

EPH11 Prevalence, risk factors and characterisation of individuals with long COVID using electronic health records in over 1.5 million COVID cases in England

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BACKGROUND

- The prevalence of long-COVID and associated risk factors in the general population remains uncertain. Previous studies have been limited by:



OBJECTIVES

- Describe and examine the prevalence, symptoms, and risk factors of long-COVID in the general population using electronic health records (EHRs).



METHODS

Data source and study population

- Data source: electronic primary care records held in the CPRD database linked to secondary care, death registration and surveillance databases (see Fig. 1)
- Population: individuals aged 18 and over with a first diagnosis of COVID between January 1, 2020, and February 28, 2021.

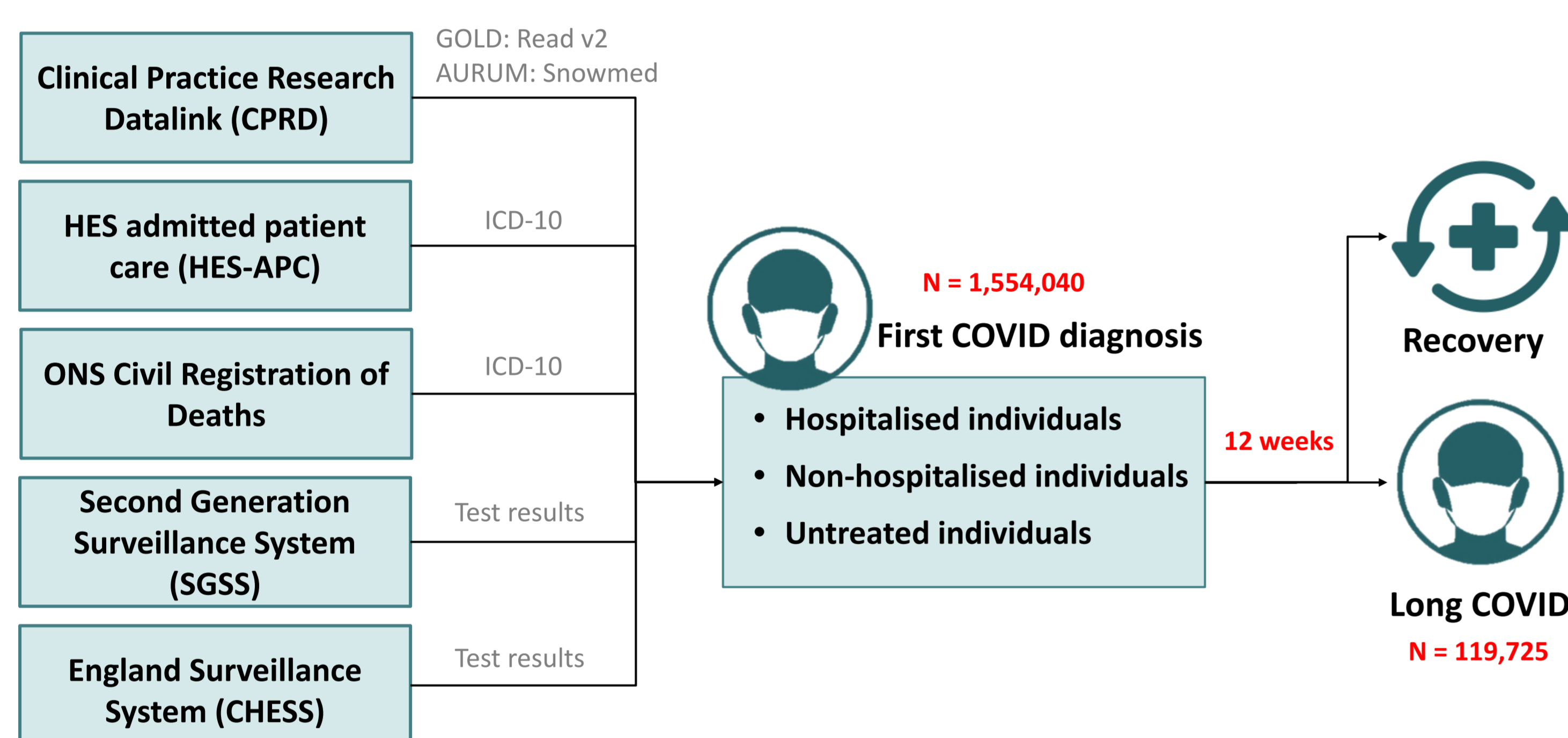


Fig. 1 Data linkage

Long-COVID identification

- Diagnosis: diagnosis codes
- Symptoms: 37 key symptoms were identified based on a systematic review and the NHS National guidance.

Pre-existing long-term conditions (LTCs)

- 39 LTCs were chosen based on the NHS National guidance and expert opinions

Analysis

- Descriptive statistics:** prevalence of long-COVID symptoms after 12-weeks from index date.
- Cox regressions:** risk factors for having long-COVID symptoms.

Funding

- Funded by NIHR (COV-LT2-0043) as part of the STIMULATE-ICP study.

RESULTS

- 1,554,040** adults with a first diagnosis of COVID were identified and followed until 31 December 2021 (avg. 400-day follow-up).
- Baseline characteristics:** the mean age was 45.2 years (sd = 17.9), 55.6% were female, 65.5% were white, and cases were more frequent in less deprived areas.
- Prevalence:** 119,725 (7.7%) COVID cases were classified as long-COVID, diagnosed (0.5%) or presenting at least one of the pre-defined symptoms (7.4%) (Table 1).
- Symptoms:** The five most frequently recorded long-COVID symptoms were cough, back pain, stomachache, headache and sore throat.

Table 1 Top 5 long-COVID symptoms in general population

	Total (n=119,725, 100%) N(%)
Long COVID diagnosis	8,233 (6.9%)
Long COVID symptom	115,590 (96.6%)
Cough	21,189 (17.7%)
Back pain	18,233 (15.2%)
Stomach-ache	13,428 (11.2%)
Headache	13,305 (11.1%)
Sore throat	11,982 (10.0%)

- Risk factors:** The hazard ratios of key baseline characteristics and pre-existing LTCs are shown in Fig. 2.

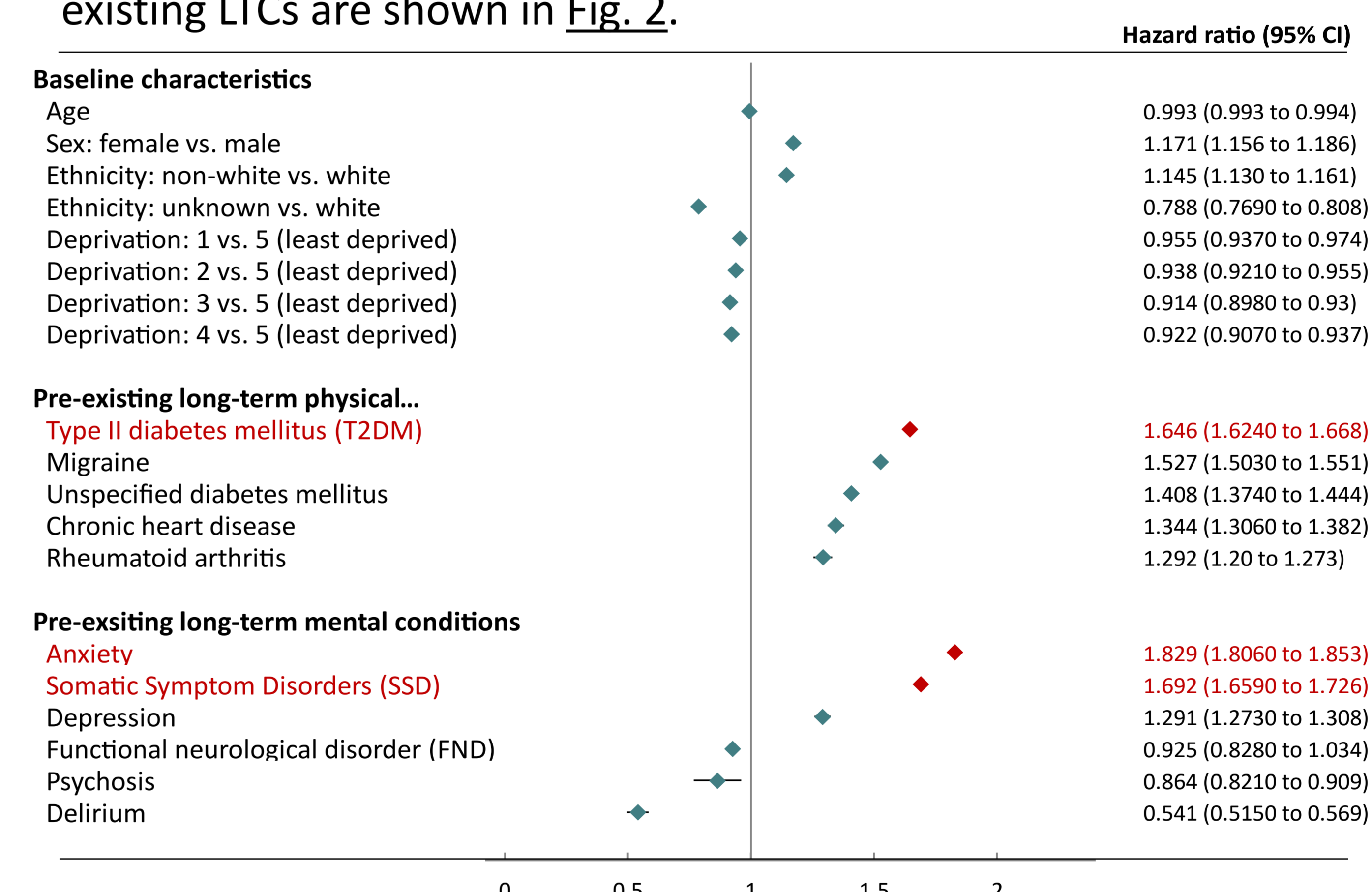


Figure 2 key risk factors and hazard ratios of having long-COVID

DISCUSSION

- This is the **first study** to use electronic health records to investigate long-COVID in the general population.
- We found a **different symptom profile** to previous studies, revealing variations in ascertainment and symptom prioritization between individuals and clinicians, suggesting not all self-reported symptoms require treatment.
- Pre-existing anxiety and somatic symptom disorder** pose a higher risk for developing long-COVID than T2DM, a well-known elevating risk factor.
- Living in deprived areas or experiencing delirium lowers the risk of developing long-COVID, and there may be barriers to diagnosis and care in these populations.

CONCLUSION

Our findings can aid practitioners in identifying high-risk individuals for timely intervention and guide resource allocation for managing long-COVID more efficiently in the general population.