

A day with... Equity Methods Group - Mapping health equity:
Epistemonikos equity filter



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Plan for today

- Brief introduction to Epistemonikos Living Overview of Evidence (L·OVE) classification platform
- Equity filter - taxonomy, strategies, algorithms and data reuse
- Challenges and opportunities

L:OVE COVID-19: a proof of concept



A repository



A classification platform



Connected with tools
and projects



A repository

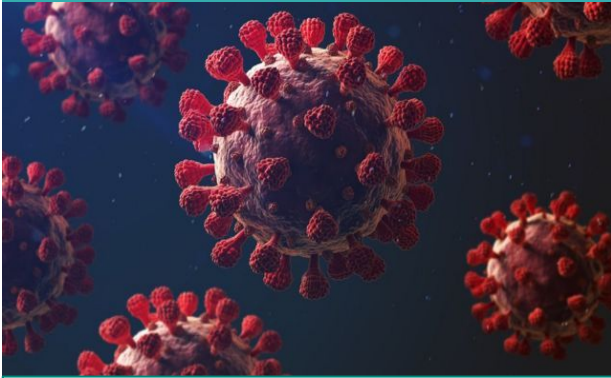


The largest COVID-19 repository

- Systematic methods <https://app.iloveevidence.com/covid19/methods>
- Over **550,000** records
- All type of articles

COVID-19 L:OVE

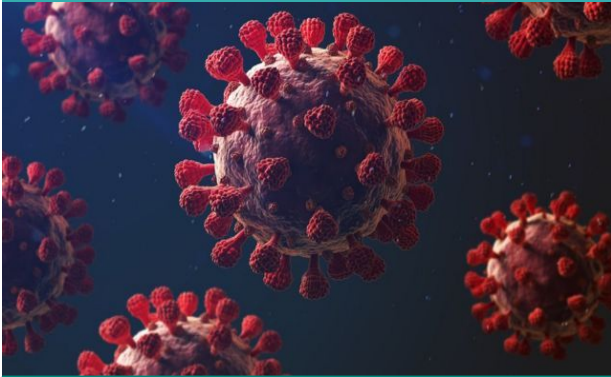
Living Overview of Evidence



- Launched in June 2020
- iloveevidence.com

COVID-19 L:OVE

Living Overview of Evidence



- Launched in June 2020
- iloveevidence.com

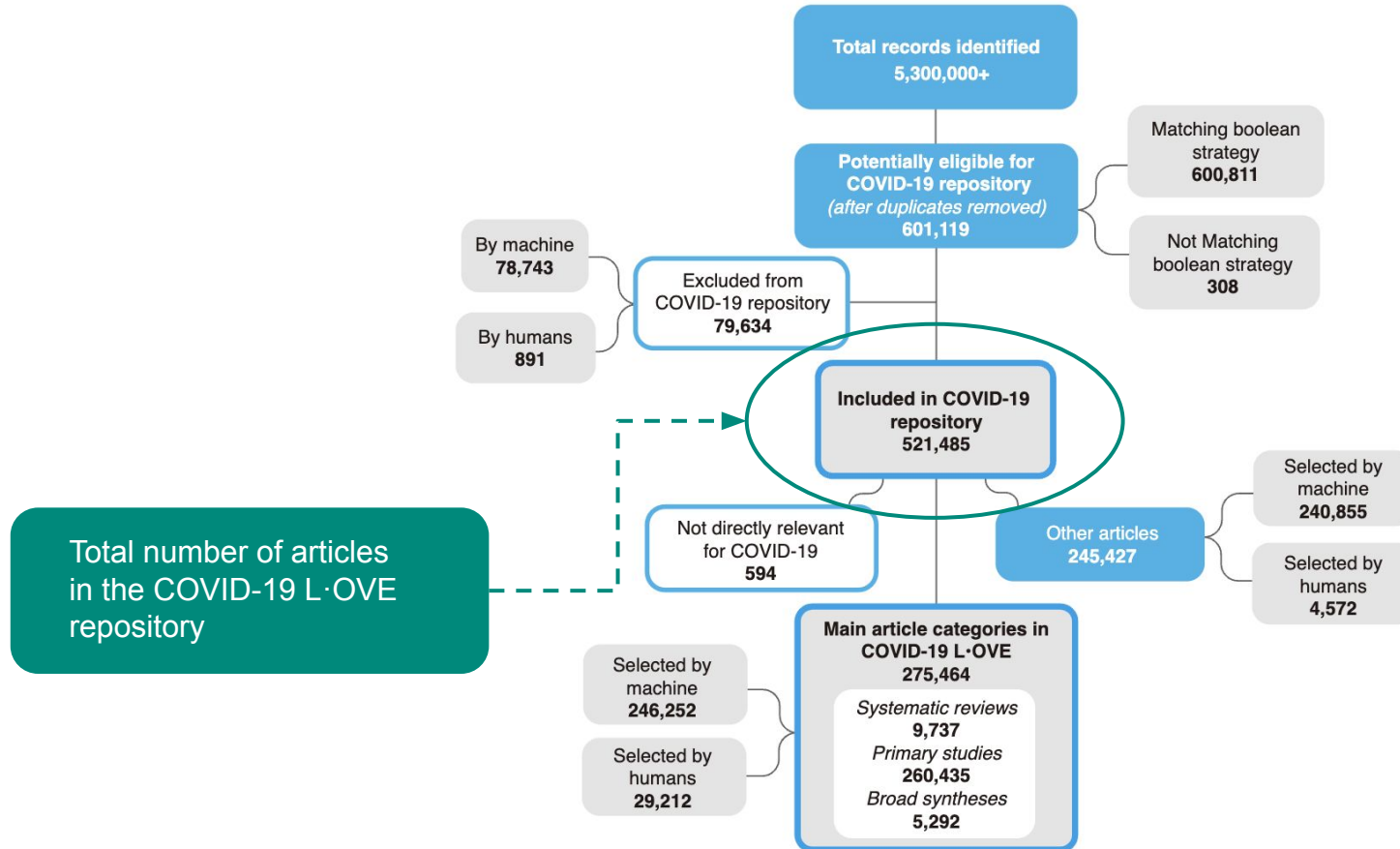
Pubmed/medline
 EMBASE
 CINAHL
 PsycINFO
 LILACS
 Wanfang Database
 Chinese Biomedical
 Literature Database
 Chinese National
 Knowledge Infrastructure
 Chinese Scientific Journal
 Database
 IRIS
 IRIS PAHO
 Índice Bibliográfico Español
 en Ciencias de la Salud
 Microsoft Academic
 Lens

medRxiv
 bioRxiv
 SSRN Preprints
 ChinaXiv
 SciELO Preprints
 Research Square

ICTRP Search Portal
 Clinicaltrials.gov
 ISRCTN registry
 Chinese Clinical Trial Registry
 IRCT - Iranian Registry of Clinical
 Trials
 EU Clinical Trials Register: Clinical
 trials for covid-19
 NIPH Clinical Trials Search
 Japan Primary Registries Network
 UMIN-CTR - UMIN Clinical Trials
 Registry
 JRCT - Japan Registry of Clinical
 Trials
 JAPIC Clinical Trials Information
 Clinical Research Information
 Service (CRIS),
 ANZCTR - Australian New Zealand
 Clinical Trials
 ReBec - Brazilian Clinical Trials
 Registry
 CTRI - Clinical Trials Registry - India
 RPCEC - Cuban Public Registry of
 Clinical Trials
 DRKS - German Clinical Trials
 Register
 LBCTR - Lebanese Clinical Trials
 Registry
 TCTR - Thai Clinical Trials Registry
 NTR - The Netherlands National
 Trial Register
 PACTR - Pan African Clinical Trial
 Registry
 REPEC - Peruvian Clinical Trial
 Registry
 SLCTR - Sri Lanka Clinical Trials
 Registry

Other sources:

Studies included in
 reviews
 Relevant COVID-19
 websites
 Press release websites
 Twitter searches
 Articles sent by users



Alternatives to a formal repository

- A repository similar to COVID-19 can be built in days.
- Uploading a file with references (e.g. RIS)
- Connecting another database with L·OVE classification platform also possible.

Classification platform

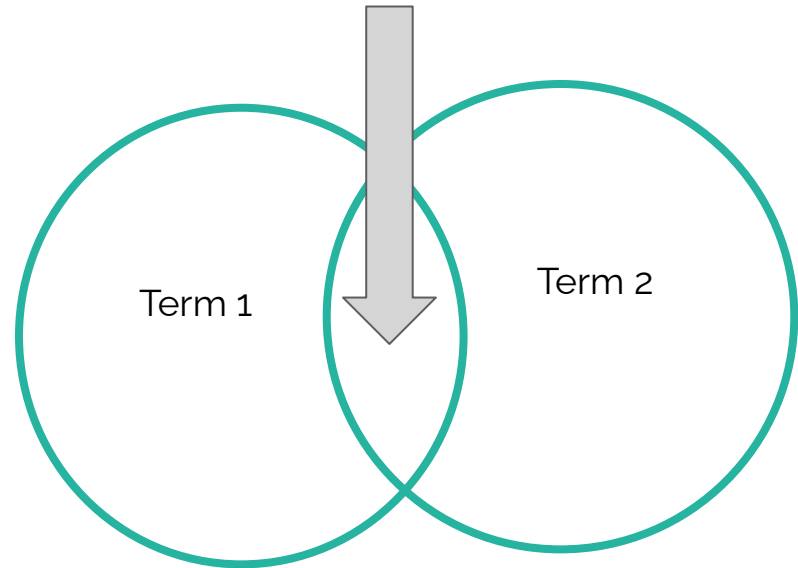
- Taxonomy
- Boolean strategies
- Algorithm/classifiers (Artificial intelligence and other technologies (classifiers))
- Screening tool
- (human) data reuse

LOVE map

- **Owned taxonomy to map 'all possible reviews questions':**

>5,000 terms, covering PICO elements, type of article, research designs and contextual factors

- The platform automatically combines the boolean strategies and classifiers for all the terms and sets the screening tool

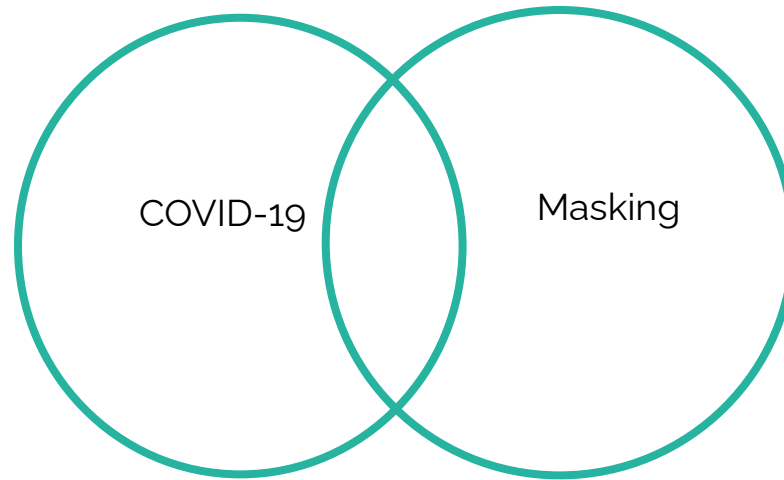


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A classification platform

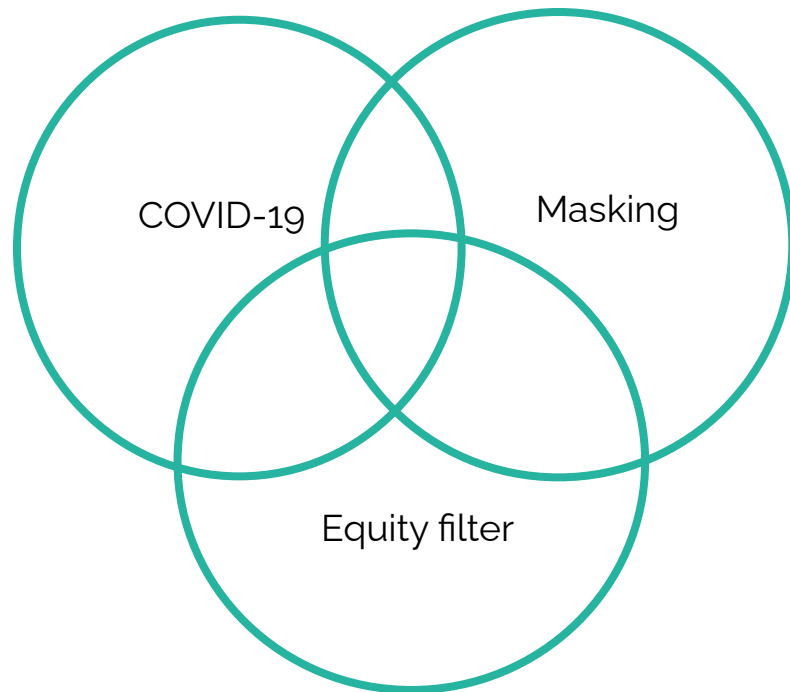


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A classification platform



Categories

🔍 COVID-19

🔍 Personal protective equipment

🔍 Equity

Add new category

Would you like to reuse votes?

- Reuse votes made by humans
 - Reuse automatic votes
-

Technologies used for classification



- Multiclass classifier for type of article (Deep neural network: XLNet)
- Machine learning or other technologies for each term of the taxonomy
- More than 1 classifier per term (humans solve discrepancies)

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A classification platform

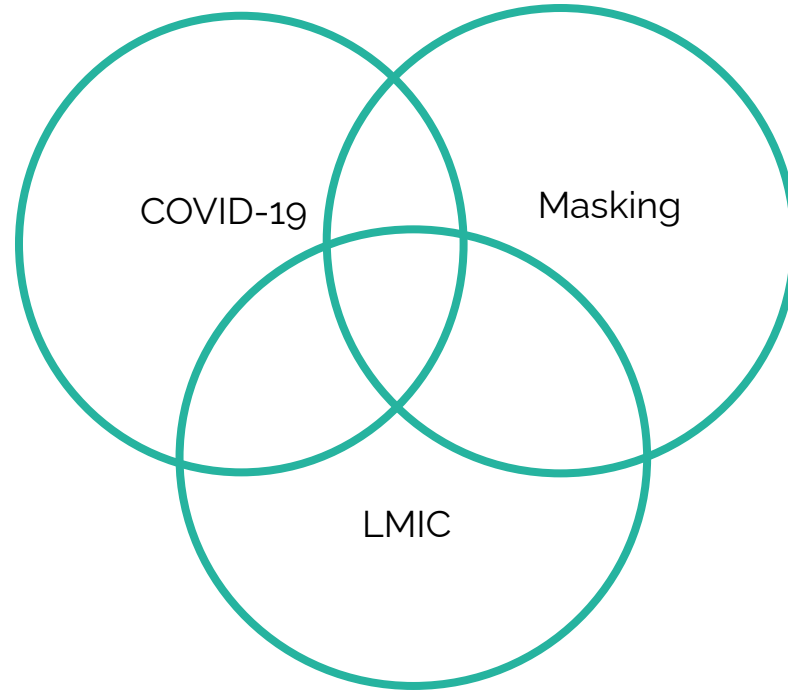
	Sensitivity
COVID-19	93-100%
Type of article COVID-19?	94-97%
Equity and sub-terms	Probably varies for different components: in process

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A classification platform





A classification platform

What's in a term

E.g. LMIC

Countries by income

LMIC

LIC

MIC

Lower-middle

Upper-middle

Countries by region

Africa

Northern Africa

Algeria

Egypt

Libya

Morocco

Sudan

Tunisia

SADR

South Sudan

Mauritania

Sub-Saharan Africa

Eastern Africa

Sudan

Djibouti

Connection with tools and projects

- Screening tool, data extraction forms, systematic review software, etc
- API and other technologies to connect with specific projects



Connected with tools and projects

Screening tool

From a user perspective:

- Similar to traditional SR screening tools (e.g. Covidence, Rayyan)
- Articles are automatically uploaded based on pre-established strategies
- Search updated with the click of a button
- Information in the platform (reuse of data) can decrease the workload.
- AI and other technologies activated with the click of a button
- Information generated can contribute to the platform (optional)

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Connected with tools and projects

L:VE



Is this reference part of COVID-19?

Yes

No

Is this reference part of COVID-19?

Yes

No



Connected with tools and projects

Equity filter

Equity branch of L*OVE taxonomy

- Based on PROGRESS-Plus (flexible)
- Similar approach
 - (boolean + reuse of data + technology)
 - Technology performs poorly

Equity considerations

Place of Residence

Ethnicity

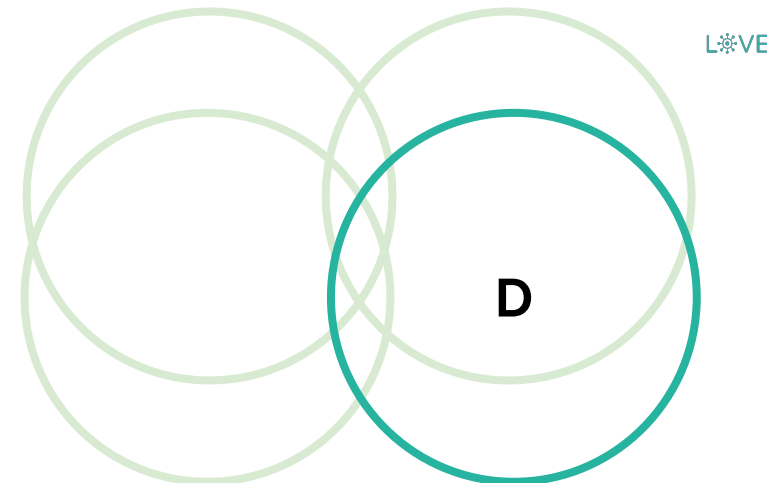
Occupation

Gender/Sex

Religion

Socio-economic status and Social capital

Education



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Connected with tools and projects

Example

Filters

COVID-19 Evidence COVID-19 News

WG L:OVE EPISTEMONIKOS FOUNDATION

L:OVE Platform LOVE Home List of L:OVES Contact Adelen Rueda

LOVES list / Infectious disease public health emergencies

Evidence List Methods and report Matrix Flow diagram Classification Comparison

Tools (ex Spreadsheets)

Search results for [Clear search](#)
Public health interventions for infectious disease public health emergencies (Socio-economic status) [Subscribe](#)

20 Total articles included 0 Broad syntheses 3 Systematic reviews 17 Primary studies
Including 0 RCTs reporting data

Showing 20 in 'Total articles included' [Export](#) [Show other articles](#)

Search within these results [Search](#)
In title, abstract, author, journal

Filter results by [See articles as publication threads](#)

by screener by abstract

Primary study / Not RCT Reports data

COVID-19 vaccine hesitancy in the UK: a longitudinal household cross-sectional study.

Year 2022
Journal BMC public health
Authors Chaudhuri K et al
DOI 10.1186/s12889-021-12472-3

Show abstract Show Keywords

Primary study / Not RCT Reports data

Adherence to COVID-19 preventive measures among male medical students, Egypt.

Year 2022
Journal The Journal of the Egyptian Public Health Association
Authors Ahmed HM
DOI 10.1186/s42506-022-00103-7

Show article vote status
See in Epistemonikos
How to cite
Export RIS file

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How to cite
Export RIS file

Infectious disease public health emergencies [Edit](#)

Search in this L:OVE

By PICO [Advanced search BETA](#)

Prevention or treatment [Clear](#)

Prevention or treatment
Diagnostic
Etiology
Epidemiology
Prognosis

Public health

Search

Pharmacological interventions
Physical activity and physical therapy
Procedures
Behavioral interventions
Public health [Clear](#)
Nutraceuticals
BESSI

Select contextual factor

Search [Show more](#)
No results found. Try again or browse the list below

Select population

Search

[Infectious PH emergencies](#) main population
COVID-19
Demographic variables

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Connected with tools and projects



Example

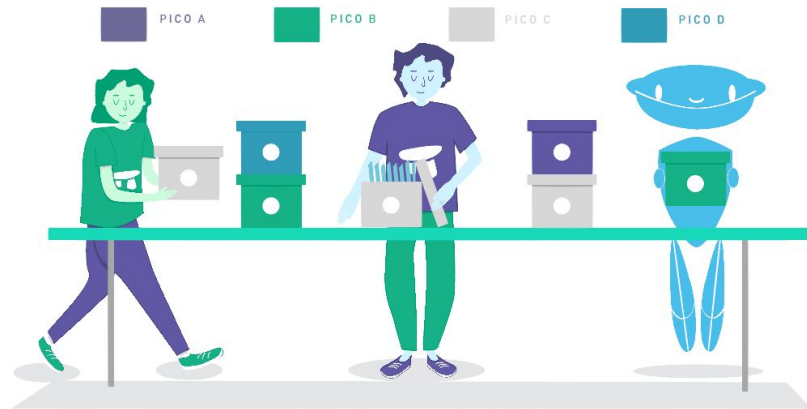
Socio-economic status
↑

- ▼ Equity
 - Place of Residence
- ▼ Ethnicity
 - African American People
 - Racism
- ▼ Occupation
 - Essential workers
 - Low-income workers
- Gender/Sex
- Religion
- Socio-economic status Clear
- Social capital
- Education

The screenshot shows the LOVE platform interface. At the top, there are navigation tabs: 'Search', 'Methods and reports', 'Matrix', 'Flow diagram', 'Classification', and 'Comparison'. The main search results are displayed in a list format. The first result is highlighted with a red box and an arrow pointing from the 'Socio-economic status' filter in the left sidebar. The result is titled 'Adherence to COVID-19 preventive measures among older medical students, 2020'. Below the title, it shows the year (2020), authors (Muller, et al.), and a DOI link. To the right of the result, there are buttons for 'See article only view', 'See Explanatory text', and 'Export PDF file'. The left sidebar contains various filters, including 'Socio-economic status', which is currently selected.

*“Computers are incredibly fast,
accurate, and stupid.
Human beings are incredibly
slow, inaccurate, and brilliant.
Together they are powerful
beyond imagination.”*

Albert Einstein



**Thank you for
your attention!**



Please contact us for further
information and how to start
working with **L:VE**

<https://iloveevidence.com/>

contact@epistemonikos.org