

A Lay Summary of “Evaluation of Real-World Mepolizumab Use in Severe Asthma across Europe - the SHARP experience with privacy-preserving federated analysis”.

There are several registries across Europe that collect important data from patients with severe asthma that are treated with new therapies. Unfortunately, each single country usually has a limited number of patients, limiting the ability to answer important research questions.

SHARP seeks perform studies on a large, pan-European scale. Therefore, an objective of SHARP is to combine the data from nationwide severe asthma registries. This is complicated by the strict privacy regulation and the different methods of capturing data in the registries.

To overcome this complication, SHARP seeks to implement a so-called ‘federated analysis platform’, which can be used to analyze data, without the data leaving each individual country.

The ‘UNISA study’ is the first study making use of the SHARP federated analysis platform. In this study, we combined data from 10 European countries and studied the effectiveness of the new treatment option mepolizumab after one year of treatment. We were able to analyze almost a thousand patients and found that mepolizumab reduced asthma exacerbations, and the use and dose of oral corticosteroids. This is the largest real-world study to date.

Our study can be seen as a successful proof-of-principle of the SHARP federated analysis platform. We showed the great potential for future pan-European real-world severe asthma studies using patient-level data in a privacy-protected way.

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