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DPUK Cohort Explorer: An Interactive Visualisation Tool

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Introduction

The Dementias Platform UK (DPUK) Cohort Explorer is an interactive, online visualisation tool that allows users to explore data for a number of DPUK cohorts. Over 30 variables across cohorts have been harmonised, including information on demographics, lifestyle, cognition, health, and genetic biomarkers.

Objectives and Approach

The tool has been developed to complement existing DPUK cohort metadata to provide a visual representation of participant numbers and field-level information for a selection of cohorts. This enables users to determine a cohort's eligibility before applying for access to a cohort's data, and aid in shaping potential hypotheses. Developed using Microsoft PowerBI, the Explorer hosts a subset of the cohort's baseline, harmonised data, allowing a user to interrogate the visualisations of the uploaded data in a secure manner on the DPUK Data Portal website. Visualisations are linked so that participant numbers and distributions can be explored interactively.

Results

This approach allows the user to explore the harmonised data across a number of cohorts simultaneously whilst setting and adjusting filters that are of interest to the user's search criteria. This provides a better understanding of the real-world data and enables the user to determine the feasibility of each cohort for potential studies, whilst facilitating meaningful comparisons across cohorts. The tool currently visualises five DPUK cohorts with a total of 82,391 participants, however it is being incrementally developed with more cohorts being added continually.

Conclusion/Implications

By combing an easy-to-use, interactive dashboard with harmonised sets of real-world data, the tool allows the user to explore, interrogate and better understand field-level information in a secure manner with zero data transfer. This provides more insight for the user when applying for access to a cohort dataset using the DPUK Data Portal and may help the user to make more informed decisions and/or hypotheses.

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