

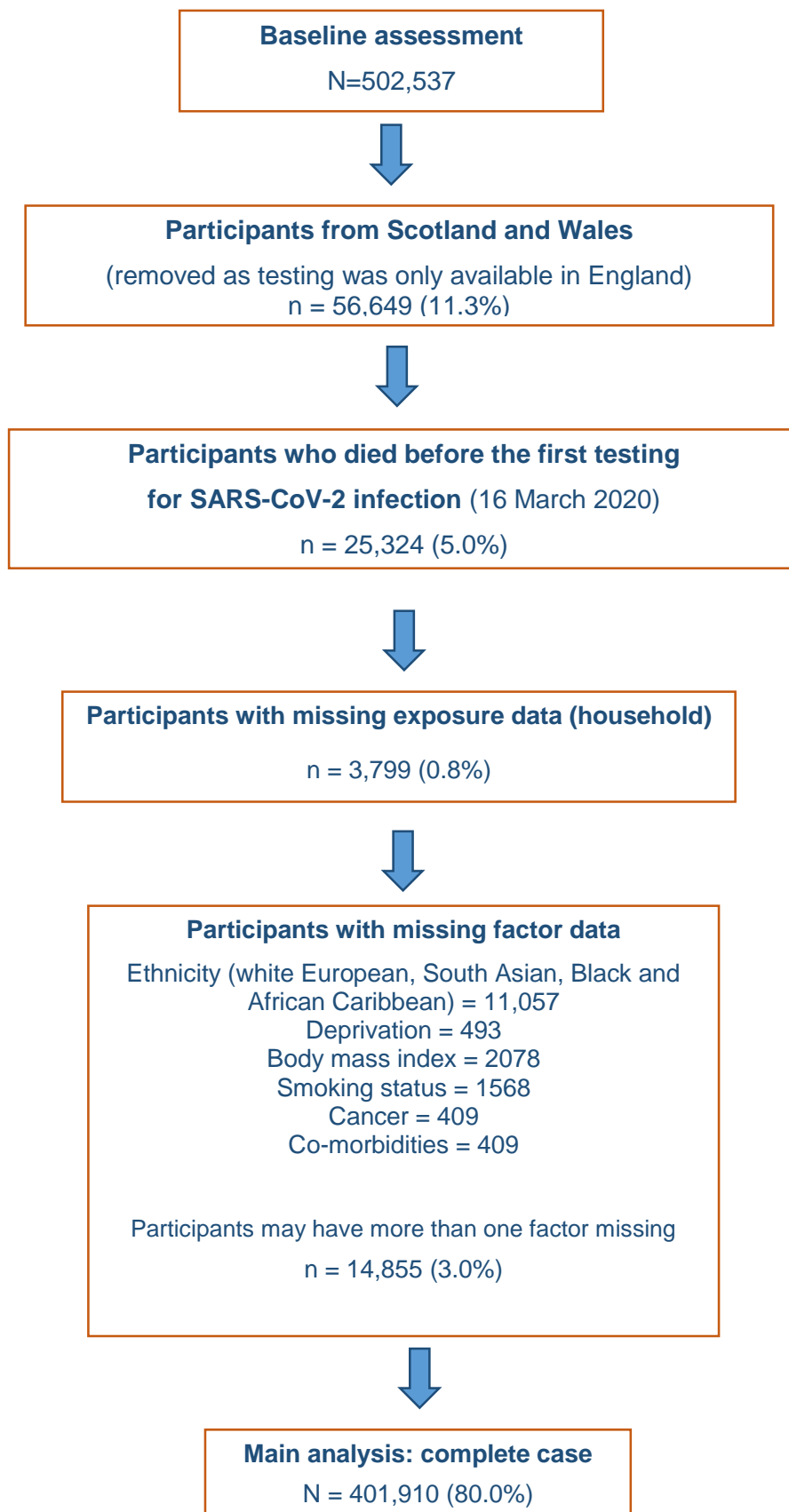
**Figure S1: STROBE Checklist of items that should be included in reports of *cohort studies***

	<b>Item No</b>	<b>Recommendation</b>	<b>Page No</b>
<b>Title and abstract</b>	1	(a) Indicate the study's design with a commonly used term in the title or the abstract (b) Provide in the abstract an informative and balanced summary of what was done and what was found	1
<b>Introduction</b>			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	4
Objectives	3	State specific objectives, including any prespecified hypotheses	4
<b>Methods</b>			
Study design	4	Present key elements of study design early in the paper	5
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	5
Participants	6	(a) Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up  (b) For matched studies, give matching criteria and number of exposed and unexposed	5 & figure S2
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	5 & 6
Data sources/measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	5 & 6
Bias	9	Describe any efforts to address potential sources of bias	6 & 7
Study size	10	Explain how the study size was arrived at	8
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	6 & 7
Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding (b) Describe any methods used to examine subgroups and interactions (c) Explain how missing data were addressed (d) If applicable, explain how loss to follow-up was addressed (e) Describe any sensitivity analyses	6 & 7
<b>Results</b>			
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed (b) Give reasons for non-participation at each stage (c) Consider use of a flow diagram	8 & figure S2
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders (b) Indicate number of participants with missing data for each variable of interest (c) Summarise follow-up time (eg, average and total amount)	8
Outcome data	15*	Report numbers of outcome events or summary measures over time	8

Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included (b) Report category boundaries when continuous variables were categorized (c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	8 & 9
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	8 & 9
<b>Discussion</b>			
Key results	18	Summarise key results with reference to study objectives	10
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	11
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	11
Generalisability	21	Discuss the generalisability (external validity) of the study results	11
<b>Other information</b>			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	2

\*Give information separately for exposed and unexposed groups.

**Figure S2: Flow chart of participants included in the analysis**



**Table S1: Results for the fully adjusted logistic regression model (N=401,910)**

Variable	Odds ratio (95% CI) for severe Covid-19	Odds ratio (95% CI) for mild Covid-19
1 person household (2 person is the reference)	1.24 (1.14, 1.36)	0.88 (0.82, 0.93)
3 or more (2 person household is the reference)	1.28 (1.18, 1.39)	1.50 (1.44, 1.58)
Age at time of COVID-19 test	1.04 (1.03, 1.05)	0.96 (0.95, 0.96)
Sex (Female is the reference)	1.45 (1.35, 1.55)	0.95 (0.92, 0.99)
Townsend Score	1.08 (1.07, 1.09)	1.04 (1.04, 1.05)
BMI (kg/m <sup>2</sup> )	1.07 (1.06, 1.07)	1.03 (1.02, 1.03)
Cancer, current or previous (No is the reference)	1.11 (0.99, 1.25)	0.96 (0.89, 1.03)
One of more comorbidities (No is the reference)	1.53 (1.39, 1.68)	0.96 (0.92, 1.01)
Smoking status, previous (Never is the reference)	1.30 (1.20, 1.39)	1.11 (1.06, 1.16)
Smoking status, current (Never is the reference)	1.60 (1.44, 1.78)	1.03 (0.97, 1.10)
Health worker status (No is the reference)	1.27 (1.01, 1.89)	0.80 (0.66, 0.97)
South Asian (White European is the reference)	2.38 (1.99, 2.84)	1.77 (1.60, 1.96)
Black and African Caribbean (White European is the reference)	1.73 (1.44, 2.07)	1.13 (1.01, 1.27)

**Table S2: COVID-19 status by missing information**

COVID-19 status	Included in complete-case analysis (N=401,910)	Excluded from analysis due to missing data (N=14,855)
None	387,034 (96.3)	17,734 (95.1)
Non-severe	11,264 (2.8)	633 (3.4)
Severe	3,612 (0.9)	287 (1.5)

Values reported are n(%)