

# Invasive Meningococcal Disease Risk Factors in Individuals with Commercial and Medicare Insurance in the United States

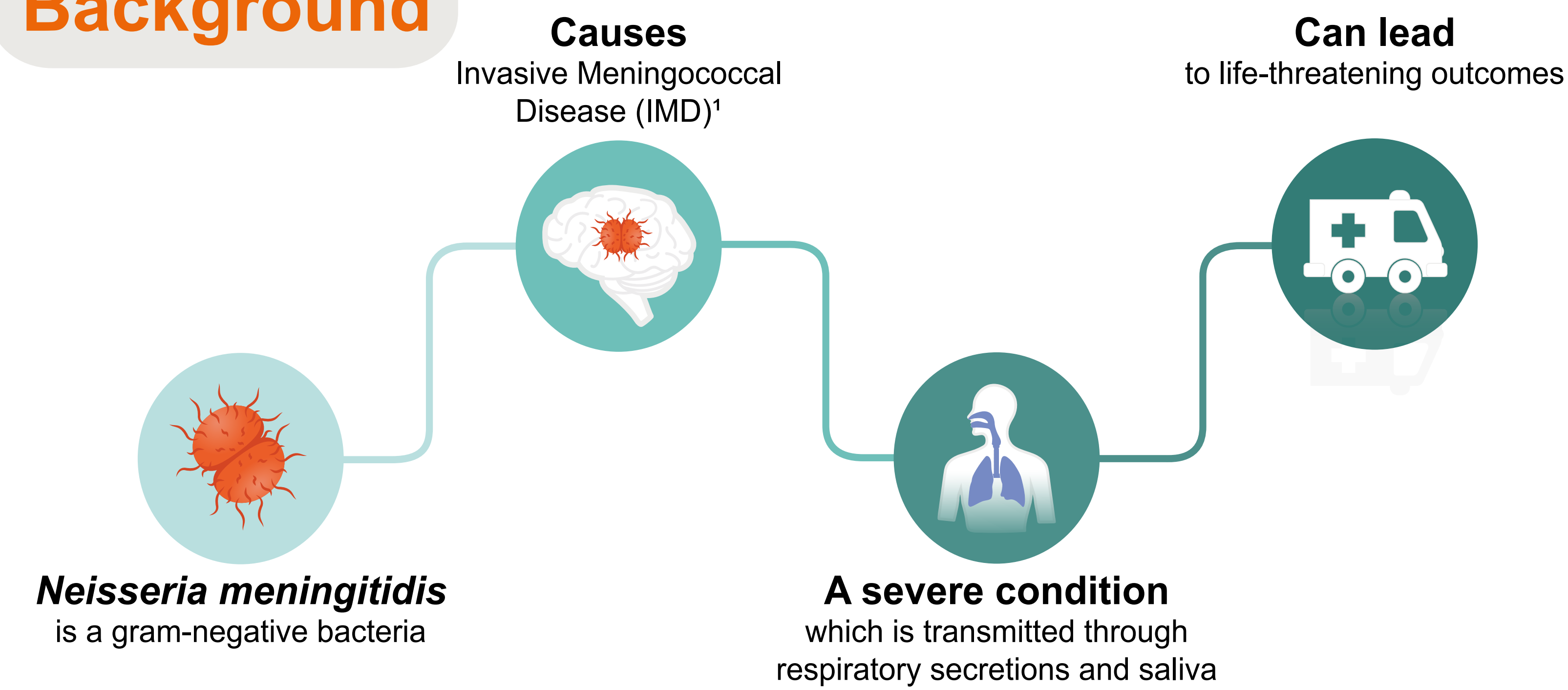
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Digital poster  
Supplemental data  
Narrated summary



## Background



IMD is a **notifiable disease** and is captured by the surveillance lance systems

Given the **low incidence of IMD in the US**, conducting population-based studies to identify and estimate the impact of risk factors associated with the disease is difficult

## Objectives

To estimate **IMD prevalence** and describe the **clinical risk factors** associated with IMD in the **United States (US)**

## Methods

Retrospective matched case-control study\* using a large US database (Optum CDM-SES) covering part of the population with commercial and Medicare health plans

Period: 01/01/2010 to 03/31/2022

Outcomes: Conditional logistic regression analysis was used to obtain adjusted odds ratios (aOR) for IMD risk

Index date: Earliest emergency department visit or hospitalization with an IMD diagnosis code (preceded by ≥12 months of continuous enrollment without a claim for IMD or invasive pneumococcal disease)

\*IMD cases were matched to ≤5 controls based on birth year, sex, and state of residence

## Results

**Patients** N=63,774,385  
**IMD Patients** N=17,935  
**Eligible IMD patients** N=616  
Control N=3,058

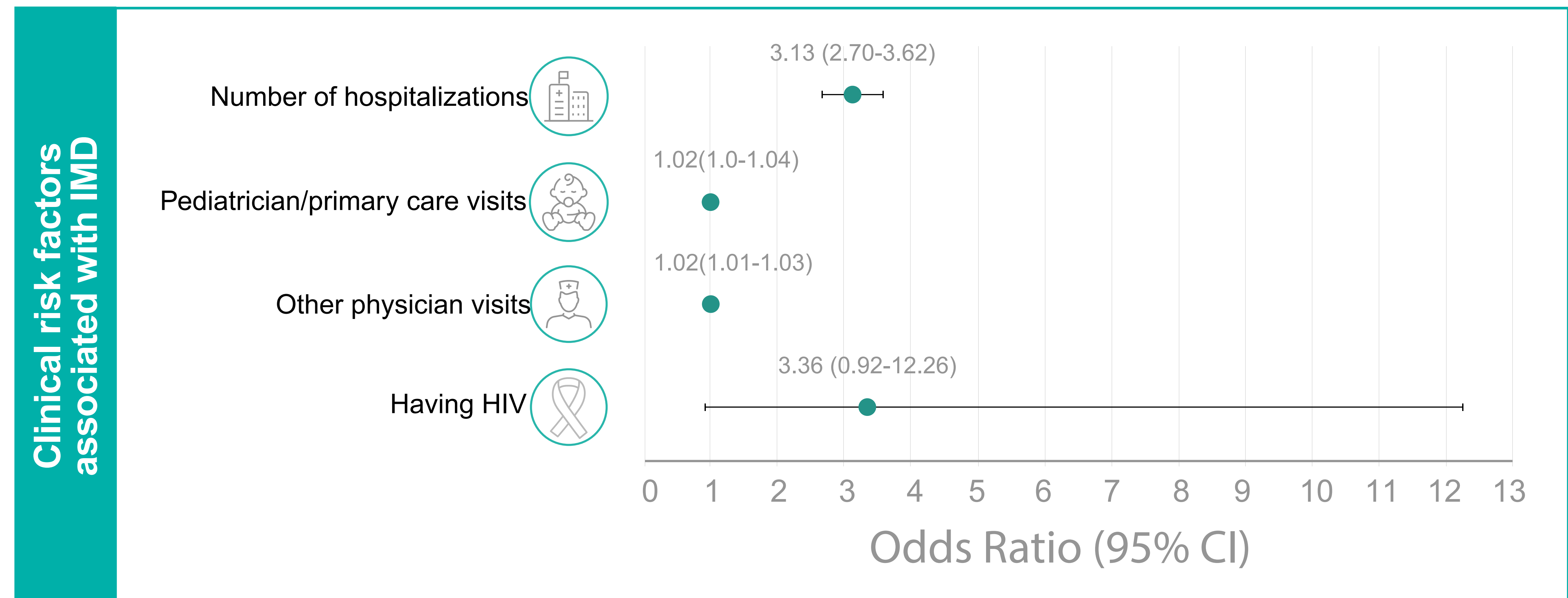
See supplemental materials for the attrition table, and inclusion/exclusion criteria, baseline demographic characteristics, and baseline clinical characteristics

The mean age was 60.2 years (standard deviation: 21.7; >80% were ≥36 years old)

The prevalence of IMD was equal to 0.001% (616/63,774,385)

## Conclusion

**IMD is an uncommon, unpredictable, and devastating disease. Having HIV, and a history of higher healthcare resource utilization (likely indicative of poor-health) were identified as significant risk factors associated with IMD. Healthcare interventions such as vaccination could minimize IMD risk**



**HIV associated with IMD** although estimated with less precision due to low patient counts

Other known **IMD risk factors**, such as complement component deficiency, asplenia, and eculizumab medication, **were not associated with IMD due to their extremely low counts**

Higher healthcare utilization prior to IMD onset was significantly associated with IMD

### Abbreviations

IMD invasive meningococcal disease, US United States, aOR adjusted odds ratios, HIV human immunodeficiency virus

### References

1. Harrison LH, Pelton SI, Wilder-Smith A, et al. The Global Meningococcal Initiative: recommendations for reducing the global burden of meningococcal disease. *Vaccine*. 2011;29(18):3363-3371

### Acknowledgements

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