

# Post-Herpetic Neuralgia Occurrence and Herpes Zoster Recurrence in Immunocompromised Adults Aged 18 Years or Older in England: a Large Retrospective Cohort Study (Clinical Practice Research Datalink, 2012-2019)

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## Background & Aim

- Herpes zoster (HZ), commonly known as shingles, is caused by reactivation of the varicella zoster virus and is common in immunocompromised (IC) individuals.<sup>1</sup>
- HZ may recur after the initial episode or result in complications, including post-herpetic neuralgia (PHN) that can persist for months or years after HZ.<sup>1</sup>

This study aims to provide robust, current data on **HZ complications** (including PHN) and **HZ recurrence** in IC adults.

## Study design

This retrospective cohort study analysed data from the Clinical Practice Research Datalink (CPRD) Aurum with linkage to Hospital Episode Statistics (HES) data and Office for National Statistics (ONS) data.

**Adults (≥18 years old)** with a CPRD-HES database record of any of the following IC conditions of interest (IC cohort) were identified from 2012–2018 and followed until 31 December 2019: haematological malignancies, haematopoietic stem cell transplantation, solid organ transplant, solid organ malignancies, human immunodeficiency virus, and autoimmune diseases.

Adults without any of the ICs of interest (IC-free cohort) were also identified and followed during the same period.

The proportion of adults who had PHN reported within 365 days following HZ diagnosis were estimated (two timepoint definitions: 0 to 365 and 90–365 days post-HZ event). Only HZ patients with 365 days of follow-up data were included in these analyses. HZ recurrence rates were estimated per 1,000 person-years (PYs) with 95% confidence intervals (CIs). Recurrent events were defined as HZ occurring after a 180-day HZ-free and HZ complications (except PHN) free period and included any HZ occurring after the first recurrent event.<sup>#</sup>

PHN and HZ Recurrence data were stratified by:

- Study population: IC cohort, IC-free cohort
- Age (years): 18–49, 50–59, 60–64, 65–69, 70–79, ≥80

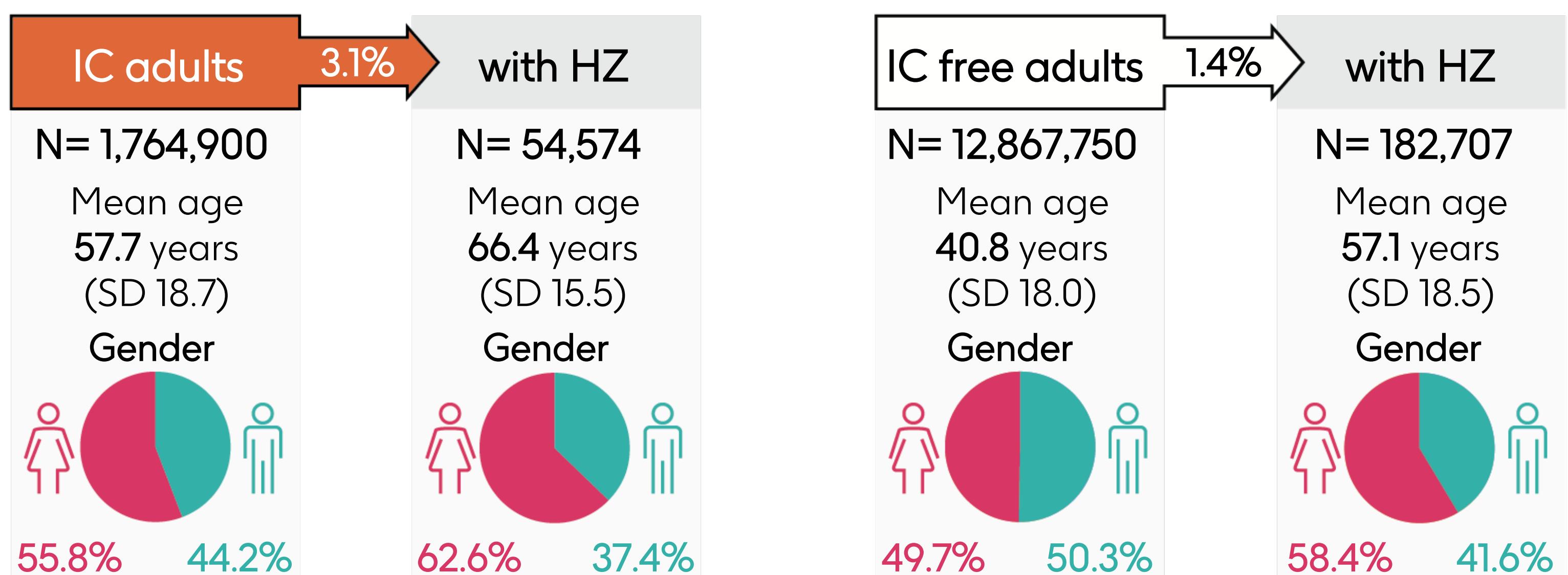
<sup>#</sup>For complete definitions of HZ events, see supplementary table 1 (available through QR code)

**Immunocompromised adults** with herpes zoster are at **higher risk** of developing **post-herpetic neuralgia** and **recurrent herpes zoster** compared to adults without the same immunocompromising conditions but with herpes zoster



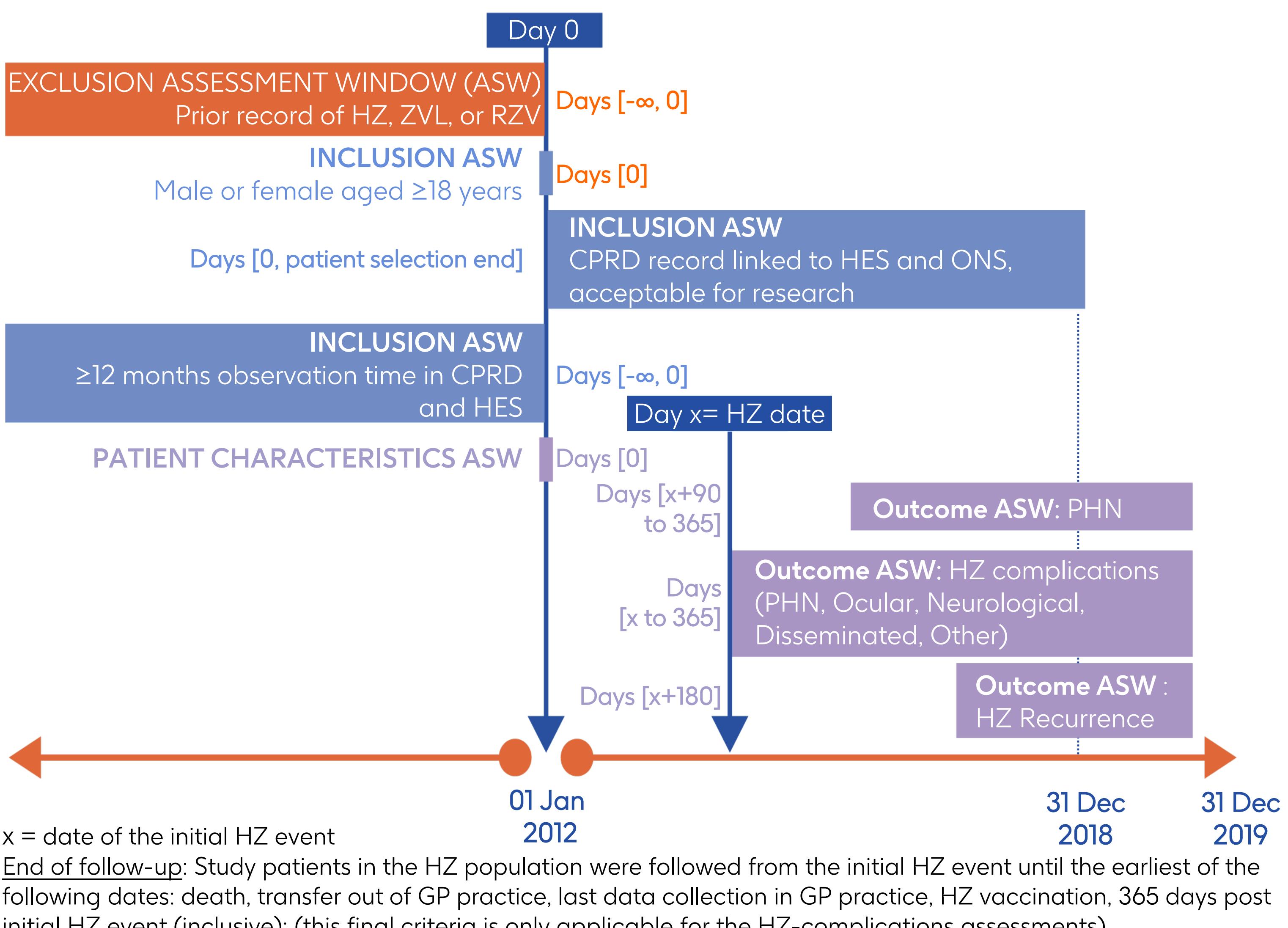
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## Demographics



## INDEX DATE

(latest of: study start date [01 Jan 2012], GP practice registration date, 18th birthday, or IC diagnosis)



## Results

Figure 1.

PHN cases reported between 90 to 365 days after HZ index date by age, in IC vs. IC-free adults\*

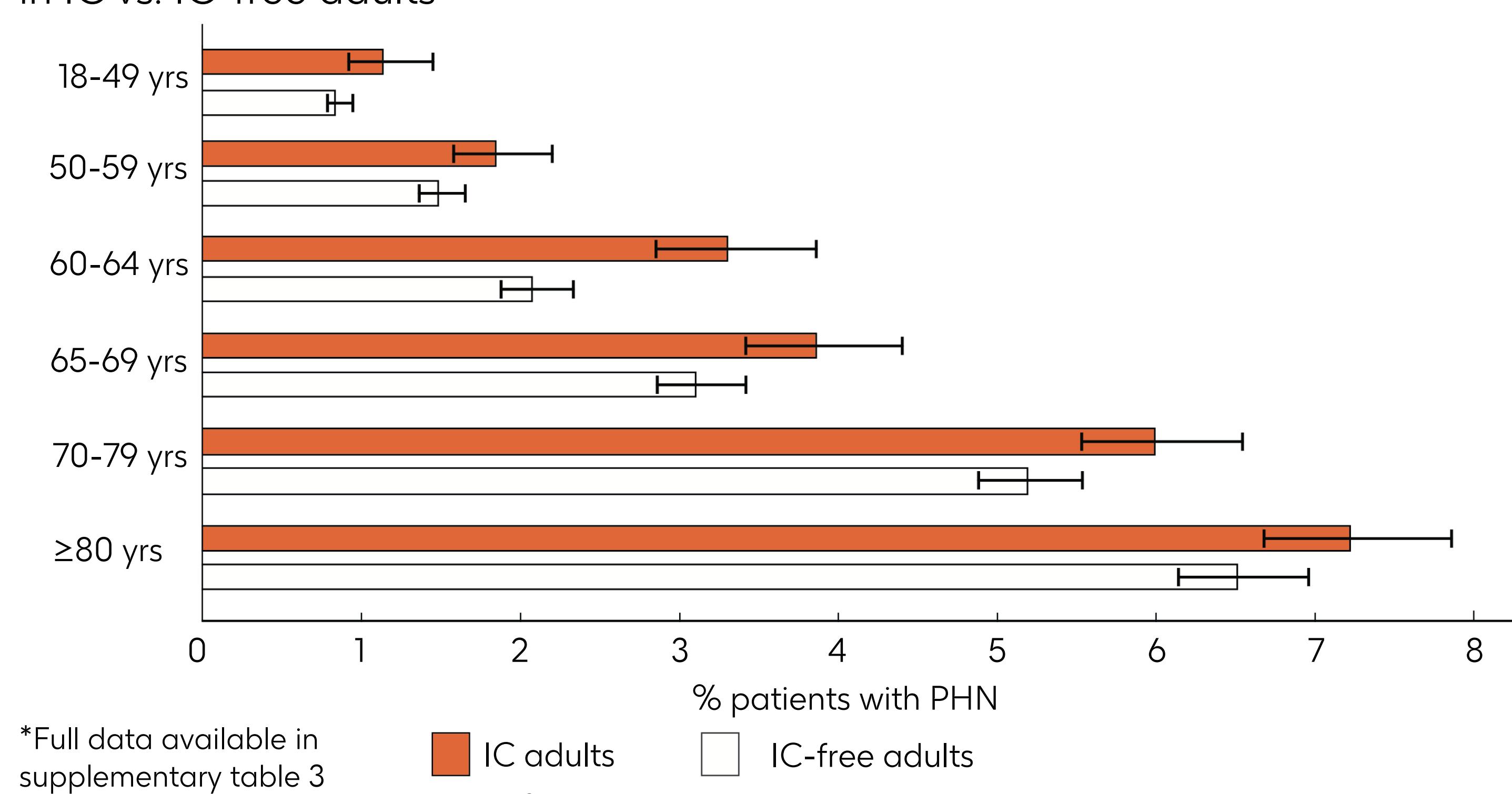


Figure 2.

PHN by age and timepoint post-HZ in IC adults\*

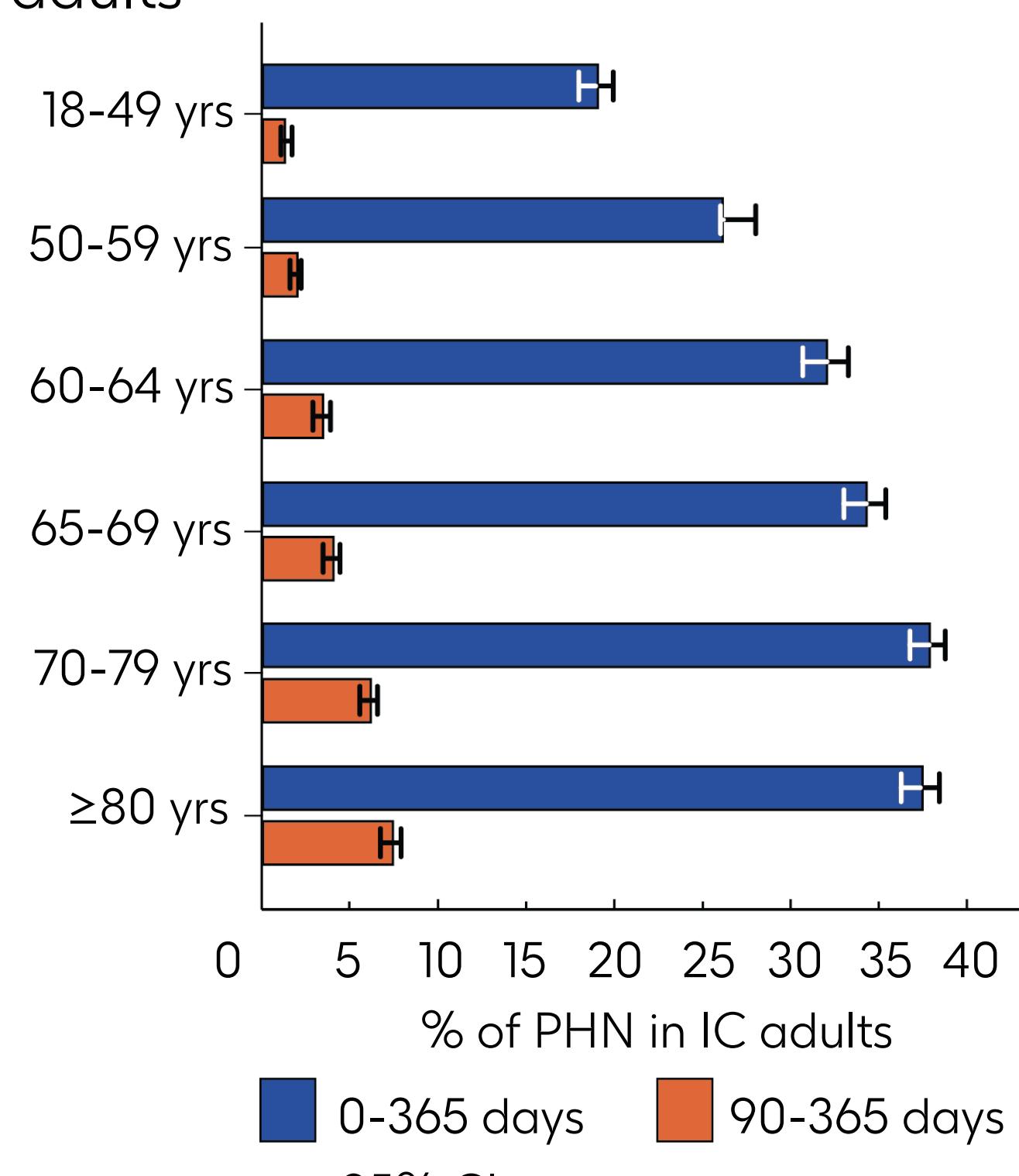
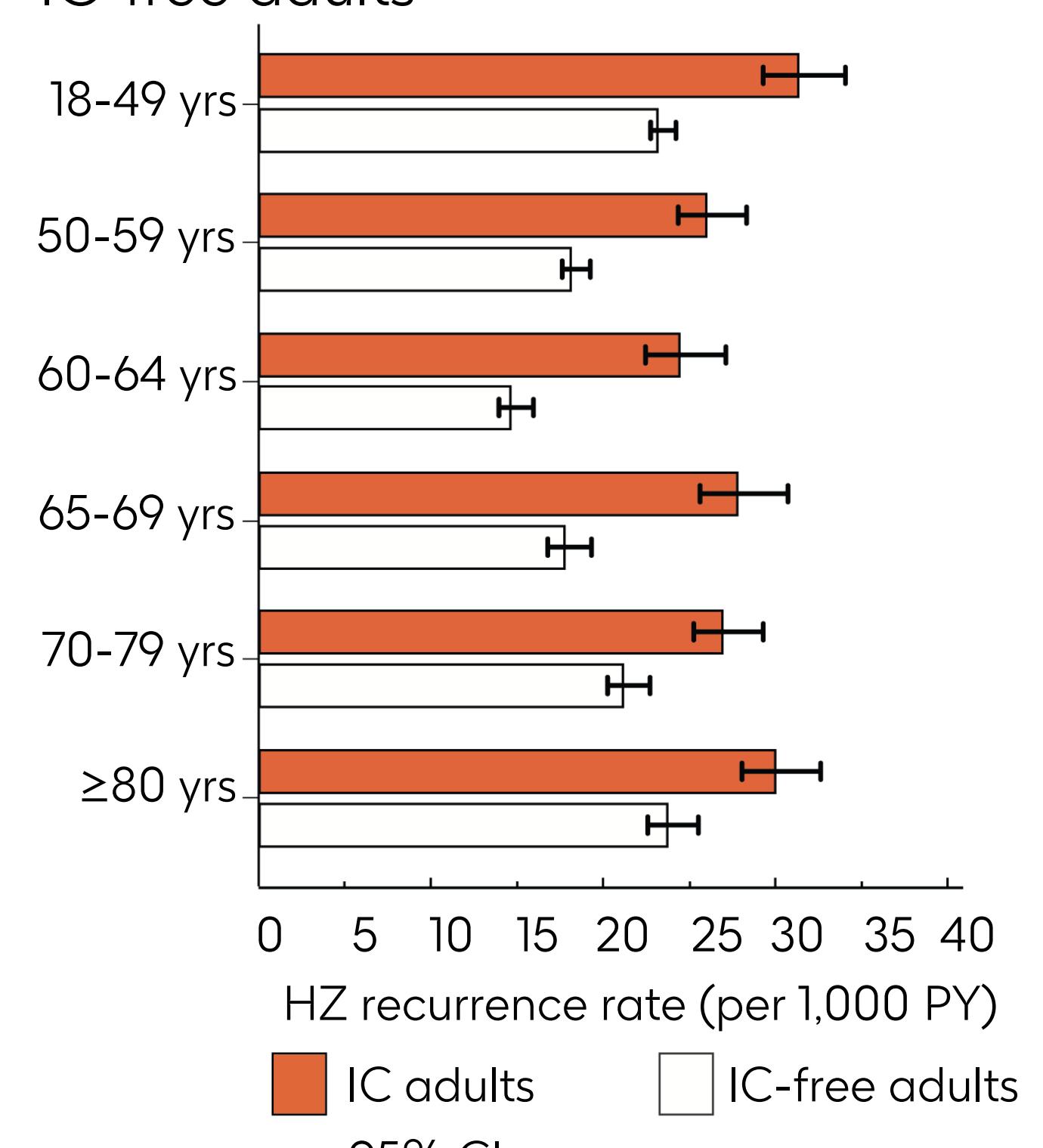


Figure 3.

HZ recurrence rates by age in IC vs. IC-free adults



## Conclusions



This large real-world study highlights that PHN and recurrent HZ are more common in IC than IC-free adults with HZ.



These findings could be used to advance HZ research and inform clinical guidelines and immunisation recommendations.

## Abbreviations

ASW: assessment window; CI: confidence interval; CPRD: Clinical Practice Research Datalink; GP: general practitioner; HES: Hospital Episode Statistics; HZ: herpes zoster; IC: immunocompromised; N: number; ONS: Office for National Statistics; PHN: post-herpetic neuralgia; PY: person-years; RZV: recombinant zoster vaccine; SD: standard deviation; vs.: versus; yrs: years; ZVL: zoster vaccine live

## References

1. Yanni EA, et al. Burden of herpes zoster in 16 selected immunocompromised populations in England: a cohort study in the Clinical Practice Research Datalink 2000–2012. *BMJ Open*. 2018;8(6):e020528.

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## Disclosures

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