

# THE POTENTIAL FOR REDUCING OPIOID AND ANALGESIC PRESCRIPTIONS VIA HERPES ZOSTER VACCINATION

Jean-Etienne Poirrier<sup>1</sup>, Justin Carrico<sup>2</sup>, Jessica K. DeMartino<sup>1\*</sup>, Katherine A. Hicks<sup>2</sup>, Jeffrey Stoddard<sup>1</sup>, Saurabh Nagar<sup>2</sup>, Juliana Meyers<sup>2</sup>  
<sup>1</sup>GSK, Philadelphia, PA, USA; <sup>2</sup>RTI Health Solutions, Research Triangle, NC, USA; \*Presenting author: Jessica DeMartino, jessica.k.demartino@gsk.com

## BACKGROUND & OBJECTIVES

- Herpes Zoster (HZ), often presenting a painful rash, is caused by reactivation of dormant varicella zoster virus. Pain may last for weeks or months; opioids and other analgesics may be prescribed to control HZ-related pain.<sup>1</sup>
- Shingrix (recombinant zoster vaccine [RZV]) is approved for the prevention of HZ in adults aged 50 years and older.<sup>2</sup>
- The present study aimed to estimate the impact of RZV vaccination of a representative sample of US population aged 50 years and older on analgesic prescription outcomes.

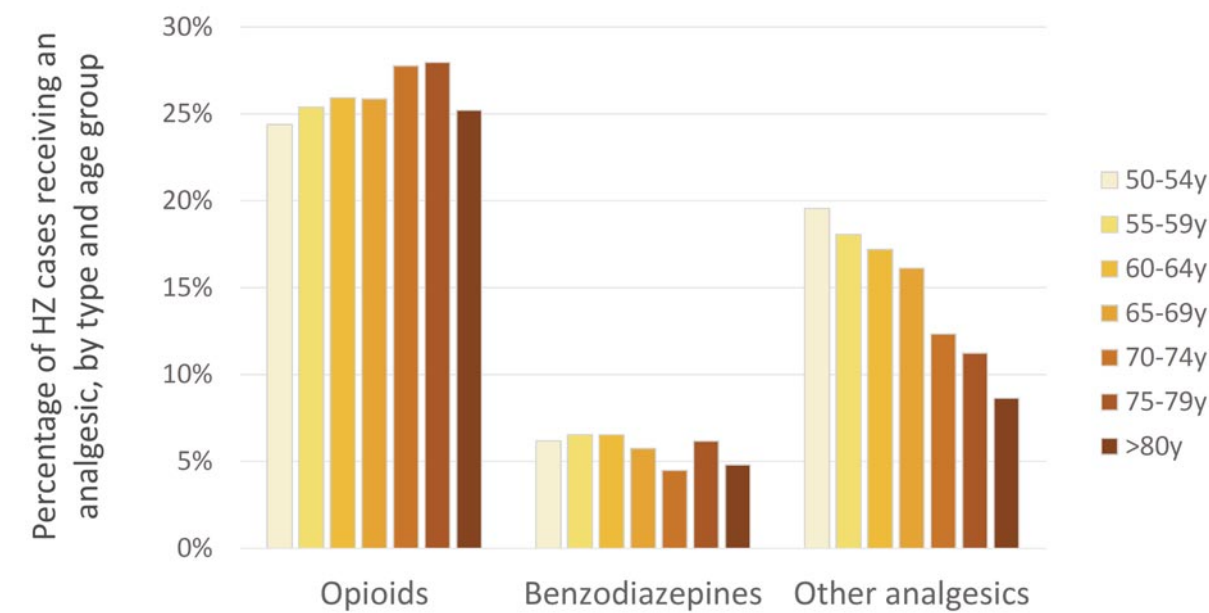
## METHODS

- Estimates of opioids, benzodiazepines and other analgesics' prescription rates among HZ cases were established using claims data\* from 2012-2018 for adults aged 50 years and older.<sup>3</sup>
- HZ case avoidance due to RZV vaccination was calculated using a previously published cost-effectiveness model.<sup>4</sup>
- These data were included in a calculator estimating the impact of 65% RZV vaccination coverage on analgesic prescription-related outcomes due to HZ cases avoided.

\*This study used databases from the IBM Watson Health Analytics' MarketScan suite of data. The databases evaluated for this analysis included the Commercial Claims and Encounters database, the Medicare Supplemental database, and the Medicaid Multi-State database.

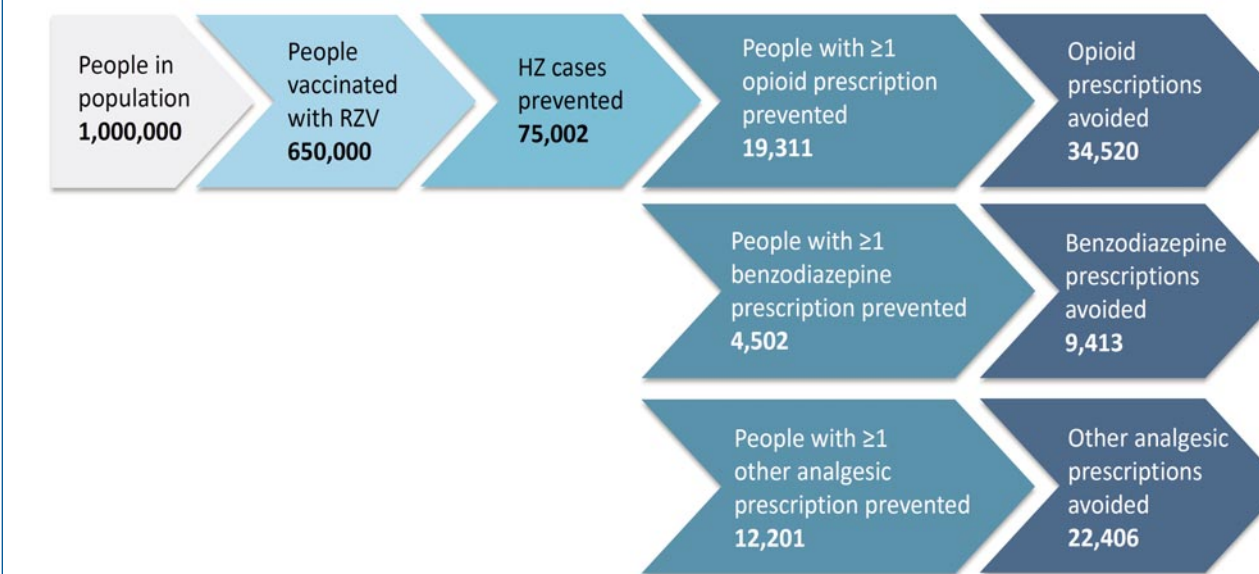
## RESULTS

Regardless of age, a quarter of HZ cases received opioids



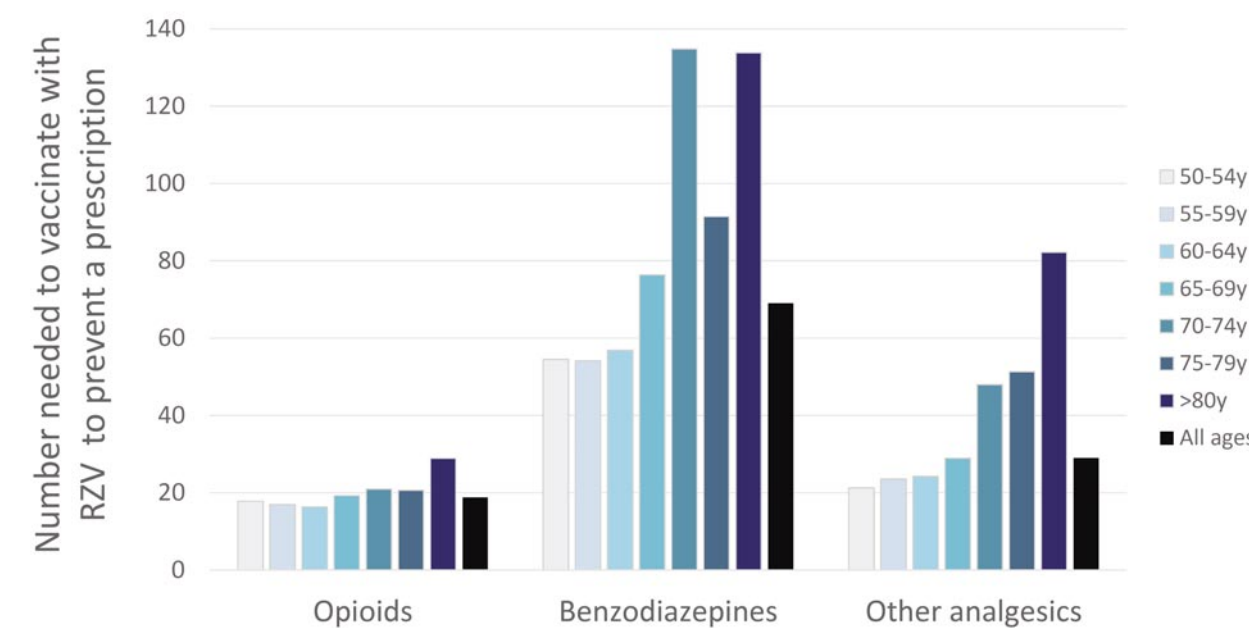
HZ, herpes zoster; y, years

HZ case avoidance in people aged 50 years and older through vaccination could reduce HZ related analgesic prescriptions



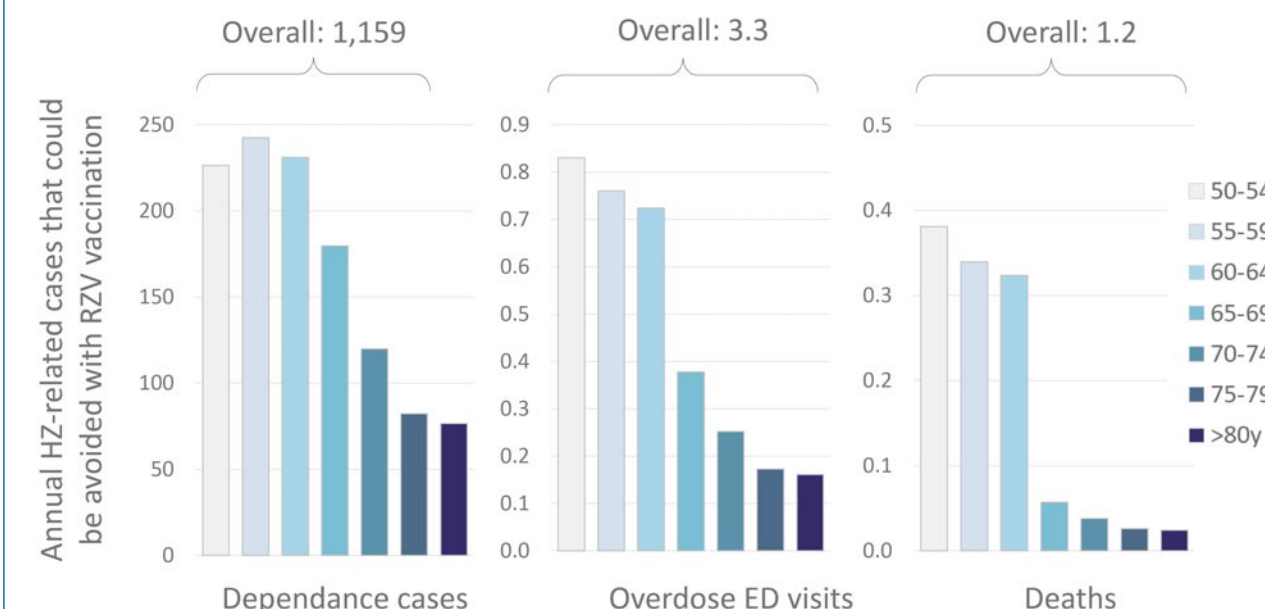
For a population of individuals ≥50 years old  
 HZ, herpes zoster; RZV, recombinant zoster vaccine

To avoid one HZ-related opioid prescription, 19 patients need to be vaccinated with RZV



HZ, herpes zoster; RZV, recombinant zoster vaccine; y, years

Over a thousand HZ-related opioid dependence cases could be avoided in a population of 1 million patients over 50



ED, emergency department; HZ, herpes zoster; RZV, recombinant zoster vaccine; y, years



- Herpes zoster is associated with high levels of opioid, benzodiazepine, and other painkiller use.
- Primary prevention of herpes zoster by vaccination could potentially lead to reduced opioid and other pain medication prescription.

## CONCLUSIONS

- Between 24.4% and 28.0% of HZ cases in patients over 50 years had at least one opioid prescription, dependent on age group.
- In a population of 1 million adults aged over 50 years, RZV vaccination could prevent over 19,000 patients from receiving HZ-related opioids, 4,500 patients from receiving benzodiazepines, and 12,000 patients from receiving other analgesics.
- One opioid prescription is estimated to be avoided for every 19 patients vaccinated with RZV.

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Scan for more details



Results of Database Analysis      Results of Calculator

## ADDITIONAL DETAILS ON THE CALCULATOR

- ➔ The model first estimates the number of people vaccinated with RZV based on the size and age distribution of the member population and vaccination coverage with RZV. The number of HZ cases avoided for the population is then calculated based on the number vaccinated with RZV and the number needed to vaccinate with RZV to avoid one HZ case (NNV), where NNV values were estimated by the RZV cost-effectiveness model.<sup>4</sup> Analgesic prescription rates among HZ cases were estimated from a claims database study and were used to project avoidance of analgesic prescriptions due to HZ cases avoided. Additional outcomes related to opioid dependence and overdose were also calculated.<sup>5-10</sup>

## AUTHORS' DETAILS

Jessica DeMartino, [jessica.k.demartino@gsk.com](mailto:jessica.k.demartino@gsk.com), 0000-0002-4685-3450

## DISCLOSURES

- ➔ Business & Decision Life Sciences platform provided editorial assistance and publications coordination, on behalf of GSK. Amandine Radziejwoski coordinated publications development and provided editorial support. J DeMartino is employed by the GSK group of companies and hold shares in the GSK group of companies. JE Poirrier and J Stoddard were employed by the GSK group of companies at the time the study was conducted. S Nagar, J Carrico, K Hicks and J Meyers, are employees of RTI Health Solutions, which was contracted by the GSK group of companies to design and implement the present study. The authors did not disclose any other financial or non-financial conflicts of interest.

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