

# Poster #2300 Incidence, Complications, and Recurrence of Herpes Zoster in Unvaccinated U.S. Adults ≥50 Years of Age

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## INTRODUCTION

- The incidence of herpes zoster (HZ) continues to increase dramatically in the U.S.<sup>1</sup>. Therefore, recent baseline data on the epidemiology of HZ in unvaccinated older adults are needed to assess the impact on HZ disease of a recombinant adjuvanted HZ vaccine (RZV) that was licensed and recommended for immunocompetent adults ≥50 years in 2017<sup>2</sup>.
- The purpose of this study is to evaluate the incidence, rate of complications and recurrence of HZ prior to RZV introduction among an immunocompetent population ≥50 years of age not vaccinated with zoster vaccine live (ZVL) that was introduced in the US in 2006.

## METHODS

### Incidence of HZ

- Calculated among immunocompetent adults ≥50 years of age who were Kaiser Permanente Southern California (KPSC) members at any time between 2011-2015, who had at least one year of membership before cohort entry and were without prior zoster vaccination or HZ diagnosis.
- HZ cases identified by International Classification of Diseases ICD-9 codes 053.xx and ICD-10 codes B02.xx in all settings during the follow-up period.
- Population followed until incident HZ, receipt of ZVL, end of membership, or 12/31/2015.

### Post-herpetic neuralgia (PHN)

- 479 Unvaccinated KPSC members ≥60 years with incident, lab-confirmed HZ were recruited during 2012-2015 to participate in a study of PHN.
- PHN identified by active survey or medical record review.
- PHN defined as HZ-related pain at ≥90 days after HZ diagnosis.

### HZ Ophthalmicus (HZO) with ocular complications

- Identified by ICD codes 053.2x or B02.3x and keyword search in KPSC electronic health records of patients identified with HZO among those with incident HZ identified above using a validated natural language processing algorithm.
- Ocular complications were HZ involving the eye, eyelids or canthus.

### Non-PHN, non-HZO cutaneous, neurological or other HZ-related complications

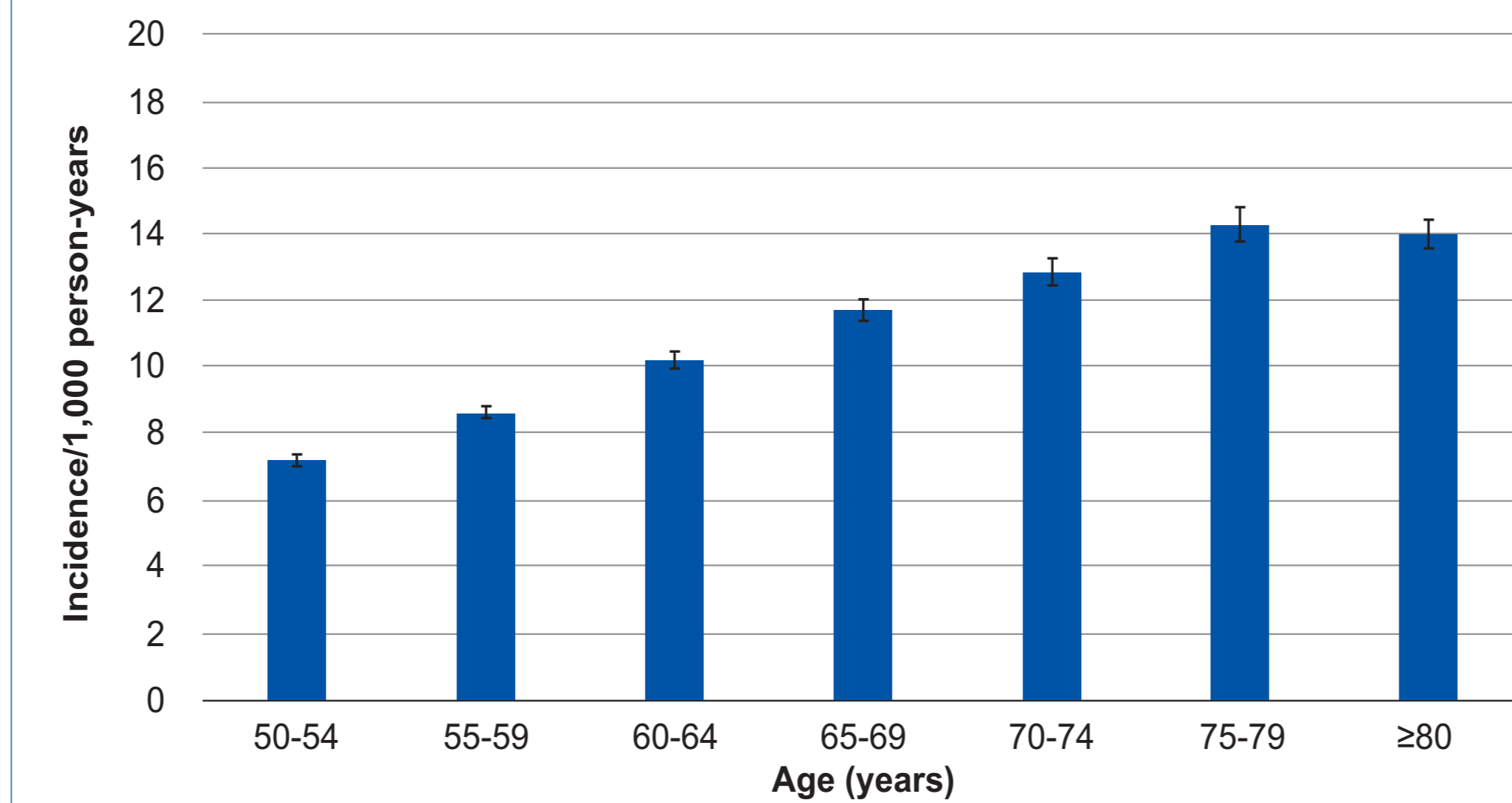
- Identified by double abstraction of the medical charts of an age-stratified sample of 600 incident HZ cases from those identified above who had ≥2 HZ-related encounters within 6 months of initial HZ diagnosis date.

### Cumulative risk of recurrent HZ

- Estimated among unvaccinated immunocompetent adults aged ≥50 years who had initial HZ during 2007-2008.
- HZ recurrence defined as HZ diagnosis with simultaneous antiviral medication ≥6 months after most recent HZ diagnosis.
- Followed-up until recurrent HZ, receipt of ZVL, end of membership with KPSC, or 12/31/2016.

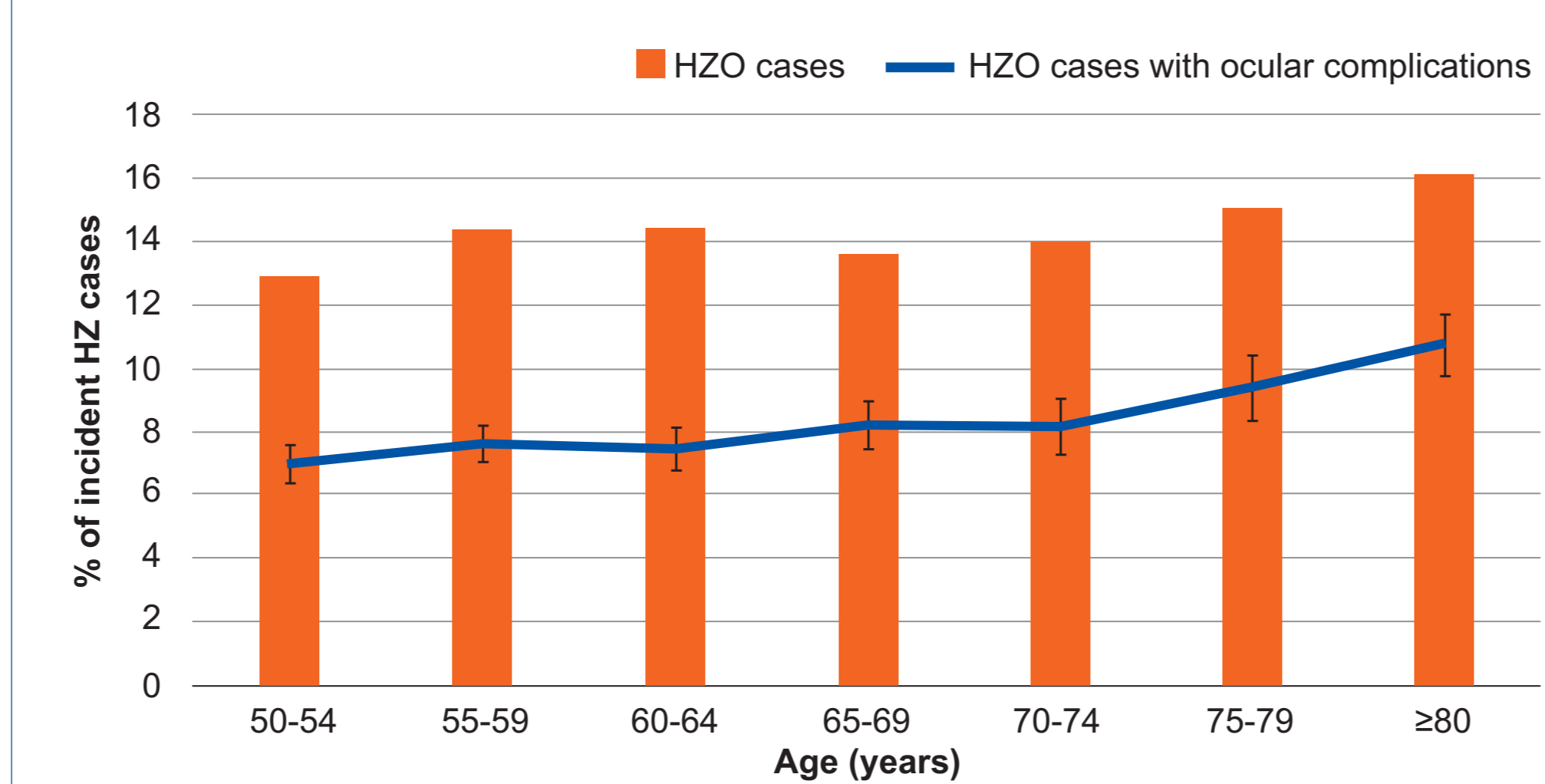
## RESULTS

HZ incidence rate among unvaccinated population ≥50 years, 2011-2015



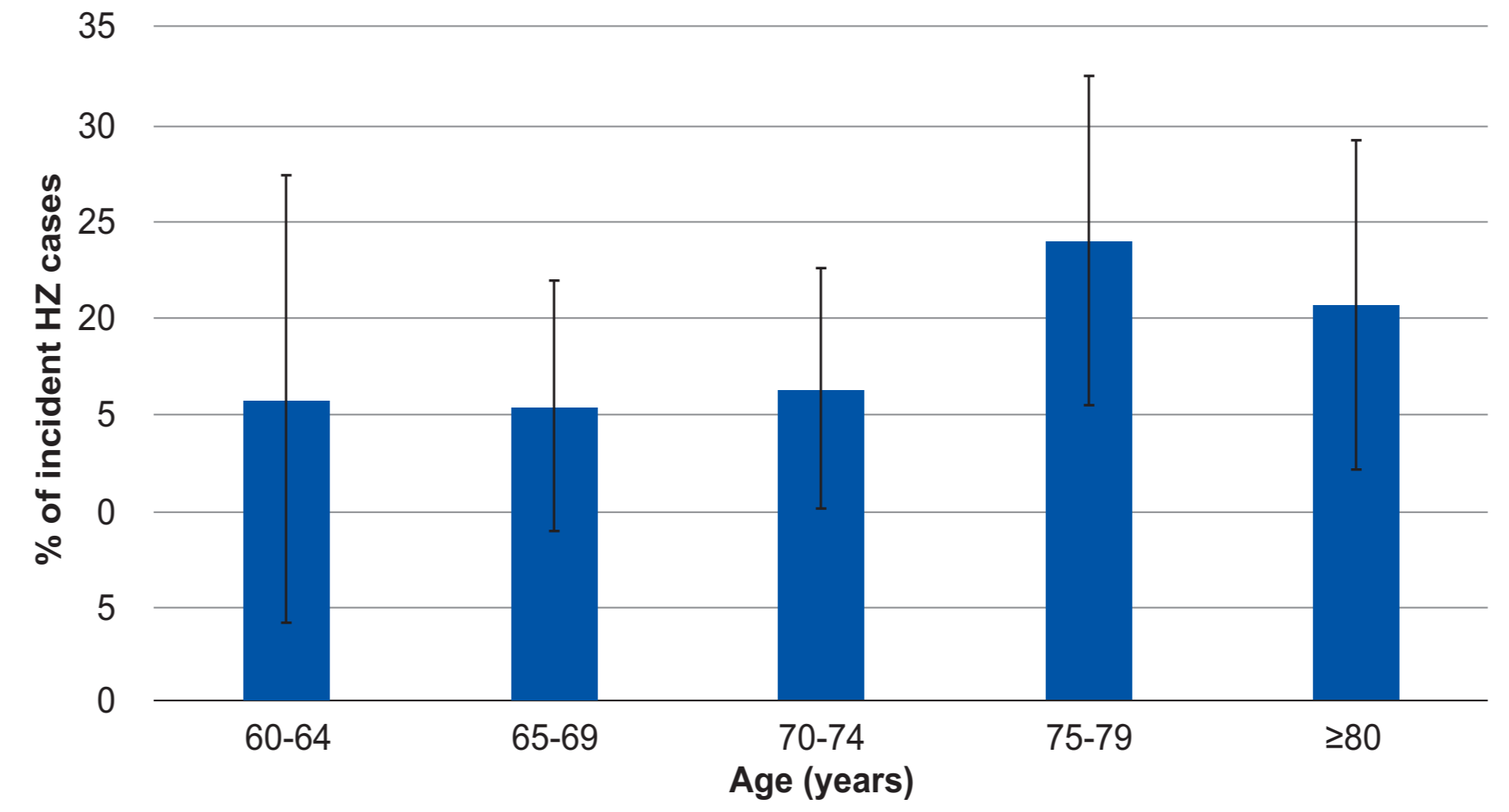
• 40,893 incident HZ cases over 4,124,050 person-years  
• HZ: Herpes Zoster

HZ Ophthalmicus and ocular complications among unvaccinated adults ≥50 years, 2011-2015



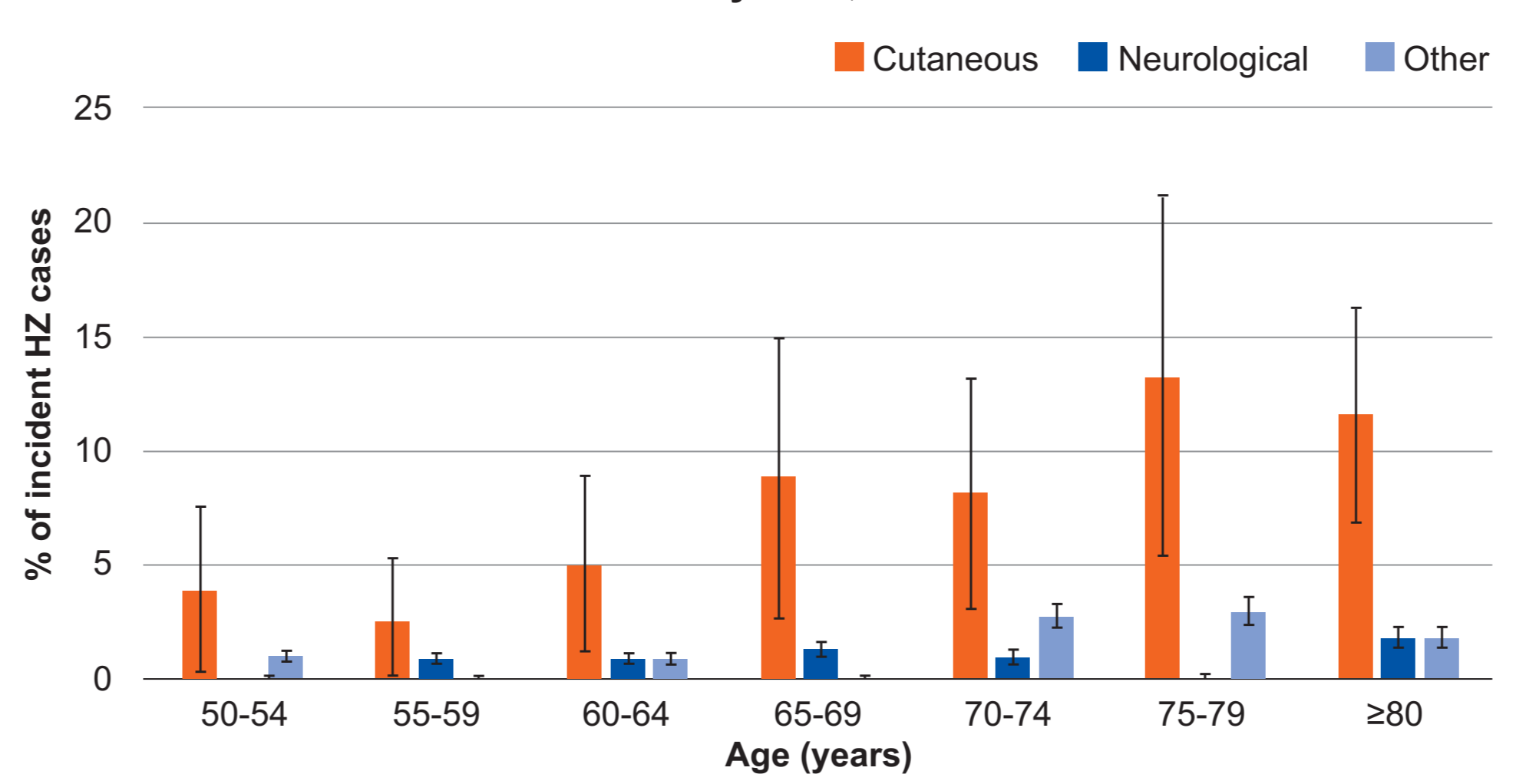
• Out of 40,893 incident HZ cases, 5,806 HZO cases were identified, including 3,296 with ocular complications  
• HZ: Herpes Zoster, HZO: Herpes Zoster Ophthalmicus

PHN after incident HZ in unvaccinated adults ≥60 years, 2012-2015



• 88 PHN cases were identified from 479 sampled HZ cases  
• PHN: Post-herpetic neuralgia, HZ: Herpes Zoster

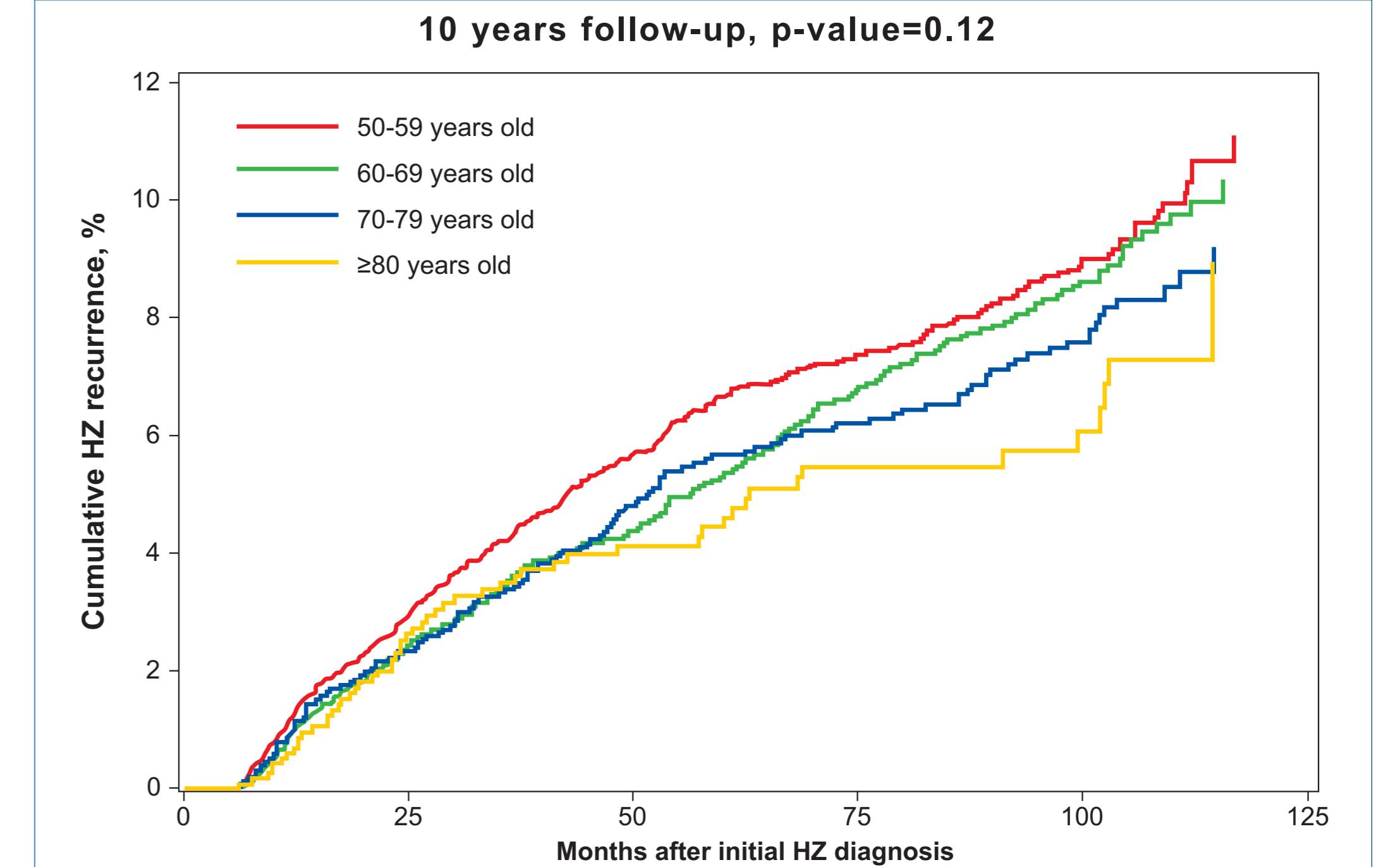
HZ-related non-PHN, non-HZO complications among unvaccinated adults ≥50 years, 2011-2015



• Out of 600 cases sampled for chart review, HZ-related complications were found in 58 cutaneous, 7 neurological, and 10 other cases.  
• Proportion weighted to reflect complications among incident HZ cases  
• HZ: Herpes Zoster, HZO: Herpes Zoster Ophthalmicus, PHN: Post-herpetic neuralgia

## CONCLUSIONS

- HZ is common among unvaccinated immunocompetent adults aged ≥50 years, with the incidence generally increasing with age.
- Complications of HZ, including PHN, HZO with ocular and/or cutaneous involvement are common among unvaccinated older adults and generally increase with age at time of diagnosis of incident HZ.
- Each year, approximately 1% of immunocompetent patients with initial HZ at age ≥50 years experience a recurrence.



• Cumulative risk of HZ recurrence among unvaccinated adults aged ≥50 years  
• HZ: Herpes Zoster

## References

1. Harpaz, R. et al. *Clin. Infect. Dis.* 2019; 69:341-4.
2. Dooling, K.L. et al. *MMWR.* 2018; 67:103-8.

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This study provides updated baseline estimates of the epidemiology of herpes zoster in an immunocompetent, unvaccinated population. These estimates reflect the real-world disease burden of herpes zoster and will help inform healthcare system interventions including vaccination programs.