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Late Breaking Abstract - Adjuvanted RSVPreF3 vaccine effectiveness against cardiovascular events and disease exacerbations (2023–2025)

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Introduction: Research suggests that the adjuvanted RSVPreF3 vaccine is effective in reducing risk of major adverse cardiovascular events (MACE) and severe exacerbations of chronic obstructive pulmonary disease (COPD) and asthma over one respiratory syncytial virus (RSV) season (Singer et al. Presented at ReSViNET 2026). The present study evaluated vaccine effectiveness (VE) over two RSV seasons.

Methods: A retrospective cohort study among adults ≥ 60 years of age (YOA) in the US was conducted using claims data (Optum Research Database, Aug 2022–May 2025). Vaccinated and unvaccinated adults were exact matched on key baseline characteristics, with remaining differences balanced using propensity score weighting. Hazard ratios (HRs) comparing risk of overall and RSV-related MACE and COPD and asthma exacerbations in adults at increased risk for severe RSV disease were estimated using Cox proportional hazards models ($VE = [1 - HR] \times 100\%$).

Results: The full analysis included 662,982 vaccinated and 2,651,928 unvaccinated adults (median follow-up: 16.4 and 14.3 months, respectively). VE against RSV-related outcomes was 58.5% (95% confidence interval: 46.0–68.1%) for MACE, 57.6% (46.1–66.7%) for severe COPD exacerbations, and 57.3% (22.3–76.6%) for severe asthma exacerbations (Fig 1).

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Conclusions: Adjuvanted RSVPreF3 vaccination was associated with lower risk of RSV-related MACE and respiratory exacerbations over two RSV seasons in US adults ≥ 60 YOA. Results may inform future recommendations in revaccination timing.