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The Alleviate Advanced Pain Discovery Platform
Data Hub

A national resource for accessing and sharing pain data

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Abstract
There are many clinical and non-clinical datasets investigating pain that have been collected by researchers over many years, however, finding and getting access to them is challenging. The data are siloed in hard-to-reach places, in non-standard formats, and it is not possible to assess how relevant they are before getting access. This is a barrier to the pain research community and results in duplication of effort. It does not have to be this way and there are alternative solutions available. Alleviate is an HDR UK Data Hub for the federated querying and secure sharing of UK pain data to researchers, analysts and clinicians at a national and international level. Alleviate is the Data Hub for the Advanced Pain Discovery Platform (APDP), a £24 million research initiative to break through the complexity of pain and reveal potential new treatment approaches to address a wide spectrum of chronic and debilitating clinical conditions.

Problem Statement
Research datasets in pain data are not readily available for reuse:
- Lack of standardisation
- Data silos
- Poor visibility of data
- Inability to query data for cohort suitability

Patient Involvement and Pain Research
- Chronic pain is one of the largest medical health problems
- Unmet need of recognition and treatment
- People with lived experience (PWLE) often missing in research
- Patient Panel of 7 people and Patient Group of >100 people established
- Contribution of PWLE via blogs, newsletters and youtube

FAIR Data
Data that is non-standard, incomplete and hidden is challenging to work with. By using FAIR principles data is readily available for reuse thereby enabling further research.

Findable Accessible Interoperable Reusable

Data Mapping
Together with data partners the source data is mapped to the OMOP common data model (CDM) using the open source Carrot Tools. The standardised data is readily incorporated within the Alleviate federated data model.

Data Discovery
Federated data standardised to OMOP can be safely and securely queried by the HDR UK Cohort Discovery tool by approved researchers. The tool queries multiple datasets from across the UK at the same time to identify suitable data for their research.

Available Datasets
- GOAL: genetics of osteoarthritis and lifestyle
- Webex: exercise in patients with osteoarthritis
- Omega-3: dietary impact of omega-3 on pain
- 17 others in HDR UK Metadata Catalogue

Trusted Research Environment
- OMOP data can ingressed into Alleviate TRE
- Cohort data linkage
- Next-generation TRE in the cloud
- Accredited and 5 Safes compliant