The COVID-NMA project
Building and maintaining an online living platform for COVID-19 studies

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Background

• Clinicians and guideline developers urgently need up-to-date and high-quality evidence to inform their decisions

• More than 4000 randomized controlled trials (RCTs) registered

• Synthesis of all the evidence necessary to guide evidence-based and timely decisions

• Existing evidence synthesis approaches are limited particularly in the context of a pandemic
  ▪ Important delay between evidence generation, evidence synthesis and evidence dissemination
Objectives

• To develop a new evidence synthesis model for bridging the gap between
  ▪ Evidence generation
  ▪ Evidence synthesis
  ▪ Decision making

• To make our findings and outputs quickly available to all stakeholders through a dedicated website

• Scope
  ▪ Therapeutic interventions
  ▪ Preventive interventions
  ▪ Vaccines

• Proof-of-concept model to be used for other conditions afterwards
The COVID-NMA model

Living Mapping
Search and screening of ICTRP for RCTs
Interactive online data visualization with weekly update

Living Systematic Review
Daily search and screening of trials with results
Risk-of-bias assessment, analysis, and evidence grading
Online dissemination with weekly update of a comprehensive, up-to-date systematic review

Living Monitoring/Feedback
Monitoring of the following data:
- Outcomes
- Risk of bias
- Completeness of reporting
- Posting results and data sharing
Contact with funders and trialists to provide feedback on individual and aggregate data

Researchers, funders, regulatory authorities, and guideline developers
Evidence-based decision making
Improvement of primary research

Boutron et al. Ann Int Med 2020
The COVID-NMA model

Once every week

WHO platform
14 registries

CT.gov

EUCT

Data warehouse

Data extraction

Severity
Treatment
...

Semi-automated process
- Laboratoire de Recherche en Informatique (LRI), University Paris-Saclay, CNRS, France
- LIRIS, université Lyon 1, CNRS
- LIMOS, CNRS
- LIMSI, CNRS

Boutron et al. Ann Int Med 2020
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META-COVID

Perform your own analysis using COVID-NMA data, create and download your forest plots by clicking below:

metaCOVID
Real-time meta-analyses of COVID-19 trials

SUMMARY OF MAIN RESULTS

Summary of the evidence for treatment of hospitalized COVID-19 patients identified up to May 4th, 2022. is available below. It will be updated monthly.

For earlier editions of the summary of main results, click here.

BI-WEEKLY UPDATE

May 30 to June 08, 2022. see the update here.

NEWSLETTER

To receive updates on our project, please subscribe below.

email address

subscribe

EXCLUDED STUDIES

Download CSV file (last update: 2022-05-14).

RETRACTED STUDIES

Download CSV file (last update: 2022-05-16).

NMA initiative
Systematic review of Covid-19 trials

Initiative supported by the WHO and Cochrane.

Analysis on preventive interventions, treatments and vaccines for COVID-19 to assist decision makers.

Here and our living review protocol here.

LIVING SYNTHESIS OF PUBLISHED STUDIES

(include both articles and preprints)

Updated daily

757
Studies (RCTs or Observational studies) with complete data extraction and results included in our evidence synthesis

499
RCTs on treatments

17
RCTs on prevention

146
RCTs on vaccines

95
Observational studies on vaccines
Rapidity versus validity

• The rapid process should not be a threat for the validity of the results

• Good-practice requirements should be followed in every step
  ▪ setting the PICO for each research question
  ▪ assessing risk of bias
  ▪ checking of assumptions
  ▪ defining the synthesis model
  ▪ interpreting the results

• Too much emphasis on statistical synthesis might be problematic
  ▪ very few data
  ▪ assumptions potentially implausible
  ▪ study credibility
  ▪ retracted papers/interim results
  ▪ over-interpretation of summary effects
Living process in all aspects of the review

• The term living usually refers to the incorporation of new studies in the review and the data synthesis

• All considerations should be re-evaluated as new data and new knowledge are available

• Example: plan for network meta-analysis
  • from a large network with all treatments to smaller less heterogeneous networks
  • possibly useless in the presence of very few data
  • relies on assumptions – potentially invalid results if not plausible
Challenges in network meta-analysis

- severity of patients
- standard care
- co-interventions
- ...
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• Broadening or restricting the scope and the research questions under investigation over time
Data sharing

• Development of concrete data sharing policy early-on

• Most important data freely available online (outcome data, risk of bias assessments, study characteristics and population characteristics)

• Database sharing: priority to guideline developers and related organizations
  - NICE, UK
  - Cochrane Austria

• After each publication, data available on https://zenodo.org/
  - IL-6, IL-1
  - mapping data available through the platform
metaCOVID (https://covid-nma.com/metacovid/)

Real-time meta-analyses of COVID-19 trials
Automation

• Extremely resource-demanding process

• Several parts of the process automated/semi-automated
  ▪ mapping or registered trials
  ▪ screening (LOVE platform)
  ▪ uploading new studies on the platform
  ▪ statistical analyses

• Time-consuming parts
  ▪ data extraction
  ▪ risk of bias assessment (observational studies)
Contributors

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Thank you!