QResearch News Update Spring 2022

In this edition

♦ New study shows risk of heart inflammation following COVID-19 infection and vaccination

♦ QResearch ADEPTS Project Makes BJGP Top Ten Most Read Papers 2021

♦ Cancer Research UK to invest £11 million into cancer science In Oxford

♦ Findings from QResearch study into Motor Neurone Disease Indicate that Condition is Twice as Common as Previously Thought

♦ QResearch Wins Award for Results Animation Videos in Dementia Study

♦ Dr Caroline Mitchell Elected Chair of QResearch Advisory Board

Next Issue

We hope that you are enjoying our newsletters. We think that they are a great opportunity to feature some of the wide-ranging projects that have been enabled by access to QResearch data.

To feature your research news here, please email Claire Meadows at

pa-Julia.hippisley-cox@phc.ox.ac.uk

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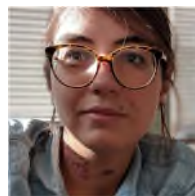## New study shows risk of heart inflammation following COVID-19 infection and vaccination

The QCOVID research team, led by Professor Julia Hippisley-Cox at the University of Oxford, with members of the Usher Institute involved including Professor Aziz Sheikh and Professor Nick Mills, has published a new study looking at the risk of heart inflammation and other heart conditions in COVID-19 infection and vaccination.

To do this, we used data on the vaccine type, date and doses for all vaccinated people in England, aged 16 or older. We included vaccine doses given between 1 December 2020 and 24 August 2021.
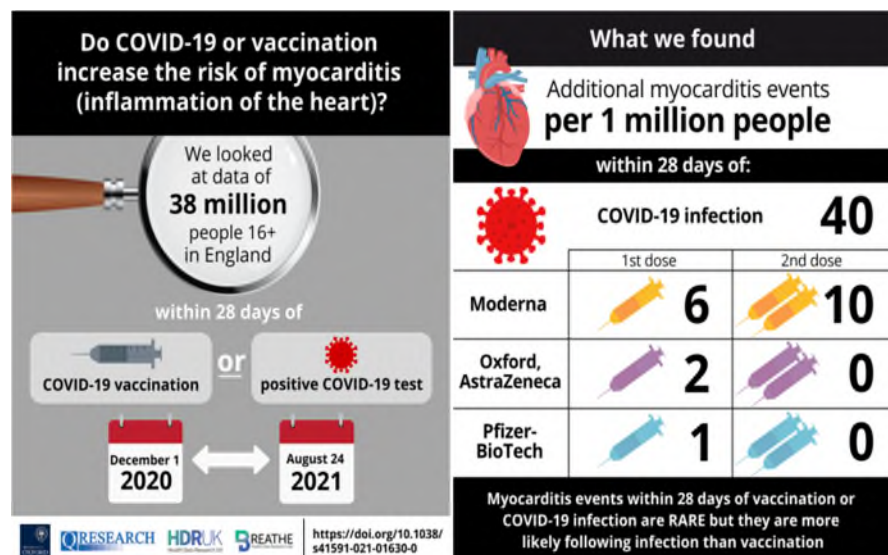
We linked these data to national death records, hospital admissions, information about people's SARS-CoV-2 infections, and personal circumstances like age, sex, location and health.

We looked for links between side effects in the heart, and first and second doses of the three UK COVID-19 vaccines. We included having an irregular heartbeat (cardiac arrhythmia) as well as myocarditis and pericarditis in our analysis. We used the same group of people to look at the risk of these conditions following a SARS-CoV-2 infection, both before and after vaccination.

This self-comparison helps to account for variations in the health and life circumstances of each person. The paper was published in Nature Medicine and was funded by HDRUK https://www.hdruk.ac.uk. See the paper in situ here

Martina Patone (above left) of the University of Oxford was a researcher on the project.

QResearch ADEPTS Project Makes BJGP Top Ten Most Read Papers 2021

The research team behind the QResearch-powered ADEPTS project are delighted with the news that their paper *Identifying symptoms associated with diagnosis of pancreatic exocrine and neuroendocrine neoplasms: a nested case-control study of the UK primary care population* was the second most-read research paper in the BJGP top ten 2021.

This study aimed to investigate the symptoms associated with the diagnoses of pancreatic ductal adenocarcinoma (PDAC) and pancreatic neuroendocrine neoplasms (PNEN), and comparatively characterise the symptomatology between the two tumour types to inform earlier diagnosis.

Pancreatic cancer has the worst survival rate among all cancers. Almost 70% of patients in the UK were diagnosed at Stage IV.

A nested case-control study in primary care was conducted using data from the QResearch® database. Patients aged ≥25 years and diagnosed with PDAC or PNEN during 2000 to 2019 were included as cases. Up to 10 controls from the same general practice were matched with each case by age, sex, and calendar year using incidence density sampling.

The study was funded by the Pancreatic Cancer UK Early Diagnosis Award 2018, project title: The accelerated diagnosis of neuroendocrine and pancreatic tumours (ADEPTS) QResearch® received funding from the National Institute for Health Research Biomedical Research Centre, Oxford; grants from John Fell Oxford University Press Research Fund; grants from Cancer Research UK, through the Cancer Research UK Oxford Centre; grants from the Oxford Wellcome Institutional Strategic Support Fund. Stephen Pereira was partly supported by the National Institute for Health Research University College London Biomedical

WHO'S TALKING ABOUT QRESEARCH ON TWITTER?

Cancer Research UK to invest £11 million into cancer science In Oxford

A £11 million Cancer Research UK investment has been awarded to the University of Oxford and Oxford-based NHS to catalyse the translation of its world-leading cancer research for patient benefit.

The highly competitive Cancer Research UK Centre awards recognise the UK's most innovative, high-impact cancer research and NHS-University collaborations. This coveted funding, announced today, will see £11 million invested in Oxford and the Thames Valley's cancer research and translational infrastructure, and a further £3 million into training over the next 5 years.

Within Oxford, the funding will draw together academics and experts from across its fundamental, translational and clinical research communities including from cancer doctors, mathematicians, computer & data scientists, vaccinologists, immunologists, cellular biologists, drug discovery experts, clinical trialists, imaging experts and public health specialists.

Nationally and internationally, the new investment will foster a multisectoral approach and invest partnerships that will deliver short and long term patient benefit. Read more here

Findings From QResearch Study Into Motor Neurone Disease Indicate That Condition Is Twice As Common Than Previously Thought

QResearch is based on GP records but is also linked to hospital disease codes and the death register. This meant that our study found more patients than if only GP records had been searched. The work of the Motor Neurone Disease Association, who funded this study, may also have contributed to better diagnosis of MND, which would also explain why we found it to be more common than expected.

By looking at 21 years of data in QResearch we found 6437 patients with Motor Neuron Disease (MND). This is a distressing condition causing weakness and eventually death. We found that MND was twice as common as expected. The rate of MND found in our study is the highest reported in the world.

Ours is the first study to examine how common MND is in people of Indian subcontinent ethnicity. It is already known that Black African and Chinese people are less likely to develop MND than others. We found that people of Indian subcontinent ethnicity were just as likely as Black Caribbean and White people to develop MND, once age was considered.

The average age of people in our study was almost 10 years older than that of patients in most studies done by neurologists. Perhaps we were picking up elderly people with MND who never saw a neurologist, possibly because they were already ill with other serious problems, like dementia?

We are going to look in detail at the records of the MND patients we have found. We hope to help to find ways to make the diagnosis of MND faster, and in so doing speed the world-wide search for its cause and cure.

Dr Judith Burchardt, researcher, University of Oxford

Dr Caroline Mitchell Elected Chair of QResearch Advisory Board

Caroline qualified from the University of Manchester in 1986 and became a full time GP partner in 1990 at Woodhouse Health Centre in Sheffield . Following Masters training in Research methods, IT and Management in Primary and Community Care at AUPMC, she was appointed as a part-time clinical lecturer and Course Director of the Community Attachment Scheme for the undergraduate MBChB course in 1993.

She undertakes research within multidisciplinary (clinical and methodological) teams working across primary and secondary care in the region, within our Faculty and with researchers in ScHARR (Public Health , Health Services Research and CATCH) . She is a member of the ScHARR CATCH (Centre for assitive technologies) network group.

QResearch Wins Award For Results Animation Videos in Dementia Study

A series of digital animations produced by ARC East Midlands to highlight the risk of dementia associated with a group of medicines called anticholinergics (ACB burden) were part of a suite of resources used by an award-winning project to raise awareness of the issue.

Drugs commonly given to treat depression, psychosis, bladder disorders, Parkinson's disease and epilepsy may increase the risk of dementia for those who use them if over 55 years of age. The medicines used for these conditions are called anticholinergics and a national campaign has been launched to help people understand this risk, and what can be done to avoid it.

Researchers found that if people aged 55 years old and above take these medicines for the equivalent of three years or more, it may increase their risk of developing dementia.

To help people understand the risk of dementia from these medicines, ARC East Midlands has produced a series of short informative videos which can be accessed here