

Deriving and validating a risk prediction model for long COVID

a population-based, retrospective cohort study in Scotland

Karen Jeffrey¹ (karen.jeffrey@ed.ac.uk | @karenjeffrey), Vicky Hammersley¹, Rishma Maini², Anna Crawford¹, Lana Woolford¹, Ashleigh Batchelor⁴, David Weatherill⁴, Chris White⁴, Tristan Millington¹, Robin Kerr⁶, Siddharth Basetti³, Calum Macdonald¹, Jennifer K Quint⁵, Steven Kerr¹, Syed Ahmar Shah¹, Amanj Kurdji^{7, 8, 9, 10}, Colin R Simpson^{1, 11}, Srinivasa Vittal Katikireddi^{2, 12}, Chris Robertson^{2, 13}, Lewis Ritchie^{14, 15}, *Aziz Sheikh¹, *Luke Daines¹



THE UNIVERSITY OF EDINBURGH

usher institute

WHAT IS LONG COVID?

- A debilitating multi-system condition, estimated to affect **10–20%** of people infected with COVID-19
- **Diverse symptoms**, including fatigue, shortness of breath, and cognitive issues.
- Symptoms can last for **months or years**, leading to deterioration in quality of life.

Check out the protocol

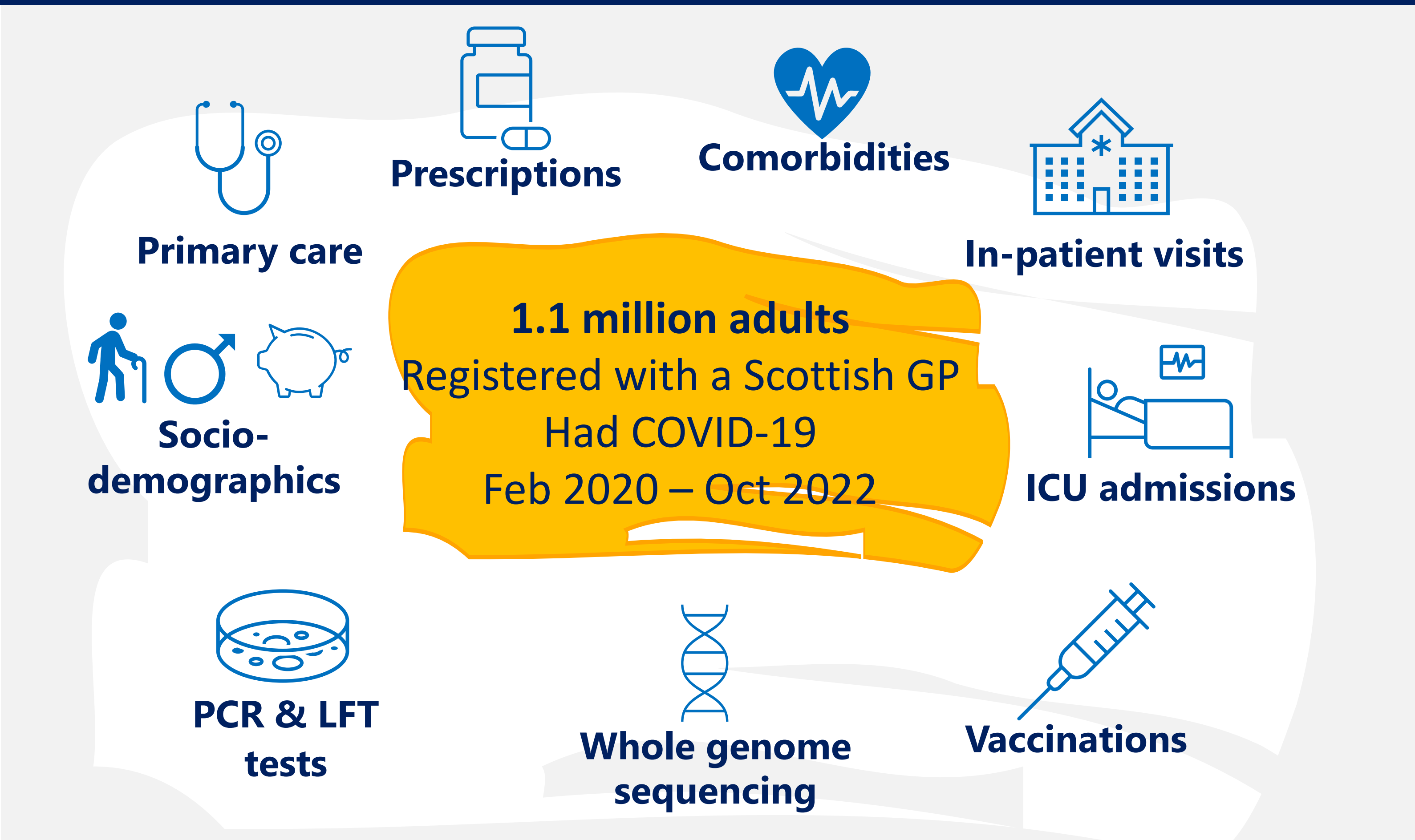


BMJ Journals

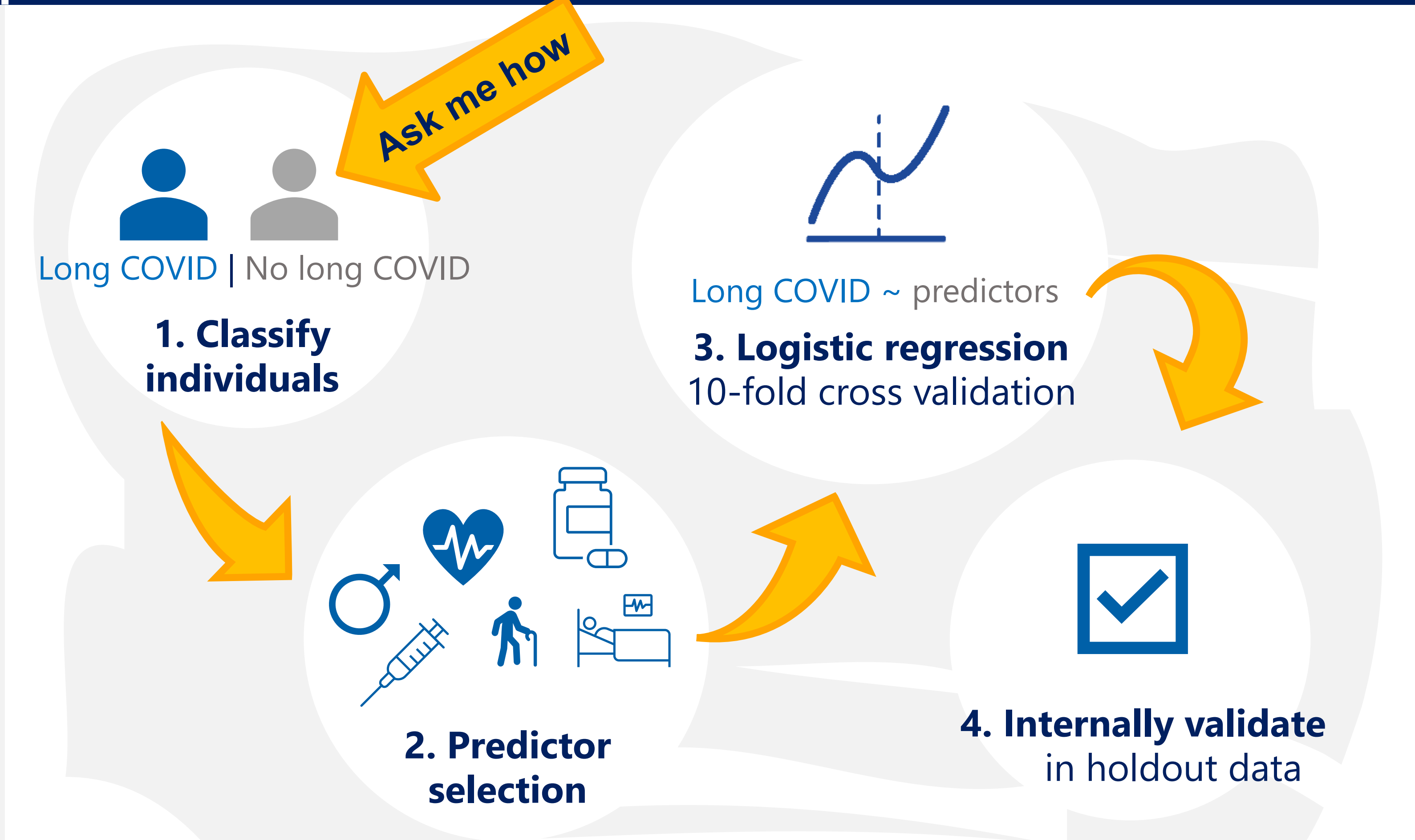
BMJ Open

AIM: Improve understanding of risk factors, identify modifiable characteristics, inform therapies and healthcare planning.

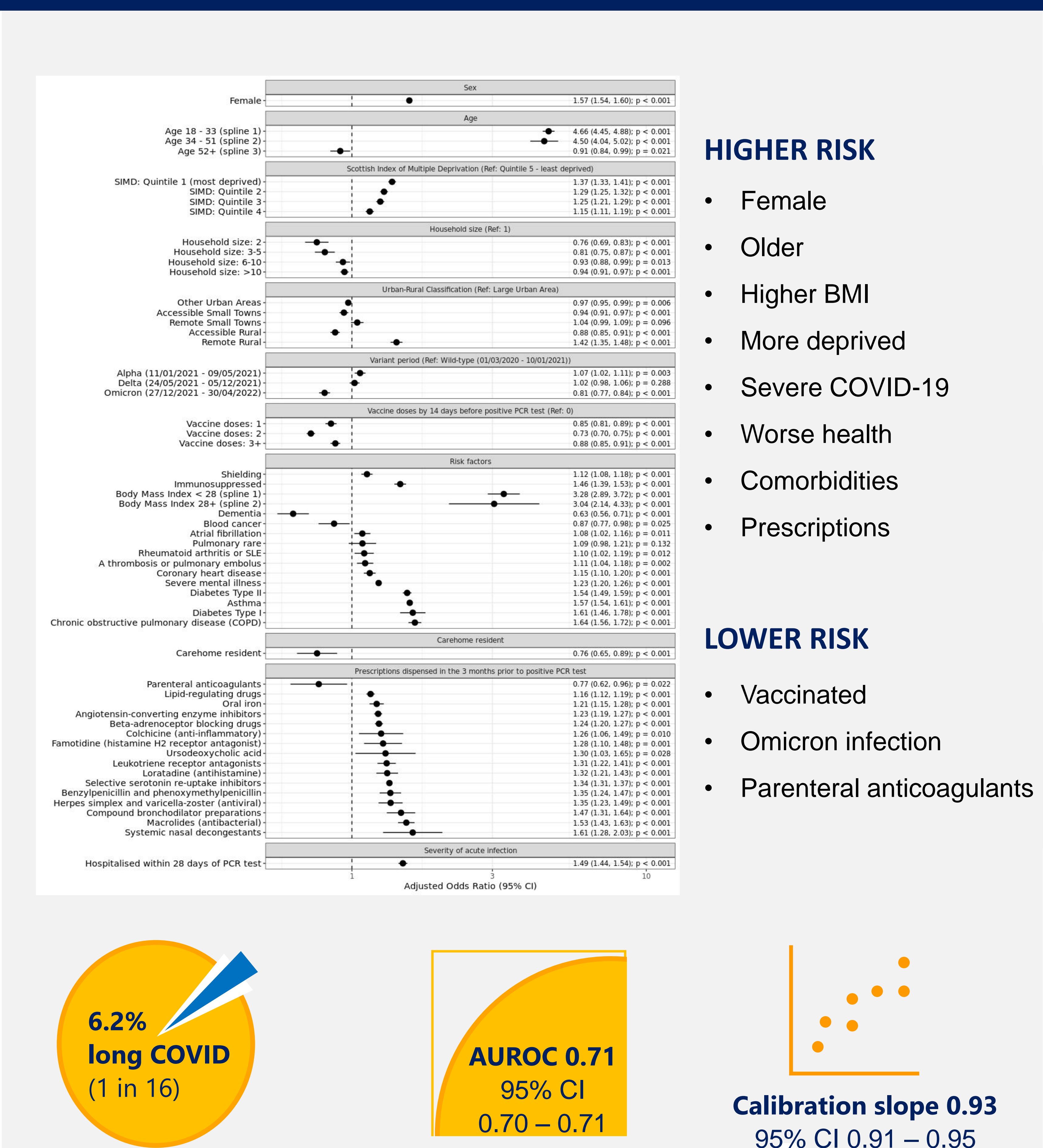
DATA



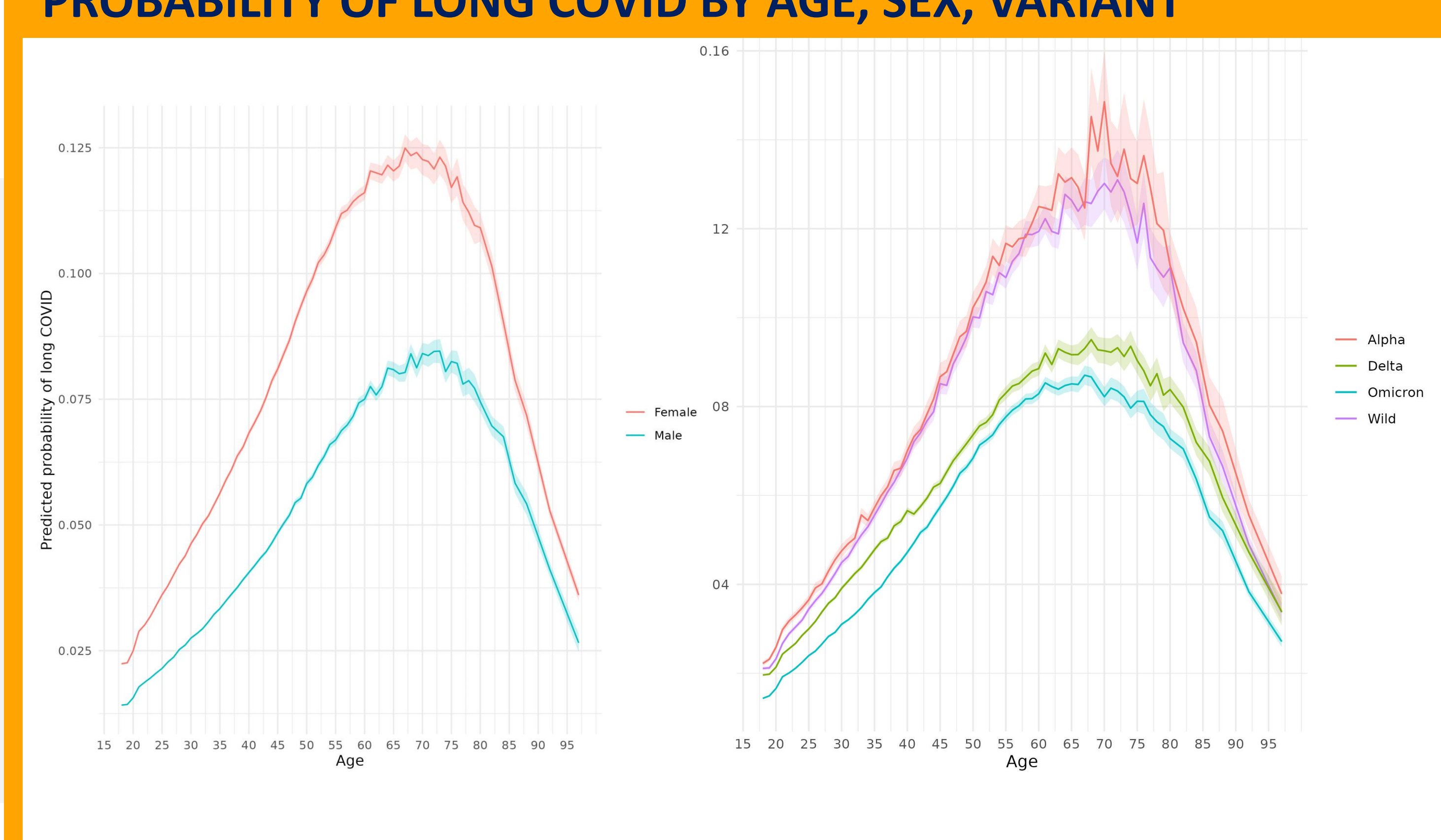
METHODS



RESULTS



PROBABILITY OF LONG COVID BY AGE, SEX, VARIANT



IMPLICATIONS

- Our findings....**
- Support **vaccination** as a protective measure against long COVID
 - Highlight **parenteral anticoagulants** as a candidate for research into therapeutic interventions.
 - Offer **personalised risk scores** to inform decision-making around COVID-19 exposure
- WHAT NEXT?**
External validation in English data



1.Usher Institute, University of Edinburgh, Edinburgh, UK
 2.Public Health Scotland, Glasgow and Edinburgh, UK
 3.NHS Highland, Inverness, UK
 4.Patient and Public Contributors, affiliated to Usher Institute¹
 5.National Heart and Lung Institute, Imperial College London, London, UK
 6.NHS Borders, Melrose, UK.
 7.Strathclyde Institute of Pharmacy and Biomedical Science, University of Strathclyde,
 8.Department of Clinical Pharmacy, College of Pharmacy, Hawler Medical University, Erbil, Iraq
 9.College of Pharmacy, Al-Kitab University, Kirkuk, Iraq
 10.School of Pharmacy, Sefako Makgatho Health Sciences University, Pretoria, South Africa
 11.School of Health, Wellington Faculty of Health, Victoria University of Wellington, Wellington, NZ
 12.MRC/CSO Social & Public Health Sciences Unit, University of Glasgow, Glasgow, UK
 13.Department of Mathematics and Statistics, University of Strathclyde, Glasgow, UK
 14.Academic Primary Care, University of Aberdeen, Aberdeen, UK
 15.Institute of Applied Health Sciences, University of Aberdeen
 *Joint senior authors

