

## Posters

### Scientific Presentation: Epid (Epidemiology)

#### 84 COVID-19 AND ASSOCIATIONS WITH FRAILTY AND MULTIMORBIDITY: A PROSPECTIVE ANALYSIS OF UK BIOBANK PARTICIPANTS

S. J. Woolford<sup>1,†</sup>, S. D'Angelo<sup>1,†</sup>, E. M. Curtis<sup>1</sup>, C. M. Parsons<sup>1</sup>, K. A. Ward<sup>1</sup>, E. M. Dennison<sup>1</sup>, H. P. Patel<sup>1,2,3,4</sup>, C. Cooper<sup>1,4,5,†</sup>, N. C. Harvey<sup>1,4,†</sup>

<sup>1</sup>MRC Lifecourse Epidemiology Unit, University of Southampton, Southampton, UK

<sup>2</sup>Medicine for Older People, University Hospital Southampton, Southampton, UK

<sup>3</sup>Academic Geriatric Medicine, University of Southampton, Southampton, UK

<sup>4</sup>NIHR Southampton Biomedical Research Centre, University of Southampton and University Hospital Southampton NHS Foundation Trust, Southampton, UK

<sup>5</sup>NIHR Biomedical Research Centre, University of Oxford, Oxford, UK

**Introduction:** Frailty and multimorbidity have been suggested as risk factors for severe COVID-19 disease. We therefore investigated whether frailty and multimorbidity were

associated with risk of hospitalisation with COVID-19 in the UK Biobank. Method 502,640 participants aged 40–69 years at baseline (54–79 years at COVID-19 testing) were recruited across UK 2006–10. A modified assessment of frailty using Fried's classification was generated from baseline data. COVID-19 test results (England) were available 16/03/2020–01/06/2020, mostly taken in hospital settings. Logistic regression was used to discern associations between frailty, multimorbidity and COVID-19 diagnoses, adjusting for sex, age, BMI, ethnicity, education, smoking and number of comorbidity groupings, comparing COVID-19 positive, COVID-19 negative and non-tested groups.

**Results:** 4,510 participants were tested for COVID-19 (positive = 1,326, negative = 3,184). 497,996 participants were not tested. Compared to the non-tested group, after adjustment, COVID-19 positive participants were more likely to be frail (OR = 1.4 [95%CI = 1.1, 1.8]), report slow walking speed (OR = 1.3 [1.1, 1.6]), report two or more falls in the past year (OR = 1.3 [1.0, 1.5]) and be multimorbid ( $\geq 4$  comorbidity groupings vs 0–1: OR = 1.9 [1.5, 2.3]). However, similar strength of associations were apparent when comparing COVID-19 negative and non-tested groups. Furthermore, frailty and multimorbidity were not associated with COVID-19 diagnoses, when comparing COVID-19 positive and COVID-19 negative participants.

**Conclusions:** Frailty and multimorbidity do not appear to aid risk stratification, in terms of a positive versus negative results of COVID-19 testing. Investigation of the prognostic value of these markers for adverse clinical sequelae following COVID-19 disease is urgently needed.