

**O1011 High-dose influenza vaccination and mortality among veterans aged 65 years and older during the 2012-2013 influenza season**

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**Background:** Studies of the relative vaccine effectiveness (rVE) of high-dose (HD) influenza vaccines among seniors have demonstrated both reductions to and non-statistically significant differences in mortality compared to standard dose (SD) vaccines with results varying by season. Comparisons during different periods of an influenza season may offer a better approach to control for various confounders in studying rVE against mortality.

**Materials/methods:** We used linked electronic medical record databases in the Veterans Health Administration (VHA) and Centers for Medicare and Medicaid administrative claim files among VHA-enrolled Veterans  $\geq 65$  years of age during the 2012-2013 influenza season. The season was divided into three periods of potential influenza viral activity: early (September 1<sup>st</sup> to start of high), high (first to last occurrence of two consecutive weeks with at least 10% influenza test positivity), and late (end of high to June 30<sup>th</sup>). Cox proportional hazards modeling on a matched cohort was used to estimate the hazards ratio and 95% confidence interval of the association between receipt of HD vaccine and cardiorespiratory mortality for each period.

**Results:** We included 991,526 person-seasons of observation where 64,113 (6%) were among HD vaccine recipients and 927,413 (94%) were among SD vaccine recipients. 57,754 HD recipients were matched 1:1 to SD recipients residing in the same state and vaccinated within the same week, for whom 933 and 1,006 cardiorespiratory deaths were observed, respectively. The adjusted rVE estimate of HD versus SD during the high influenza period was 26% (95% CI, 19%-31%) against cardiorespiratory mortality. The adjusted rVE estimates for the early and late influenza periods were not statistically significant: 0% (95% CI, -435%-77%) and 10% (95% CI, 0%-19%), respectively.

**Conclusions:** Our results demonstrate that the matched VHA-enrolled aged  $\geq 65$  years cohort was well-balanced given the non-statistically significant early influenza period rVE. Attenuation of the rVE during the late period was expected as viral activity returned to levels comparable to the early period. HD was associated with a lower risk of cardiorespiratory death during the high influenza period as compared to SD. This additional protective benefit of HD is consistent with previously published studies on the 2012-2013 influenza season.

