

**P1124 Study of demographical and virological factors for the detection of co-infections between influenza and other respiratory viruses**Iván Sanz<sup>\*1</sup>, Diana Perez<sup>1</sup>, Ana Lopez<sup>1</sup>, Silvia Rojo<sup>2,1</sup>, Raul Ortiz De Lejarazu<sup>2,1</sup><sup>1</sup> National Influenza Centre, Valladolid, Hospital Clínico Universitario de Valladolid, Valladolid, Spain, <sup>2</sup> Servicio de Microbiología e Inmunología, Hospital Clínico Universitario de Valladolid, Valladolid, Spain

**Background:** Influenza coinfections with Other Respiratory Viruses (ORV) are frequent during flu seasons. These coinfections depend largely on the virological and epidemiological characteristics of the patient. The aim of this study is to analyze the relation of age, sex, origin of the sample and type/subtype of influenza with the coinfection of influenza and ORV.

**Materials/methods:** A retrospective observational study was designed including 419 coinfecting samples with influenza and ORV from patients of 4 different groups (0-4, 5-14, 15-64, ≥65 years old), within seven consecutive epidemics (from 2011-12 to 2017-18). The samples were obtained from patients hospitalized in different hospitals of Castile and Leon (Spain) and also outpatients from the Influenza Sentinel Surveillance Network of Castile and Leon (ISSNCyL). Those samples were analyzed at the National Influenza Centre of Valladolid using MagPix platform and *NxTAG RPP* reagents (Luminex, Austin, TX, USA). These reagents can detect: Adenovirus, Bocavirus, Coronavirus HKU1, NL63, OC43 and 229E, Metapneumovirus, Rhinovirus/Enterovirus, Influenza A, A(H1N1)pdm09, A(H3N2), Influenza B, Parainfluenza viruses (1, 2, 3 and 4), and RSV. It was used Odds Ratio (OR) to analyze the probability to detect coinfections of influenza and ORV and the connection with their demographic and epidemiological characteristics. For the OR analysis, the reference groups established for each variable were: Age, ≥65 years; Sex, males; sample origin, hospitalized; type/subtype of influenza, A(H3N2) subtype.

**Results:** OR analysis showed an OR=8.5 (CI95%=6.5-11.1) in 0-4 years age group, OR=5.0 (CI95% = 3.7-6.9) in 5-14 years and OR=2.8 (CI95%=2.1-3.7) in 15-64 years than in ≥65 years. It also showed an OR=2.9 (CI95%=2.2-3.7) in outpatients than in hospitalized. No differences were found in any of the other variables analyzed.

**Conclusions:** Our study shows that coinfections between influenza and ORV are more frequent in children and young people than in adults and the elderly. Also those coinfections were more frequent within outpatients, probably meaning that the need of hospitalization due to influenza is not related with the coinfection with ORV. Sex and influenza type/subtype were not factors connected to the probability of being coinfecting with ORV. These results can help to focus the targets of multiplex diagnostic.

