MetaInsight COVID-19: A feasibility study

Clareece Nevill
Acknowledgements

- Feasibility study team
- MetalInsight developers
- CRSU team
Motivation

- First trials on COVID-19 were published in April 2020.
- By the end of 2020, over 2,500 were registered worldwide\(^1\).

- As standard in health technology assessment, the natural next step was to conduct systematic reviews (SRs) regarding treatments for COVID-19.
- By January 2021, over 450 SRs for COVID-19 were registered in PROSPERO\(^2\), with lots of potential overlap.
Motivation

We wanted to do ‘our bit’ for the cause.

Living SRs on COVID-19 + MetaInsight NMA
MetaInsight

Options

Data Summary
- Data characteristics
- Network plot

Study Results
- Network plot

Frequentist
- Comparison of all treatment pairs
- Inconsistency

Bayesian
- Forest plot
- Comparison of all treatment pairs
- Ranking table
- Nodesplit model
- Bayesian result details
- Deviance report
- Model details

https://crsu.shinyapps.io/MetaInsight
Key benefits of MetaInsight to transfer

Network meta-analysis Living?!

Exploration, re-analysis, sensitivity analysis
A living MetaInsight tailored to COVID-19

Six month trial period, 19th May – 19th October 2020, updated weekly

Raspberry Pi used to help automate weekly extraction of data

New data added to ‘live’ Google spreadsheet

MetaInsight linked with Google spreadsheet

NMA output automatically updated

* auto-connect function
Exploration, re-analysis, and sensitivity analysis
Exploration

Network plot

Characteristics table
Re-analysis

Filter function

Select function

Detailed analysis options
Sensitivity analysis

Select studies to exclude:
Tips: You can use the study characteristics table to find the study that you want to exclude.

- Cadi
- Yueping
- Chen_J_Zhejiang
- Chen_C
- Zhang
- Wang_Y
- Hong
- Liu_Y
- Boga_D_H
- Goldman
- Cas_Y
- Davoudi-Montalbani
In summary…

- The six-month feasibility study taught us what difficulties exist for setting up a living NMA platform, which steps can be automated, and useful tips such as the google spreadsheet set-up.

- Further useful features include node lumping/splitting options.

- MetaInsight COVID-19 is an example of how such a platform can meet the need of performing rapid evidence synthesis under different scenarios through exploration, re-analysis, and sensitivity analysis.
Thank You

https://www.crsu.shinyapps.io/MetaInsightCOVID

https://bmcmedresmethodol.biomedcentral.com/articles/10.1186/s12874-022-01507-x

https://github.com/CRSU-Apps

http://www.nihrcrsu.org/guidance/apps/
References
