A systematic review of COVID-19 literature - Neurological effects and SARS-CoV-2

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About the CIAO Literature Review Group

- CIAO is a project for Modelling the Pathogenesis of COVID-19 using the Adverse Outcome Pathway (AOP) framework1.
- Brings together >75 scientists from across the globe contributing different expertise into several working groups.
- Depends on efficient identification & AOP structured analysis of relevant data to generate knowledge about critical aspects of COVID-19.
- The literature review working group applies a systematic review-driven approach to facilitate data identification and analysis within CIAO and more generally into the AOP framework.

Protocol of Systematic Evidence Map3

Records downloaded from LitCovid4 on 6th Jan 2021 and screened using SWIFT-Review5 for related keywords (neuro* OR brain OR CNS OR encephal*) (n = 86,075)

Title & abstract assessed for eligibility using SWIFT-Active Screener6 (n = 10,244)

Full-text articles excluded (n = 1335)
- Reports without primary data (n = 1014)
- Non-neurological outcomes (n = 277)
- Full text not in English (n = 83)
- …etc.

Full-text studies assessed for eligibility using SWIFT-Active Screener6 (n = 2,328)

Qualitative synthesis of studies carried out using DistillerSR7 (n = 993)

Current Status

- Extraction of study characteristics using Evidence Partners DistillerSR software with custom extraction forms is underway2.
- Each study is extracted by an individual reviewer then assessed for quality control.

Next steps

- The protocol may be adapted to other organs for use within the other CIAO working groups.
- The extracted information will be visualised in a publicly available, interactive database.
- Results of the evidence mapping will be published and all data made available.
- The group are also exploring innovative, more efficient approaches to systematic review.