**Information sheet for use of CPRD services to support studies**

**funded by NIHR Data-enabled trials grant**

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| **Summary and Background** |
| **Planning NIHR grant applications**In March 2019, the National Institute for Health Research (NIHR) published a call to fund research projects for [‘data-enabled trials’](https://www.nihr.ac.uk/funding-and-support/funding-opportunities/1949-call-for-ambitious-data-enabled-trials-health-services-and-public-health-research-studies/10631). CPRD is keen to support applications to this call aimed at demonstrating the value of real-world routine data through improved study design and feasibility estimates, more targeted site selection and patient recruitment, and efficiencies gained in randomised pragmatic clinical effectiveness trials in a routine primary care setting. We can assist researchers who wish to address questions about scalability and efficiencies of real-world data by utilising CPRD’s 15% UK-wide primary care population coverage, network of research active GP practices across the UK and range of real-world clinical research services.To ensure we effectively plan and manage our resources to deliver NIHR funded applications, we are asking researchers who wish to use our services, to contact us in advance of submitting their application. **CPRD**Clinical Practice Research Datalink is the Government’s real-world research service supporting retrospective and prospective public health and clinical studies. CPRD is jointly sponsored by the Medicines and Healthcare products Regulatory Agency (MHRA) and NIHR.CPRD collects de-identified patient data from a network of GP practices across the UK. Primary care data are linked to a range of other health related data to provide a longitudinal, representative UK population health dataset. For more than 30 years, research using CPRD data and services has informed clinical guidance and best practice, resulting in over 2,200 peer-reviewed publications investigating drug safety, use of medicines, effectiveness of health policy, health care delivery and disease risk factors ([www.cprd.com/bibliography](https://www.cprd.com/bibliography)).**What data does CPRD collect?** CPRD collects fully-coded patient electronic health records (EHR) every day from GP practices across the UK including diagnostic, referral and demographic data ([www.cprd.com/Data](https://www.cprd.com/Data)). 98% of the population is registered with a GP practice, with GPs being gate keepers to health services who manage many chronic health conditions. The primary care EHR is therefore a rich source of longitudinal information about a patient’s health conditions and outcomes, which includes data that have been collected both within and outside primary care. The CPRD database encompasses primary care EHRs for over 35 million patients, with a median follow up time of 10 years, including 25% of patients with over 20 years follow up.Primary care data from more than 30 million patients are regularly linked to secondary care and other health related datasets. Over 11 million patients are currently registered at the 1400 CPRD contributing practices. |

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| **CPRD Interventional Research Services** |
| CPRD offers research services to support innovative EHR enabled real-world studies, to improve the efficiency of clinical research. Patient consented clinical services are based on access to a pool of 11 million patients registered at a network of 1 in every 7 GP practices across the UK. CPRD can provide the following services:(See Annex 1 for CPRD service case studies)

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| Client Need | CPRD Service | Description |
| Protocol optimisation, feasibility and EHR validation | **Design and Feasibility searches (D&F)** | High-level database search based on protocol inclusion and exclusion criteria to estimate eligible population pool. Once the parameters are agreed, the search can be completed within 1-2 days, depending on the complexity of the criteria.In-depth patient population analysis to enable protocol optimisation which takes into account co-morbidities, treatment patterns etc. |
| **GP Questionnaires (GP Q)** | Studies to validate or supplement EHR primary care data. GPs complete an e-questionnaire providing additional information on patients of interest. GPs can also be consulted by e-questionnaire on proposed protocol design. Average time from administering e-questionnaire to provision of dataset for cohort of 300 is 3 months.  |
| Recruitment | **Patient Identification Centre (PIC)** | Real time EHR database search of protocol inclusion and exclusion criteria to locate patients registered at CPRD contributing GP practices to take part in any type of patient consented study ranging from genetic epidemiology studies to clinical trials. GPs review pre-screened list to confirm eligibility and invite patients to participate in a study taking place in any clinical or research setting. Average time from developing protocol search codelists to inviting patients is 28 days. |
| Study Management | **Patient-Reported Outcome (PRO)** | Patients of interest can be located based on a database search of protocol inclusion and exclusion criteria. GPs review pre-screened list to confirm eligibility and distribute e-questionnaire information to eligible patients. Patients complete a bespoke e-questionnaire and CPRD provides dataset to the researcher.Average time from defined patient population to first questionnaires returned is 1-2 months. However, data can be reported to the client at agreed intervals during the process. |
| **Clinical Study****(no Clinical Trial Authorisation required)** | A clinical study (incl. cluster randomised trial) in primary care. CPRD manages the study in primary care with the GP as a study investigator. CPRD locates and recruits investigator sites, supports site initiation and patient recruitment, provides remote monitoring, safety management, and analysis ready dataset. These studies can be supplemented with EHR and patient independent long-term follow up.Studies can be conducted in conjunction with clinical research networks if additional non-routine clinical data collection is required.  |
| **Pragmatic Trial****(Clinical Trial Authorisation required)** | CPRD manages clinical effectiveness trials in primary care with GPs as trial investigators. CPRD locates and recruits investigator sites, supports site initiation and patient recruitment, provides point-of-care randomisation, remote monitoring and safety management. EHR, electronic Case Report Form and ePRO data can be combined and provided in an analysis ready dataset. Patient independent long-term follow up can also be considered. Trials can be conducted in conjunction with clinical research networks if additional non-routine clinical data collection is required. |

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| **Process and Next Steps** |
| If you are interested in using CPRD’s real-world data and services as part of your proposal in to this call, please complete and return the following Expression Of Interest (EOI) form. We encourage you to have an initial conversation with the CPRD team in advance of completing this form. Please email enquiries@cprd.com referencing ‘NIHR Data-enabled Trials Funding’ if you have any questions.If applicants do not submit an EOI, CPRD cannot commit to support an application even if it is funded.**The deadline for returning EOIs to CPRD is 31 May 2019.** All applicants will be contacted by 10 June. **Please note that the cost of CPRD services will need to****be included in the NIHR grant application** |
| **Contact** |
| Please send your completed EOIs to enquiries@cprd.com, referencing ‘NIHR Data-enabled Trials Funding’, **by 31 May 2019.** |

Expression of Interest Form for CPRD services to support studies

funded by NIHR Data-enabled Trials grant

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| **Applicant Name** |  |
| **Organisation** |  |
| **Name and e-mail of key contact within organisation** |  |
| **Names and affiliations of collaborators** |  |

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|  **INFORMATION ABOUT THE PROPOSED RESEARCH STUDY** |
| **Title of proposed project** |  |
| **Type of study / Study design** (e.g. cluster randomised trial, randomised controlled trial, prospective observational study) |  |
| **Intervention being assessed** |  |
| **Research Setting** (primary/secondary care)  |  |
| **Geographical location** |  |
| **Target population** |  |
| **Estimated sample size** (if known) |  |
| **High-level inclusion and exclusion criteria of patient population** |  |
| **Anticipated study duration** (in months) |  |
| **Brief description of study** (500 words) |  |
| **CPRD service to be used** (see Information Sheet for more details) | ***Service*** | ✓ |
| Design and Feasibility searches |  |
| GP Questionnaires |  |
| Patient Identification Centre (PIC) |  |
| Patient Reported Outcome |  |
| Clinical Study |  |
| Pragmatic Trial |  |
| **Additional Information** |  |

**Please send your completed form to** **enquiries@cprd.com****,**

**referencing ‘NIHR Data-enabled Trials Funding’, by 31 May 2019**

**Annex 1**

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| **Examples of CPRD Interventional Research Services** |
| The COPE StudyA prospective observational patient consented study aimed at predicting the likelihood of COPD exacerbations in COPD patients in response to environmental exposures.Publication: <https://www.nature.com/articles/s41533-018-0089-3>

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| CPRD Services Used |
| GP Questionnaires | Validation of COPD codes for subsequent patient screening. |
| Patient Identification Centre | Using the study inclusion/exclusion criteria, potentially eligible patients were located at GP practices by searching the CPRD database. Pre-screened de-identified patient lists were sent to participating GPs to confirm eligibility and refer patients for recruitment at research sites. |
| EHR data | EHR data supplied for consented patients recruited into the study |

The DECIDE TrialPragmatic type 2 diabetes randomised trial in a routine primary care setting assessing the clinical effectiveness of dapagliflozin compared to standard of care ([clinicaltrials.gov - NCT02616666](https://clinicaltrials.gov/ct2/show/NCT02616666?id=NCT02616666&rank=1&load=cart))

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| CPRD Services Used |
| Pragmatic Trial | GPs were recruited to be investigators for the trial. Potentially eligible patients were located from CPRD database searches using protocol inclusion and exclusion criteria. Pre-screened patient lists were sent to GP investigators for eligibility checks and subsequent patient recruitment. Trial management by CPRD includes site initiation, centralised site monitoring, randomisation, directly mapping data from source EHR into trial database, enabling eCRF data input for investigators.  |
| Patient-Reported Outcome | Patients supplied further information including their health and wellbeing and treatment satisfaction via a series of e-questionnaires. Responses are incorporated into trial database. |

The REDUCE TrialA cluster randomised trial to measure the effectiveness and safety of a multicomponent intervention to reduce unnecessary antibiotic prescribing in primary care.Publication: <https://www.bmj.com/content/364/bmj.l236>

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| CPRD Services Used |
| Clinical Study | Researchers planned the intervention and defined study endpoints for analysis using CPRD EHR data. CPRD recruited GP practices and provided study management services to support GP activity. GPs received a point-of-care decision support tool and monthly prescribing reports based on CPRD data.  |
| EHR data | Health outcomes of the observed effect of the intervention were inferred by a comparative retrospective population cohort analysis using CPRD data. |

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**Annex 2**

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| **Dummy Study Exemplar** |
| The following exemplar illustrates how CPRD services could be used to recruit patients to a trial. Scenario: recruiting patients to an Asthma trialPatient population of interest:* Patients with asthma
* Males or Females aged 18-75
* Excluding diagnosis of a clinically important condition such as rhinitis/sinusitis (for illustrative purposes)

Search conducted on data from >1400 practices in CPRD network: Geographical distribution of sites: |