QResearch News Update Spring 2024

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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

New QResearch Project Looks At HRT Risks in Menopausal Women

A research team at the University of Oxford are currently working to understand more about the characteristics of women who are taking HRT and those who are not. We are doing this using anonymised data from medical records to identify which women are taking different types of HRT and how HRT use varies in women living in different parts of the UK, or in women of different ethnicities, levels of income or other characteristics.

The work that we are already doing will not tell us about the numbers of women who develop poor health outcomes such as breast cancer, blood clots or osteoporosis. To get this information, we need to link the data that we already have with their hospital records and cancer diagnosis. This would allow us to look at how these outcomes differ by whether women are taking HRT, but also whether women of different ethnic groups have similar risks, and whether the risk is the same for women living in affluent and deprived areas of the UK.

This study aims to understand more about cases of breast cancer, osteoporosis and blood clots in women who are prescribed and those not prescribed HRT. It will look in particular at whether women of different ethnicities are equally likely to develop these conditions, and whether there are differences by levels of deprivation and whether women are living with other health conditions, such as sickle cell disease, diabetes, obesity and cardiovascular disease. We will do this by using health data we already have on the QResearch dataset and linking the data with hospital records and cancer registries.

This project is an extension to an existing QResearch project which describes prescribing of hormone replacement therapy and identification of factors associated with more or less HRT prescribing. The existing GP dataset will be used in this new project. Funding to support the project has come from the NIHR School for Primary Care Research.

QResearch project aims to determine COVID vaccination safety when taken with childhood vaccines

A research team from the University of Oxford, using QResearch data are seeking to find out how safe COVID-19 vaccines and other childhood vaccines (Influenza, MenACWY, HPV) are if they are given together on the same day or in a short window of time. The team will also evaluate if combining two vaccines might have reduced their effectiveness against preventing hospital admissions.

The COVID-19 pandemic has affected millions of children globally with major health, social and educational consequences. It was seen that during the pandemic that fewer children received some of the common childhood vaccines. This might result in the resurgence of some infectious diseases which have so far been controlled by vaccines, especially as we returned to a normal life, with more people travelling, and social distance not being practiced. Drops in vaccination uptake can have a big impact on the health system and understanding why this is happening is important.

This work will inform clinicians, parents/carers and young people on the safety of vaccinations for children. It will also inform policy makers such as the UK Joint Committee on Vaccination and Immunisation (JCVI) and medicines regulators such as Medicines and Healthcare products Regulatory Agency (MHRA). It will allow those considering whether to be vaccinated or not, or to provide consent for a child, to make informed decisions and may help to reduce health disparities through targeted vaccination campaigns.

Funding for this project has been provided by NIHR Research for Patient Benefit. Research team includes Emma Copland (pictured)

QResearch Scientific Committee approves project examining the link between lipids, statins, and the risk of amyotrophic lateral sclerosis and frontotemporal dementia

A new project approved by the QResearch Scientific Committee will use QResearch data to look at the links between lipids, statins and the risk of amyotrophic lateral sclerosis.

Amyotrophic lateral sclerosis (ALS, also known as motor neuron disease, MND) is a fatal disease affecting the brain and nervous system that causes progressive weakness and death, typically within 3 years of symptoms starting. Frontotemporal dementia (FTD) is a form of dementia affecting mostly younger people, beginning with behavioural change or speech problems and progressing to severe brain dysfunction and death. We cannot predict who will get ALS or FTD, but we know that some people have a high risk of ALS or FTD due to genetic factors. Understanding things that increase the risk of ALS and FTD, particularly to prevent or delay their onset in people at high risk of developing these diseases, is a major goal.

The research team, led by Dr Alexander Thompson (pictured), will use anonymised data collected through routine health care of millions of people in general practice to: 1) see whether the relationship between cholesterol and ALS risk is also seen in primary care data, and exists for FTD and for other biomarkers, and how this relates to age at diagnosis 2) explore the influence of cholesterol-lowering medication on the risk of ALS and FTD and 3) look for changes in the levels of cholesterol and other blood test measurements before the onset of ALS and FTD that could be used to predict when the disease will begin.

QResearch study on antidepressants finds seasonal trends in medication prescription

Information from QResearch about antidepressant prescribing and mental health events between 2006 and 2019 was used in a recent study carried to find out if there are seasonal trends in medication prescriptions.

People were grouped into males and females in three age groups: 14-18 years (adolescents), 19-23 years and 24-28 years. The first record of depression, anxiety and self-harm, as well as the first antidepressant prescription if it was a selective serotonin reuptake inhibitor (SSRI) was included. Antidepressant prescribing, depression and anxiety incidence rates were higher in autumn months for adolescents, but not for the older groups. Recorded self-harm was lowest in August for adolescents, lower in July-December for 19-23-year-old females and stable throughout the year for the other groups. Support for adolescents around mental health issues from GPs and others should be focused during the autumn.

This study was funded by the NIHR SPCR and carried out jointly between the University of Oxford and the University of Nottingham

QResearch Advisory Board appoints two joint deputy chairs

The QResearch Advisory Board has recently appointed two joint chairs, Dr Jennifer Hirst and Mr Antony Chuter.

Jennifer is a Senior Researcher working as part of the QResearch team as Senior Researcher and Epidemiologist. She is currently leading a study to determine the uptake, safety and effectiveness of COVID-19 vaccination in people living with blood cancer using the QResearch database.

Antony is passionate about improving healthcare for all in the UK. He has lived with chronic pain for over 22 years and he is especially interested in patient safety.

Full board membership can be seen at www.qresearch.org

New paper shows findings on a study on dynamic updating of clinical survival prediction models in a changing environment

Dr Kamaryn Tanner, Associate Research Scientist at Columbia University (pictured) writes in this newly published paper

Our recent study, carried out using QResearch data, shows that the performance of clinical prediction models may deteriorate over time with shifts in patient mix, disease risk and/or clinical practice changes. To remain useful, these prediction models must be updated. In this study, we investigated methods for dynamic model updating of clinical survival prediction models. Dynamic updating refers to repeated updates of a model when new information is available. We were motivated by the changing environment seen during the COVID-19 pandemic when mortality rates varied and new treatments and vaccines were introduced.

In a simulation study considering scenarios with changing mortality rates and new treatments, we found that all updating methods resulted in better calibrated models than not updating. A Bayesian updating technique was found to produce the best predictive performance when the updating dataset was small, and a new treatment was introduced.

Predicting 10-year breast cancer mortality risk in the general female population in England: a model development and validation study

Dr Ashley Clift (pictured) writes 'Identifying female individuals at highest risk of developing life-threatening breast cancers could inform novel stratified early detection and prevention strategies to reduce breast cancer mortality, rather than only considering cancer incidence. We aimed to develop a prognostic model that accurately predicts the 10-year risk of breast cancer mortality in female individuals without breast cancer at baseline.

In this model development and validation study, we used an open cohort study from the QResearch primary care database, which was linked to secondary care and national cancer and mortality registers in England, UK. The data extracted were from female individuals aged 20–90 years without previous breast cancer or ductal carcinoma in situ who entered the cohort between Jan 1, 2000, and Dec 31, 2020.

A model that predicts the combined risk of developing and then dying from breast cancer at the population level could inform stratified screening or chemoprevention strategies. Further evaluation of the competing risks model should comprise effect and health economic assessment of model-informed strategies.