

Poster Presentations

36 A YEAR WITHOUT THE FLU: MODELLING THE EFFECTS ON CARDIOVASCULAR MORTALITY FROM INFLUENZA IN IRELAND

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Background: Cardiovascular diseases (CVDs) are consistently ranked among the leading causes of death among older adults in Ireland. COVID-19 and influenza infection are associated with cardiovascular complications. However, percentage of deaths caused by CVD among adults aged 75 and over in Ireland decreased from 32.9% to 31.0% from 2019 to 2020. Government-imposed social distancing measures resulted in abolition of influenza activity (IA). We analysed population data from the 2010/11–2019/20 influenza seasons to estimate the impact of reduced IA on CVD mortality rates during the COVID-19 pandemic season.

Methods: Quarterly mortality data for acute myocardial infarction (AMI) and cerebrovascular disease from first quarter (Q1) 2010 to fourth quarter (Q4) 2020 was obtained from the Central Statistics Office. Weekly data on influenza-like illness (ILI) rates and positive percentages (PP) (i.e. proportion of influenza-positive sentinel respiratory specimens) from week 40 2010 to week 20 2020 was obtained from the Health Protection Surveillance Centre. Excess mortality rate during influenza season was calculated as the percentage difference between Q4/Q1 and preceding third quarter (Q3) mortality rates. We adopted the Goldstein index (ILI rate \times PP) as an indicator of IA. Time series analyses, Pearson correlation coefficients (r) and linear regression models were used to evaluate the relationships between IA and excess AMI and cerebrovascular disease mortality rates.

Results: Statistically significant positive associations were observed between IA and excess AMI ($r = 0.557$, $p = 0.011$) and cerebrovascular disease ($r = 0.858$, $p < 0.001$) mortality rates. Linear regression models predicted 0.072% (95% confidence interval 0.019%, 0.125%) and 0.095% (0.067%, 0.123%) increases in excess AMI and cerebrovascular disease mortality rates respectively per unit increase in IA levels.

Conclusion: Elimination of IA may have contributed towards limiting the effects of COVID-19 on CVD mortality rates, and consequently total excess mortality, among older adults in Ireland.