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ESTIMATING THE PUBLIC HEALTH BENEFITS OF PREVENTING HERPES ZOSTER AND POSTHERPETIC NEURALGIA IN GREECE BY ZOSTER VACCINES: A MODELLING STUDY



SCAN ME

#EE202

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Background



HZ causes a substantial clinical and quality of life burden, resulting in many physician visits, hospitalizations and productivity losses.^{1,2}



The NIP in Greece recommends the immunization of adults 60-75 YoA.³ Immunization options against HZ include the currently recommended ZVL⁴ and a new vaccine, the RZV,⁵ which can also be used to prevent HZ in adults ≥50YoA.

Aims

- To project the **potential long-term public health and economic benefits** of fully vaccinating ≥50 YoA populations **with RZV** in the Greek setting
- To assess the **public health impact** of **expanding** the current universal vaccination for RZV
- To **compare** the **projected benefits** of **RZV** and **ZVL** across different age-groups

Methods

Model

A static multi-cohort Markov model^{6,7} (ZONA) used to simulate age-group cohorts

Horizon

Lifetime

Discounting

3% for costs,
0% for outcomes

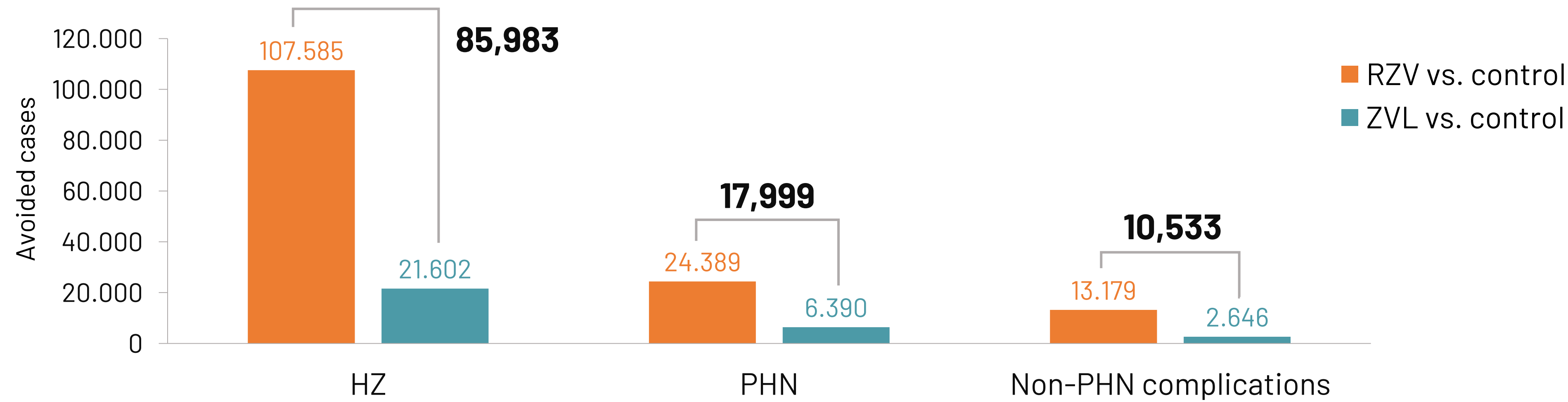
Comparisons

RZV and ZVL assuming full coverage and dose compliance and no vaccination (control)

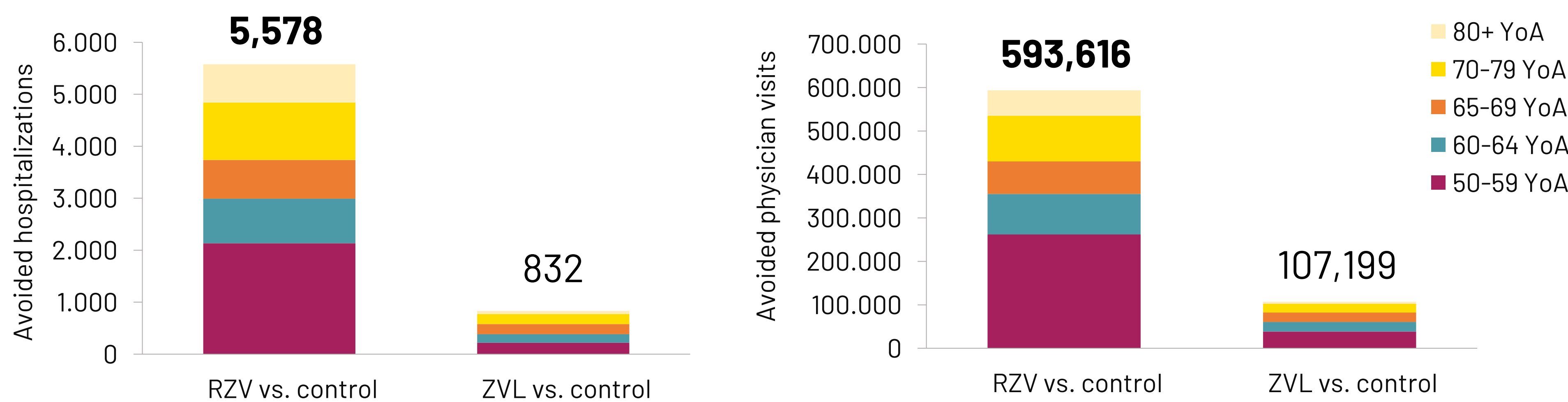
- Natural history simulation:** subjects in each age group are vaccinated at the start age for the group and at the beginning of the study follow-up period. Subjects are followed over with annual cycle lengths. Individuals immunized in previous years were excluded from the eligible population. Health states included HZ; natural death; HZ-related death; recovery; recurrent HZ; PHN; and non-PHN complications.^{6,7}
- Clinical and economic evidence:** demographic data were obtained from the Greek official statistics.^{8,9} Epidemiology and resource use data from published studies were used,¹⁰⁻¹³ gaps were filled by expert opinion.

Results

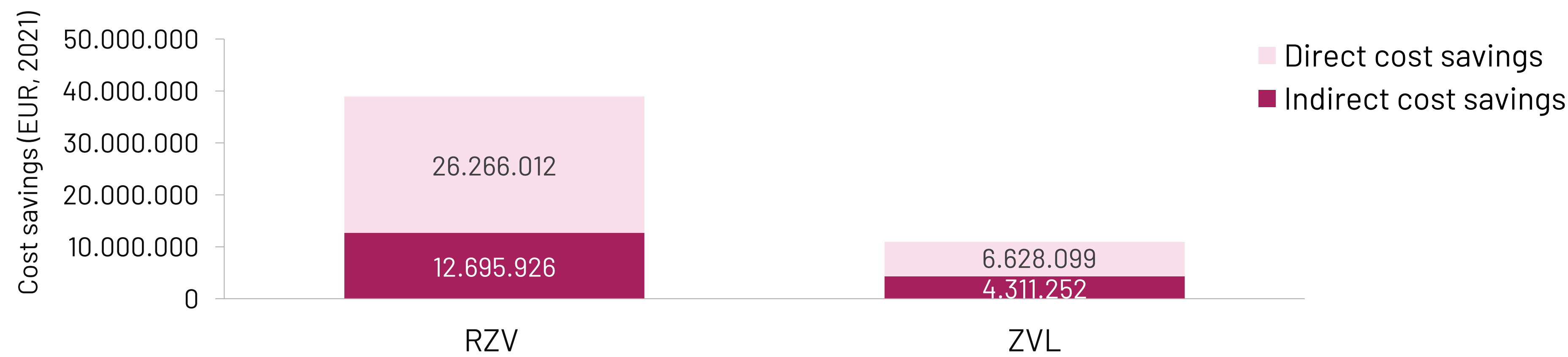
Vaccinating adults ≥50 YoA with RZV is expected to prevent substantial morbidity



Compared to ZVL, RZV is expected to result in less resource utilization



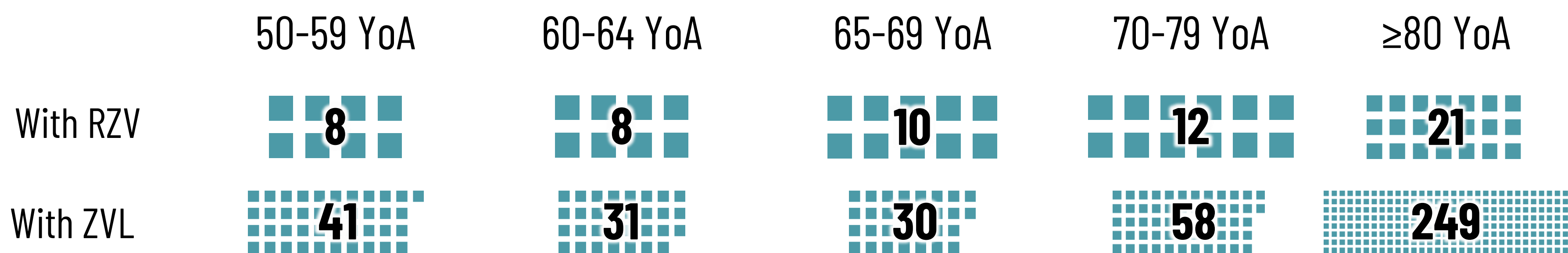
RZV is also expected to enable incremental savings of €28 million



Economic gains persist for all age groups ≥60 YoA in Greece

	≥60 YoA	≥70 YoA	60-75 YoA
HZ cases avoided	69,064	58,113	81,819
PHN cases avoided	13,758	9,875	17,215
Non-PHN complications avoided	8,460	7,119	10,023
Direct costs (EUR, 2021)	-17,323,143	-15,030,123	-20,214,241
Indirect costs (EUR, 2021)	-3,997,595	-1,980,684	-5,718,111

NNV is lower for RZV



Conclusions

- Vaccinating adults ≥50 YoA with RZV is expected to prevent substantial numbers of HZ, PHN and complication cases, averting direct costs and productivity losses.
- RZV is expected to prevent 85,983 HZ cases and 17,999 PHN cases more compared to ZVL that, in turn, correspond to cost savings of €28 million.
- Compared to ZVL, RZV is expected to prevent more HZ and PHN cases, yielding considerable economic gains.

Abbreviations: HZ herpes zoster, NIP national immunization program, NNV number needed to vaccinate, PHN postherpetic neuralgia, RZV Adjuvanted Recombinant Zoster Vaccine, YoA years of age, ZONA ZOster ecoNomic Analysis, ZVL Zoster Vaccine Live



Vaccination with the adjuvanted recombinant zoster vaccine may prevent a significant number of people from having herpes zoster and its complications. This would result in substantial public health benefits and savings.

Conflicts of interest: NG, VP, EL, and EV are employed by GSK. DR was employed by GSK at the time of the conduct of the study. NK is a health economist at Global Market Access Solutions, which received funding from GSK. MLN is a consultant at AIXIAL SPRL, which received funding from GSK. PG and AS declare no financial and non-financial relationships and activities. NG, VP, DR, EL, EV, NK and MLN declare no other financial and non-financial relationships and activities.
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