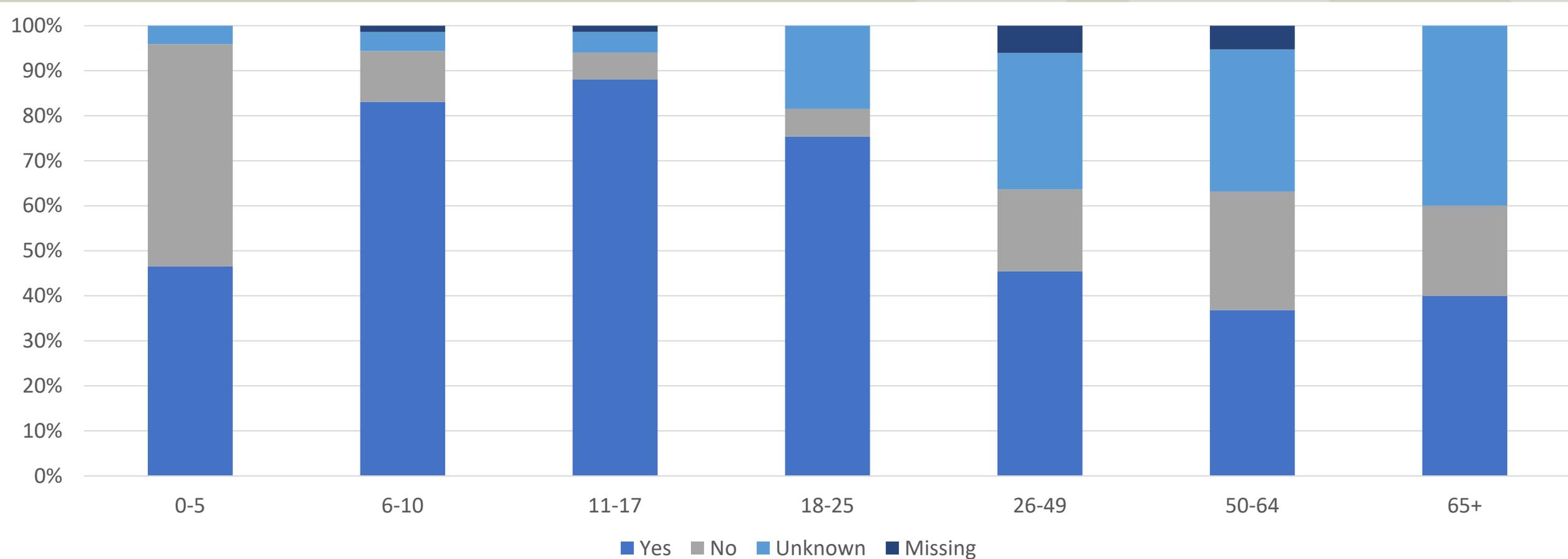
# Vaccination Status of Varicella Cases by Year, Montana, 2015-2023



# Vaccination Status of Pertussis Cases by Year, Montana, 2015-2023



# Vaccination of Pertussis Cases by Age Group, Montana, 2019



# Takeaways

- Data is important
- Were goals attained?
- Where can you target interventions?
- What changes has your local area seen?
- What can you do with this data?



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