13th EUGMS
INTERNATIONAL CONGRESS OF THE EUROPEAN UNION GERIATRIC MEDICINE SOCIETY
DEVELOPING PREVENTIVE ACTIONS IN GERIATRICS

Risks of Longer Term Proton Pump Inhibitor Exposure in 228,752 Older Adults

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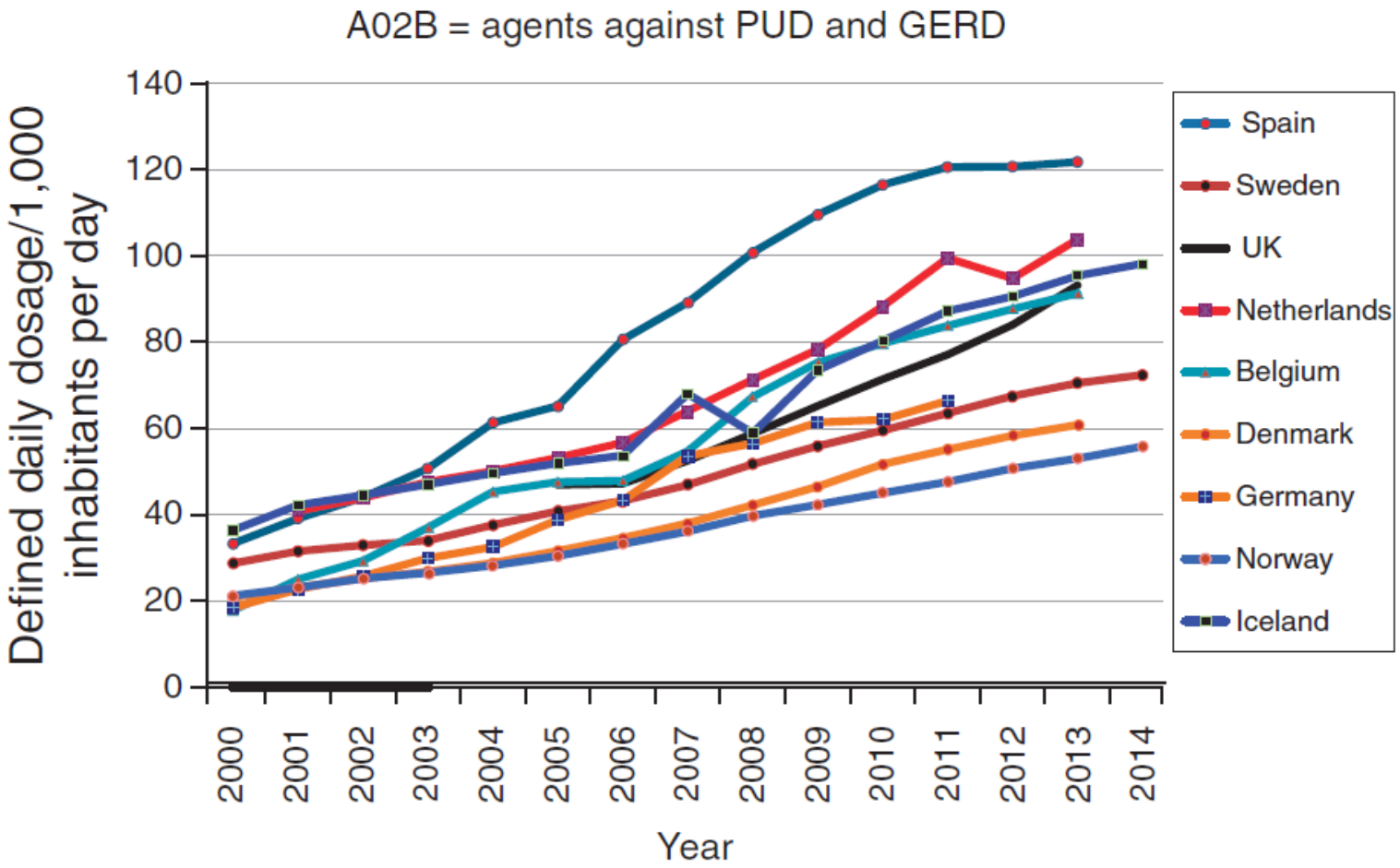
CONFLICT OF INTEREST DISCLOSURE

I have no potential conflict of interest to report

Background: PPIs

- Commonly used, highly effective
- Much improved treatment and control of
  - peptic ulcers
  - GORD
  - NSAID-associated gastropathy

European examples: time trends of antisecretory drug consumption



A. Lanas, We Are Using Too Many PPIs, and We Need to Stop: A European Perspective, Am J Gastroenterol , 10 May 2016

Potential risks

- Potentially inappropriate prescribing
- Adverse outcomes of **long term** use poorly understood
- Costly:
  - 30% reduction in PPIs =£35 million 1 year saving

Aim

- To estimate the risk of specific adverse outcomes in older adults exposed to PPIs for ≥1 year

- Outcomes of interest:
  - Fragility fractures
  - Pneumonia
  - Cardiovascular disease

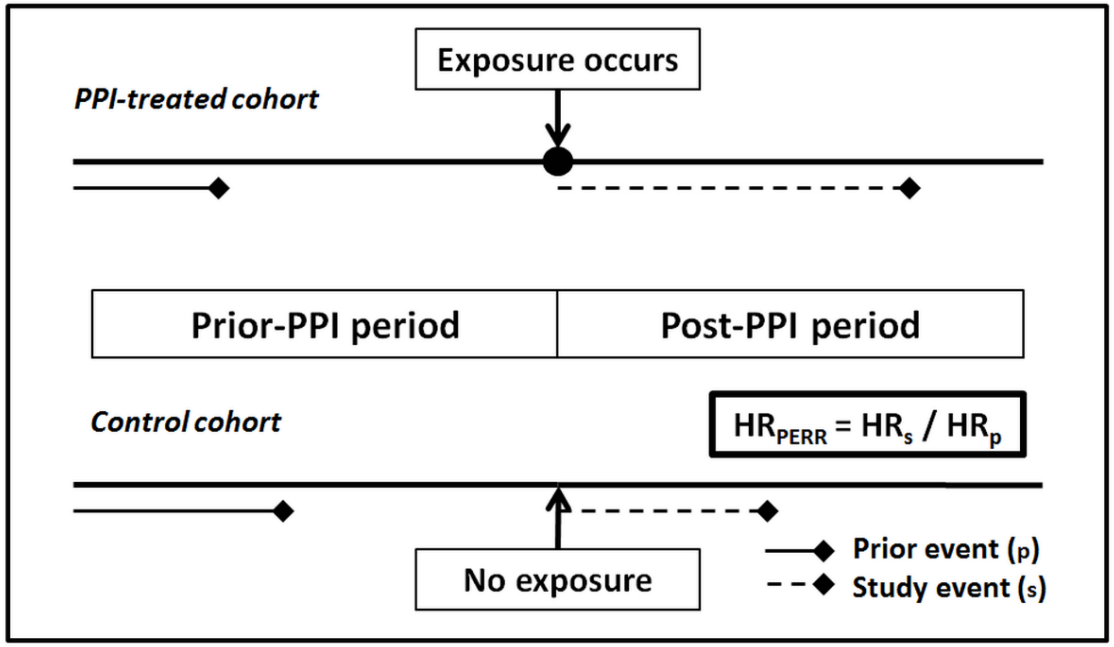
Methods

- Data source: Clinical Practice Research Datalink
  - Primary care and hospital linked data (>2 million 60+)
- Retrospective cohort analysis of cases and matched controls
- Known confounding: standard methods
  - propensity scoring
  - regression adjustment with up to 78 covariates
- Unknown confounding
  - Prior event rate ratio (PERR)
- 4 year follow-up

CPRD
More Dimensions to Data

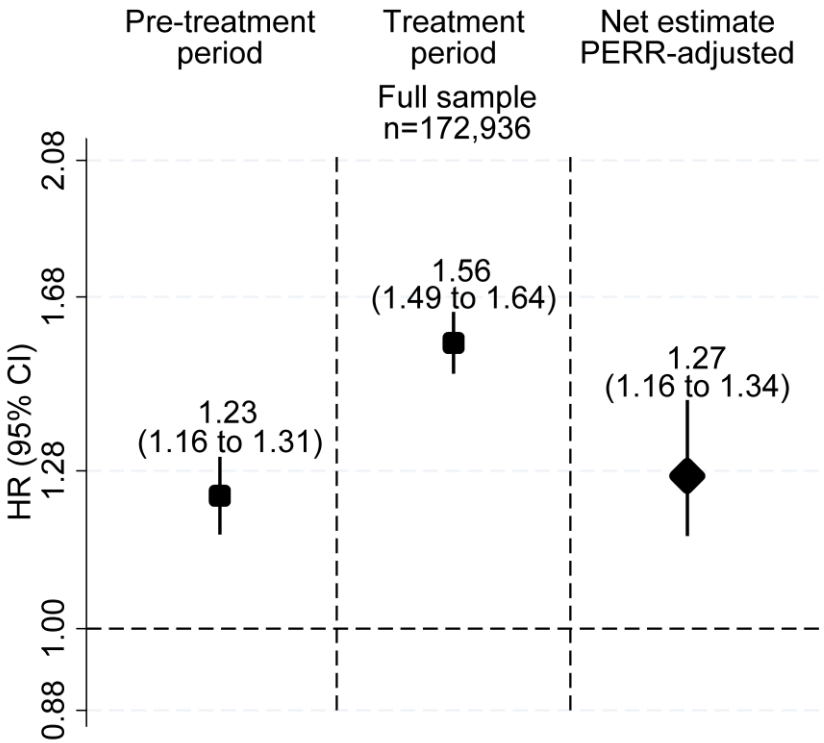
Methods: PERR

- Uses the ratio between the HR of event in exposed and unexposed prior to the intervention to adjust incident rate ratios
- Assumes unknown confounding to be equal pre-and post-exposure



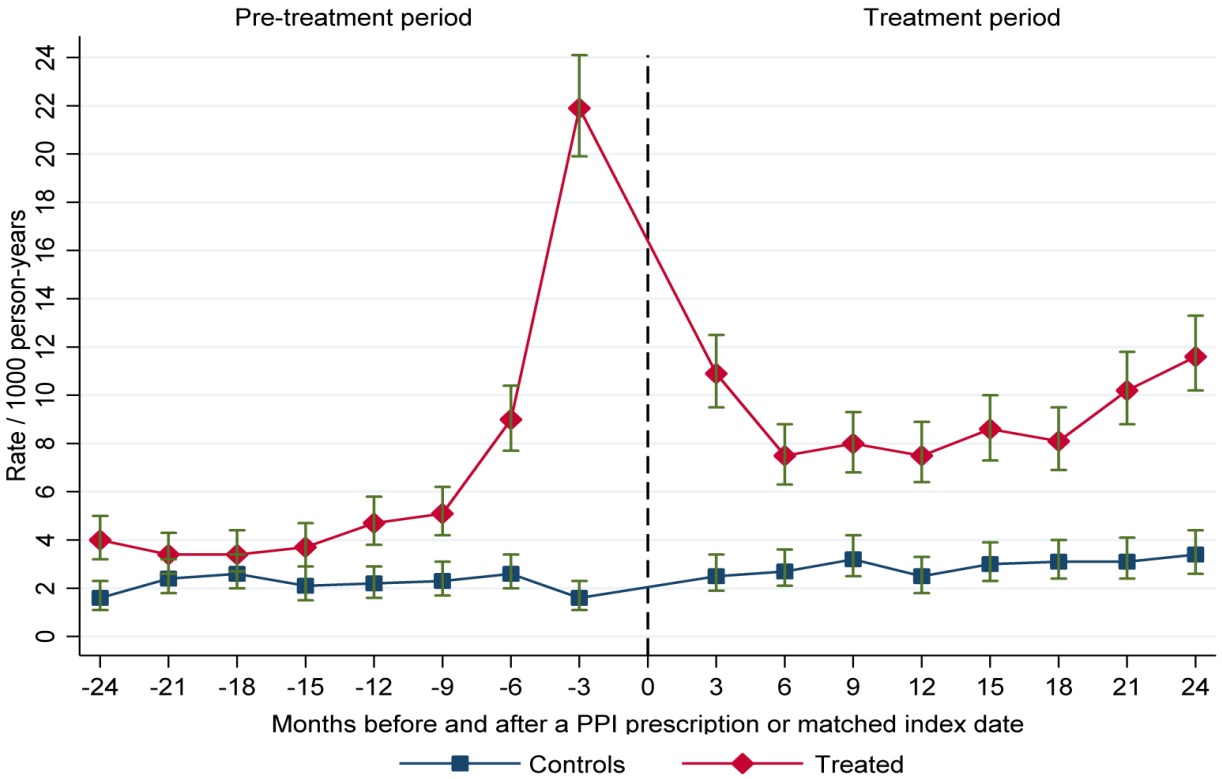
Results: Fragility Fractures

- n=86,469 cases (PPIs >1year) and 86,469 controls

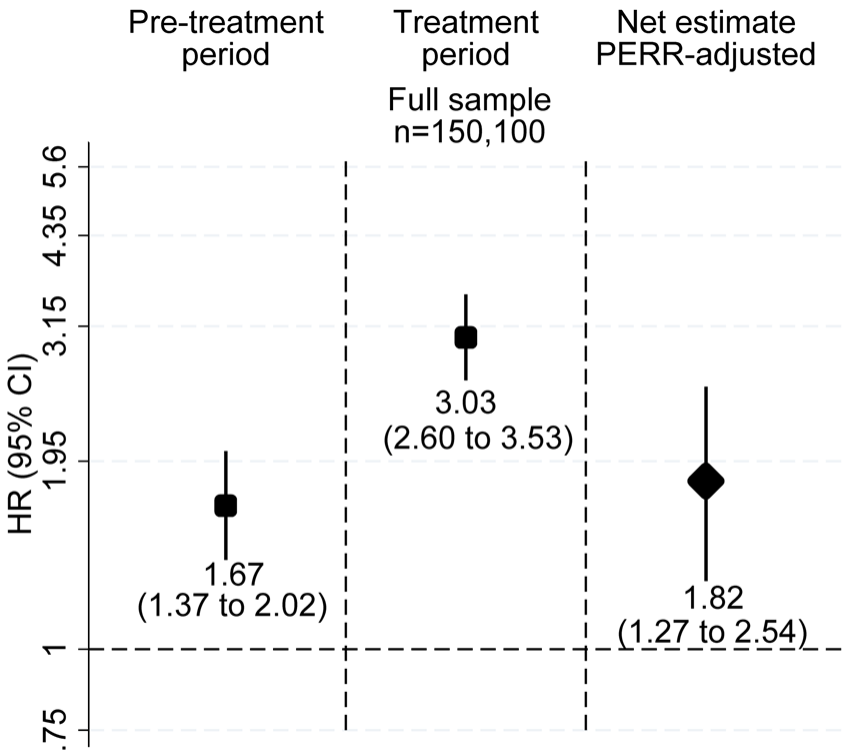


Results: Pneumonia

- n= 75,050 cases (PPIs >1year) and 75,050controls

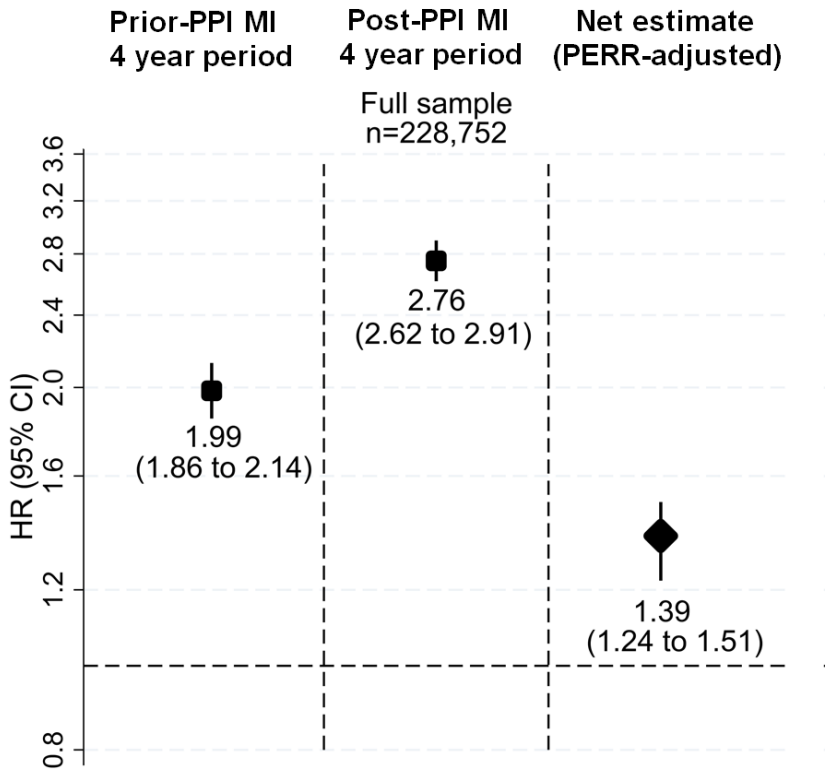


Results: Pneumonia



Results: Cardiovascular MI

- n= 114,376cases (PPIs >1year) and 114,376 controls



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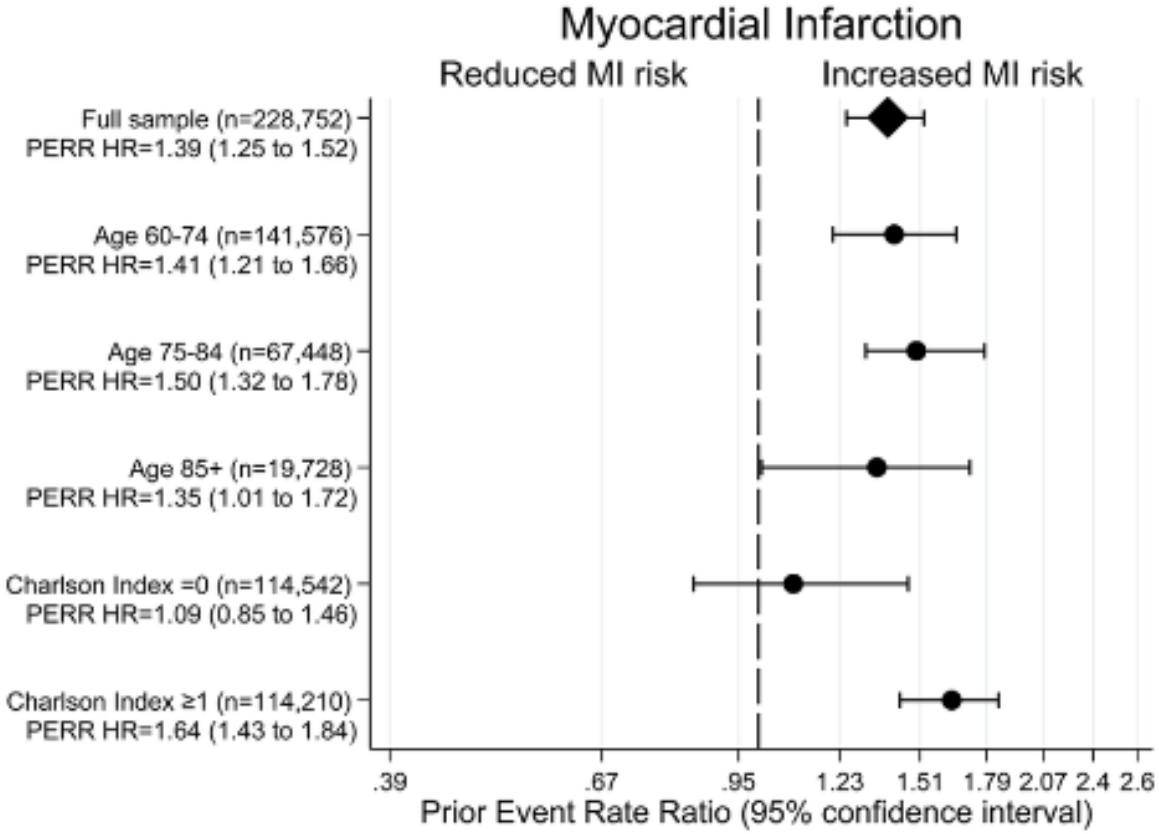
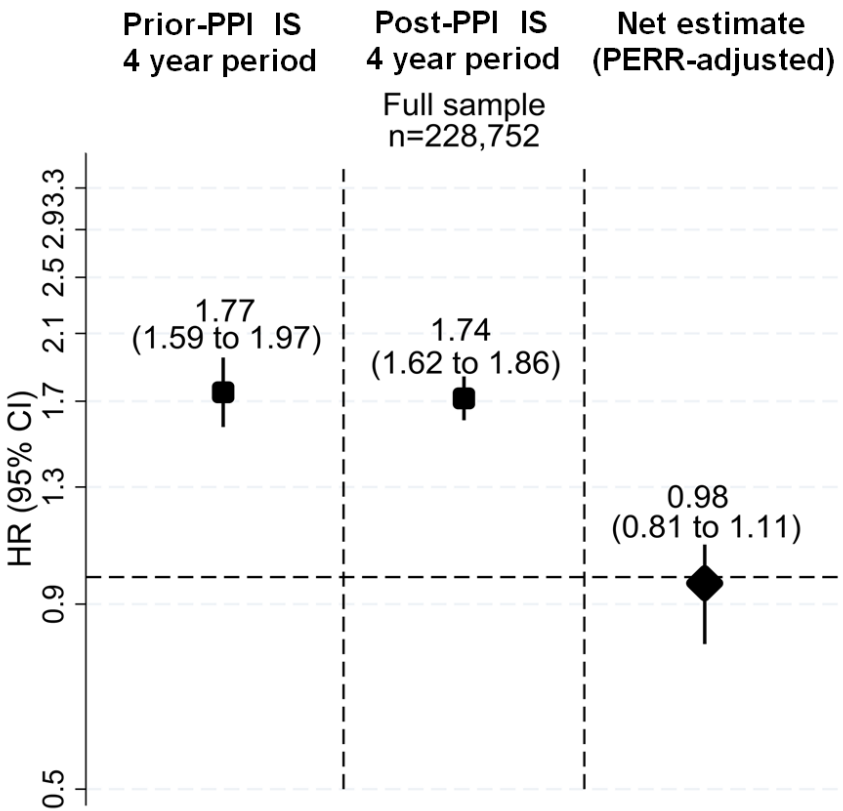


Results: Cardiovascular Stroke

- n= 114,376cases (PPIs >1year) and 114,376 controls



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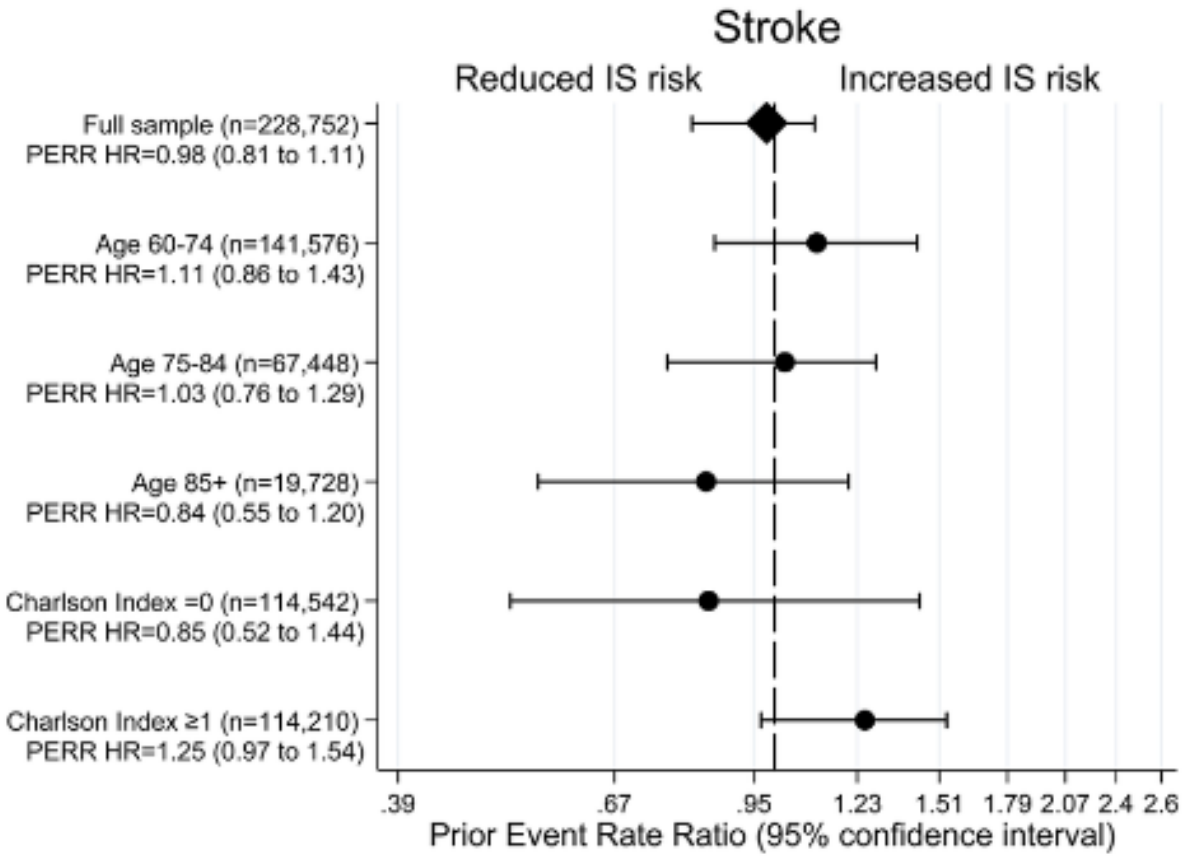

Conclusions

- Longer term PPI exposure may lead to increased risk of excess fragility fracture, pneumonia and MI in some older adults
- Consider the appropriateness of each PPI prescription

Thanks

- NIHR
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- Alessandro Ble
- Professor David Melzer

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