

CVD-COVID-UK/COVID-IMPACT Research Outputs

The papers and preprints listed below have been produced on behalf of the [CVD-COVID-UK/COVID-IMPACT Consortium](#), supported by the [BHF Data Science Centre](#).

In line with the consortium's principles - based on a collaborative, transparent and inclusive ethos - all related analysis plans, protocols, code, phenotype code lists and reports are made publicly available via the centre's [collection on the HDR UK Gateway](#), repositories in the centre's [GitHub organisation](#) and through open-access publications (via the links below).

Published papers/reports and preprints

August 2024

Title:	COVID-19 diagnosis, vaccination during pregnancy, and adverse pregnancy outcomes of 865,654 women in England and Wales: a population-based cohort study. <i>The Lancet Regional Health - Europe</i>
Project:	CCU018_01: Estimating the short- and longer-term risk of cardiovascular disease and intermediate traits in women infected with COVID during pregnancy
DOI:	https://doi.org/10.1016/j.lanepe.2024.101037
GitHub:	https://github.com/BHFDSC/CCU018_01

Title:	COVID-19 vaccination and birth outcomes of 186,990 women vaccinated before pregnancy: an England-wide cohort study. <i>The Lancet Regional Health - Europe</i>
Project:	CCU036_01: Starting a course of COVID-19 vaccination before pregnancy and future pregnancy outcomes
DOI:	https://doi.org/10.1016/j.lanepe.2024.101025
GitHub:	https://github.com/BHFDSC/CCU036_01

Title:	Replicating a COVID-19 study in a national England database to assess the generalisability of research with regional electronic health record data. <i>medRxiv</i>
Project:	CCU040_03: Replicating a regional COVID-19 study in the national UK COVID-IMPACT database
DOI:	https://doi.org/10.1101/2024.08.06.24311538
GitHub:	https://github.com/BHFDSC/CCU040_01

Title:	The challenges of replication: a worked example of methods reproducibility using electronic health record data. <i>medRxiv</i>
Project:	CCU040_02: The challenges of replication: a worked example of methods reproducibility using routinely collected healthcare data
DOI:	https://doi.org/10.1101/2024.08.06.24311535
GitHub:	https://github.com/BHFDSC/CCU040_01

July 2024

Title: Cohort study of cardiovascular safety of different COVID-19 vaccination doses among 46 million adults in England. *Nature Communications*

Project: CCU002_06: First, second and booster dose COVID-19 vaccination and the risks of arterial and venous vascular events

DOI: <https://doi.org/10.1038/s41467-024-49634-x>

GitHub: https://github.com/BHFDSC/CCU002_06

June 2024

Title: Vaccinations, cardiovascular drugs, hospitalisation and mortality in COVID-19 and Long COVID. *International Journal of Infectious Diseases*

Project: CCU060_01: Improving characterisation, prediction and intervention for COVID- and influenza-related morbidity and mortality

DOI: <https://doi.org/10.1016/j.ijid.2024.107155>

GitHub: https://github.com/BHFDSC/CCU060_01

Title: Risk of cardiovascular events following COVID-19 in people with and without pre-existing chronic respiratory disease. *International Journal of Epidemiology*

Project: CCU035_01: SARS-CoV-2 infection and risk of major vascular events in people with chronic respiratory diseases

DOI: <https://doi.org/10.1093/ije/dyae068>

GitHub: https://github.com/BHFDSC/CCU035_01

Title: A nationwide, population-based study on specialized care for acute heart failure throughout the COVID-19 pandemic. *European Journal of Heart Failure*

Project: CCU045_01: The impact of COVID-19 on heart failure epidemiology, quality of care and outcomes across primary and secondary care

DOI: <https://doi.org/10.1002/ejhf.3306>

GitHub: https://github.com/BHFDSC/CCU045_01

May 2024

Title: Impact of COVID-19 pandemic on rates of congenital heart disease procedures among children: Prospective cohort analyses of 26,270 procedures in 17,860 children using CVD-COVID-UK consortium record linkage data. *medRxiv*

Project: CCU007_01: What are the differences in types of congenital heart disease (CHD) procedures in children during periods of lockdown and relaxation of lockdown, compared to before the COVID-19 pandemic?

DOI: <https://doi.org/10.1101/2024.05.20.24307597>

GitHub: https://github.com/BHFDSC/CCU007_01

February 2024

Title: Ethnicity data resource in population-wide health records: completeness, coverage and granularity of diversity. *Scientific Data*

Project: CCU037_01: Implementing a novel approach to improve correctness, completeness, and granularity of ethnicity information using routinely collected data

DOI: <https://doi.org/10.1038/s41597-024-02958-1>

GitHub: https://github.com/BHFDSC/CCU037_01

January 2024

Title: Undervaccination and severe COVID-19 outcomes: meta-analysis of national cohort studies in England, Northern Ireland, Scotland, and Wales. *The Lancet*

Project: CCU051_01: Unvaccination and under-vaccination against SARS-CoV-2 in England

DOI: [https://doi.org/10.1016/S0140-6736\(23\)02467-4](https://doi.org/10.1016/S0140-6736(23)02467-4)

GitHub: https://github.com/BHFDSC/CCU051_01

December 2023

Title: The impact of the COVID-19 pandemic on the measurement of routine cardiometabolic disease risk factors in primary care in the population of England (57 million people). *Preprints with The Lancet*

Project: CCU008_01: The impact of the COVID-19 pandemic on the measurement of routine cardiometabolic disease risk factors in primary care

DOI: <https://dx.doi.org/10.2139/ssrn.4641150>

GitHub: https://github.com/BHFDSC/CCU008_01

October 2023

Title: Understanding covid-19 outcomes among people with intellectual disabilities in England. *BMC Public Health*

Project: CCU030_01: Understanding covid-19 outcomes among people with intellectual disabilities in England

DOI: <https://doi.org/10.1186/s12889-023-16993-x>

GitHub: https://github.com/BHFDSC/CCU030_01

Title: Healthcare utilisation of 282,080 individuals with long COVID over two years: a multiple matched control cohort analysis. *Preprints with The Lancet*

Project: CCU049_01: Healthcare utilisation in individuals with Long Covid

DOI: <https://dx.doi.org/10.2139/ssrn.4598962>

GitHub: https://github.com/BHFDSC/CCU049_01

October 2023

Title: A nationwide study of 331 rare diseases among 58 million individuals: prevalence, demographics, and COVID-19 outcomes. *medRxiv*

Project: CCU019_01: Identification and personalised risk prediction for severe COVID-19 in patients with rare disorders impacting cardiovascular health

DOI: <https://doi.org/10.1101/2023.10.12.23296948>

GitHub: https://github.com/BHFDSC/CCU019_01

August 2023

Title: Sars-Cov-2 infection in people with Type 1 diabetes and hospital admission: an analysis of risk factors for England. *Diabetes Therapy*

Project: CCU040_01: Investigating why some people with diabetes have a greater risk of becoming seriously unwell or dying with COVID-19

DOI: <https://doi.org/10.1007/s13300-023-01456-8>

GitHub: https://github.com/BHFDSC/CCU040_01

Title: Use of sodium valproate and other anti-seizure medications in England and Wales during the COVID-19 pandemic: a population-level analysis of 60 million individuals. *Preprints with The Lancet*

Project: CCU014_03: The impact of the COVID-19 pandemic on use of sodium valproate and implementation of recommendations of the Cumberlege report

DOI: <https://dx.doi.org/10.2139/ssrn.4544777>

GitHub: https://github.com/BHFDSC/CCU014_03

Title: Antipsychotic drug prescribing and mortality in people with dementia before and during the COVID-19 pandemic: a retrospective cohort study in Wales. *The Lancet Healthy Longevity*

Project: CCU016_01: Cardiovascular and cerebrovascular diseases related to antipsychotic prescribing in patients with dementia during the COVID-19 pandemic

DOI: [https://doi.org/10.1016/S2666-7568\(23\)00105-8](https://doi.org/10.1016/S2666-7568(23)00105-8)

GitHub: https://github.com/BHFDSC/CCU016_01

July 2023

Title: Hospital admissions linked to SARS-CoV-2 infection in children and adolescents: cohort study of 3.2 million first ascertained infections in England. *BMJ*

Project: CCU029_01: Hospital admissions linked to SARS-CoV-2 infection in children and adolescents: cohort study of 3.2 million first ascertained infections in England

DOI: <https://doi.org/10.1136/bmj-2022-073639>

GitHub: https://github.com/BHFDSC/CCU029_01

January 2023

Title: The impact of the COVID-19 pandemic on cardiovascular disease prevention and management. *Nature Medicine*

Project: CCU014_01: Assessing cardiovascular disease impact through medicines

DOI: <https://doi.org/10.1038/s41591-022-02158-7>

GitHub: https://github.com/BHFDSC/CCU014_01

Title: Harmonising electronic health records for reproducible research: challenges, solutions and recommendations from a UK-wide COVID-19 research collaboration. *BMC Medical Informatics and Decision Making*

Project: CCU005_03: Harmonising electronic health records for reproducible research: challenges, solutions and recommendations from a UK-wide COVID-19 research collaboration

DOI: <https://doi.org/10.1186/s12911-022-02093-0>

GitHub: https://github.com/BHFDSC/CCU005_03

November 2022

Title: Better End of Life 2022. Mind the gaps: understanding and improving out-of-hours care for people with advanced illness and their informal carers. Research report. *Marie Curie*

Project: CCU024_01: Mind the gaps: understanding and improving out-of-hours care for people with advanced illness and their informal carers.

URL: <https://www.mariecurie.org.uk/globalassets/media/documents/policy/beol-reports-2022/better-end-of-life-report-2022.pdf>

GitHub: https://github.com/BHFDSC/CCU024_01

Title: Effects of the COVID-19 pandemic on secondary care for cardiovascular disease in the UK: an electronic health record analysis across three countries. *European Heart Journal - Quality of Care and Clinical Outcomes*

Project: CCU003_04: Quantifying the impact of the COVID-19 pandemic on the provision of cardiovascular disease-related hospital healthcare in the UK

DOI: <https://doi.org/10.1093/ehjqcco/qcac077>

GitHub: https://github.com/BHFDSC/CCU003_04

Title: Using national electronic health records for pandemic preparedness: validation of a parsimonious model for predicting excess deaths among those with COVID-19 – a data-driven retrospective cohort study. *Journal of the Royal Society of Medicine*

Project: CCU003_03: Using national electronic health records for pandemic preparedness: validation of a parsimonious model for predicting excess deaths among those with COVID-19.

DOI: <https://doi.org/10.1177/01410768221131897>

GitHub: https://github.com/BHFDSC/CCU003_03

September 2022

Title: Association of COVID-19 with major arterial and venous thrombotic diseases: a population-wide cohort study of 48 million adults in England and Wales. *Circulation*

Project: CCU002_01: SARS-CoV-2 infection and risk of venous thromboembolism and arterial thrombotic events

DOI: <https://doi.org/10.1161/CIRCULATIONAHA.122.060785>

GitHub: https://github.com/BHFDSC/CCU002_01

June 2022

Title: A retrospective cohort study measured predicting and validating the impact of the COVID-19 pandemic in individuals with chronic kidney disease. *Kidney International*

Project: CCU003_01: Predicting and validating risk of pre-pandemic and excess mortality during the COVID-19 pandemic in individuals with chronic kidney disease

DOI: <https://doi.org/10.1016/j.kint.2022.05.015>

GitHub: https://github.com/BHFDSC/CCU003_01

Title: COVID-19 trajectories among 57 million adults in England: a cohort study using electronic health records. *The Lancet Digital Health*

Project: CCU013_01: Characterising COVID-19 related events in a nationwide electronic health record cohort of 57 million people in England

DOI: [https://doi.org/10.1016/S2589-7500\(22\)00091-7](https://doi.org/10.1016/S2589-7500(22)00091-7)

GitHub: https://github.com/BHFDSC/CCU013_01_ENG-COVID-19_event_phenotyping

March 2022

Title: Evaluation of antithrombotic use and COVID-19 outcomes in a nationwide atrial fibrillation cohort. *Heart*

Project: CCU020: Evaluation of antithrombotic use and COVID-19 outcomes

DOI: <http://dx.doi.org/10.1136/heartjnl-2021-320325>

GitHub: <https://github.com/BHFDSC/CCU020>

Title: Risk of myocarditis and pericarditis following BNT162b2 and ChAdOx1 COVID-19 vaccinations. *medRxiv*

Project: CCU002_03: COVID-19 vaccination and disease and the risks of myocarditis and pericarditis

DOI: <https://doi.org/10.1101/2022.03.06.21267462>

GitHub: https://github.com/BHFDSC/CCU002_03

February 2022

Title: Association of COVID-19 vaccines ChAdOx1 and BNT162b2 with major venous, arterial, or thrombocytopenic events: A population-based cohort study of 46 million adults in England. *PLOS Medicine*

Project: CCU002_02: COVID-19 vaccination and disease and the risks of major venous and arterial vascular events

DOI: <https://doi.org/10.1371/journal.pmed.1003926>

GitHub: https://github.com/BHFDSC/CCU002_02

December 2021

Title: A nationwide deep learning pipeline to predict stroke and COVID-19 death in atrial fibrillation. *medRxiv*

Project: CCU004_02: Prediction of stroke and COVID-19 death using deep learning and sequential medical histories in a nationwide atrial fibrillation cohort

DOI: <https://doi.org/10.1101/2021.12.20.21268113>

GitHub: https://github.com/BHFDSC/CCU004_02

April 2021

Title: Linked electronic health records for research on a nationwide cohort of more than 54 million people in England: data resource. *BMJ*

Project: CCU005: Data management and analysis methods

DOI: <https://doi.org/10.1136/bmj.n826>

GitHub: <https://github.com/BHFDSC/Linked-EHR-England-2021>