**Guidelines for CFFPR data requests**

These general guidelines are designed to help researchers prepare their CFFPR data request application. To the extent possible, following the suggestions outlined below will facilitate timely review of the application and delivery of the data.

Each data request application is first subjected to an internal review by the CFFPR Research Team to ensure completeness, institutional review board approval, or pending approval, and confidentiality agreement have been signed. The research proposal will then undergo external review by members of the CF clinical & research community to ensure the research will benefit individuals living with CF, the research plan is feasible and well-designed and the study team has the personnel necessary to accomplish the proposed objectives. Nearly all requests for CFFPR data require some degree of revision after external review.

If you have questions about the CFFPR or the review process, please email datarequests@cff.org.

The online application is divided into 3 general sections: Investigator Information; Scientific Proposal; and Data Requested which includes selection of CFFPR variables available for requests. Specific guidance is provided below:

**Investigator Information**

- Identify all key project personnel with their corresponding institutional affiliations
- Request CFFPR data access only for study personnel who intend to analyze data.
- Ensure the study team includes an investigator with prior experience working in Cystic Fibrosis research or clinical care, as well as a biostatistician, epidemiologist or other qualified analyst to implement the statistical plan.
- Projects intended for students or fellows should be identified as such, along with a brief description of the support provided by the primary mentor.
- Any industry funding support for the proposed research should be disclosed.

**Scientific Proposal**

*Background & study rationale*

- Provide a brief description of the study and explain how the proposed research will benefit individuals living with Cystic Fibrosis or their families.
- If the proposed research involves additional primary data collection or linkage with other non-CFFPR data sources, we recommend the applicants describe the overall project and clearly delineate what research objectives will be addressed using CFFPR data and how CFFPR data will be used alongside other data sources. We do not need to review research objectives that do not require CFFPR data, but it should be clearly described in the application what outcomes, exposures and other variables will be obtained from the CFFPR as opposed to data derived from other sources.
- If the proposed research is intended to primarily contribute to the development of novel statistical methods, please include detail on how such methods can be applied more broadly to address research needs for Cystic Fibrosis or other rare diseases.
Research objectives & hypotheses

✓ Outline the specific research objective(s) the project intends to accomplish. An objective should clearly identify the target population, the outcome and primary exposure(s), as well as the quantity of interest or target estimand (i.e. prevalence, incidence, treatment effect, etc.).
✓ If an application includes multiple research objectives, it is helpful to number them and reference them by number throughout the application.
✓ Please specify the unit of analysis – most CFFPR studies are implemented at the individual participant level, but if any of the research objectives require multiple levels of analysis (such as a state or region) this should be clearly indicated.
✓ Research objectives should be developed to ensure the final presentation of results will not result in the identification of CFFPR participants. For example, an objective such as “we aim to quantify the prevalence of CFRD by zip code” is unlikely to be approved.

Research design

✓ Provide a brief description of the study design (i.e. longitudinal, cross-sectional, a case-control design, etc.).

Study population

✓ Describe the inclusion criteria for the study. If there are any age requirements or other participant characteristics that will define inclusion in the analysis, those should be described here.
✓ Please identify the calendar years of CFFPR data needed to complete the project. This is particularly important as variables included CFFPR have been added over time; this may impact the feasibility of the proposed project.

Exposures, outcomes & confounders

✓ If the study aims to address multiple exposures or outcomes, please ensure these are organized by research objective.
✓ Please define all main exposures. If the study will require multiple CFFPR variables to construct the exposure variables, please provide a brief explanation.
✓ Please define all outcomes that will be used in the analysis by specifying a case definition wherever possible. If the research project intends to evaluate multiple definitions of a specific outcome, please ensure the application outlines the differences to ensure feasibility of the research using CFFPR.
✓ For research objectives that intend to infer the effect of a specific predictor (e.g., a treatment, CFFPR participant characteristic, etc.) on an outcome, please describe the possible sources of confounding bias in terms of CFFPR variables included in the request.
✓ If the study requires protected health information (PHI) to characterize any exposures, outcomes or confounders please provide a brief justification here.
✓ If one or more of the variables outlined in this section are not identified in the CFFPR Variable List document, please contact us at datarequests@cff.org to confirm feasibility of the project prior to submission.
Analytic Methods

✓ A statistical analysis plan should be provided that outlines the overall analytical steps planned for each research objective. For research objectives that are considered descriptive, the statistical plan should outline how the data will be summarized and if any hypothesis testing that is planned. For research objectives that are inferential, planned statistical tests or modeling should be described.

✓ Responses such as “a statistician will conduct the analysis” are not sufficient. Applications missing a complete analytical plan will not be circulated for review.

✓ For any regression analysis or other modeling, please clearly indicate the dependent variable and proposed independent variables, as well as the type of model that will be employed. For example, “we will report an odds ratio comparing the effect of treatment versus no treatment on the outcome using logistic regression, adjusted for sex, race, age and baseline lung function” communicates the intended analysis more precisely compared to “we will model the effect of treatment on outcome, controlling for confounding”.

✓ If the investigators intend to apply novel or complex statistical methods that have not previously been used to address the research question of interest, it is strongly recommended to include a brief explanation (1-3 sentences) as to why such methods have been proposed.

✓ Please include a brief description of the sample size requirements for the study.

Sources of bias and limitations

✓ Please focus on biases and limitations that are specific and relevant to the research question and data obtained through the CFFPR.

✓ If the project includes any planned sensitivity analyses to quantify the impact of potential sources of bias, please briefly describe them here. For example: “Malnutrition is the primary exposure of our analysis and we plan to test three alternative definitions in sensitivity analysis” is better than “our study could be biased by exposure misclassification”.

Data Requested

✓ Investigators should only request data necessary for analyzing the research aims. If variables are requested that do not appear to be associated with the primary analysis, the application may require revision.

✓ If the data request includes PHI variables, the application should justify why those variables are needed in the exposures, outcomes and confounders section of the application. Please note that PHI variables require Information User Agreement to be signed by the researcher and his/her institution after the project is approved.