Evidera | PPD

CASE STUDY

Evidera Led Effort to Qualify the First Biomarker for COPD Trial Enrichment

Publish **25+ articles annually** on respiratory methods, studies, and trends

Evidera scientists have expertise in a variety of research methods and study types across all of the major respiratory indications

EXPERIENCE WITH **100+ DATA SOURCES** ACROSS **20+ COUNTRIES**

KEY TAKEAWAYS

- Output from Evidera's SAP resulted in the first biomarker in COPD qualified by the FDA for trial enrichment
- The FDA's qualification permits the use of fibrinogen for clinical trial enrichment in submissions for investigational new drug applications, traditional new drug applications, and biologics license applications without additional review from the FDA

BACKGROUND

The Chronic Obstructive Pulmonary Disease (COPD) Foundation Biomarker Qualification Consortium (CBQC) was formed in 2010 as a partnership between the COPD Foundation, pharmaceutical companies, academic experts, patient care groups, and the the US Food and Drug Administration (FDA). In a Letter of Intent, the CBQC proposed qualifying plasma fibrinogen as an enrichment biomarker, along with other subject demographic and clinical characteristics, to improve the selection of patients at high risk for COPD exacerbations and/or mortality for inclusion in interventional clinical trials.

The CBQC partnered with Evidera to assist in the development of a statistical analysis plan (SAP), to conduct analyses to support the proposed context of use, and prepare the qualification package for submission to the FDA for this project.

APPROACH

Evidera's teams worked to develop a detailed and multi-layered SAP that integrated data from five databases, including observational and clinical trial data. The demographic and clinical characteristics of patients in the integrated dataset as well as in each individual dataset were assessed using descriptive statistics. Other methods used included:

- Kaplan-Meier curves to present time-to-event data
- Univariate analyses performed to assess the relationship between clinically relevant covariates and the outcomes of interest
- Multivariable Cox proportional hazards models to present the association between fibrinogen and COPD outcomes after adjusting for relevant covariates

Analyses were also conducted to compare the sample sizes required in hypothetical clinical trials with and without the use of a fibrinogen threshold as part of the inclusion criteria. Confidence intervals presented in these sample size analyses were obtained using bootstrapping procedures.

Awarded **BEST PERSONALIZED MEDICINE ADVANCE OR APPLICATION** at Informa's 2016 Clinical & Research Excellence (CARE) Awards

RESULTS

In July 2015, the FDA qualified the first biomarker in COPD, plasma fibrinogen, as a prognostic biomarker for enrichment of clinical trials in COPD which can result in:

- Reduction in the number of subjects who need to be enrolled while maintaining statistical power
- Reduction in both the cost and duration of the trial due to shorter study enrollment periods

IMPACT

- Plasma fibrinogen is the first biomarker for COPD and was the seventh biomarker qualified by the FDA at the time
- The FDA's qualifaction permits the use of fibrinogen for clinical trial enrichment in submissions for investigational new drug applications, new drug applications, and biologics license applications without additional review from the FDA
- Represents an important step in the effort to facilitate clinical trials of novel therapies and demonstrates the value of a public-private consortium working with regulatory officials

FDA QUALIFIED PLASMA FIBRINOGEN AS **FIRST BIOMARKER IN COPD**

Learn more about how we can how we can leverage data analytics to uncover and execute studies to uncover real-world insights.

Our team of integrated experts focuses on your research questions to provide optimal solutions inclusive of a diverse array of real-world data sources. We have experience with data sources from more than 20 countries and can analyze large claims databases, electronic medical records, and other sources to provide deep data insights.

For more more information, contact us at info@evidera.com or visit our website at evidera.com/what-we-do/real-world-evidence/.

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