Supplementary Methodology

From March 2020 to May 2021, 4236 articles retrieved from PubMed responding to the search term COVID-19 were screened and were selected if the article presented new data. Review articles, articles that did not present new data, and articles that were case reports were not selected. Out of 4236 articles screened, 1000 publications reporting new data were selected for entry. Licensed full text articles were imported to the working RefBin account and automatically affiliated were the citation. Results were extracted by the reviewers who read, described, and integrated results from the 1000 selected articles.

Selection of results to be extracted was based on prioritizing primary observations and statistically and clinically relevant unplanned, univariate, and multivariate secondary calculations. Each selected result was treated as an independent unit of information. Four types of note fields were used to describe each result: 1) observation or measurement, 2) description of the measurement, 3) population or sample and 4) the topic. These four note fields were arranged in parent-child order (Figure 1A). The notes were entered manually, and the result note field was entered as the lowest child level. The citation was dragged to this lowest note field. The citation was automatically linked to all the parent note fields.

Similar results from different articles were integrated by sharing parent note fields (Figure 1B). This allowed multiple results to be listed at the same note field level for convenient comparison of multiple results from multiple manuscripts. This substantially reduced the total number of note fields necessary to describe results (Supplemental Figure 2 and Supplemental Table 1). This strategy created an expanding template of organized information. In short, things got easier as more data was entered. This process of integration of results also facilitated standardization of data extraction. The review process ensured that entries were accurate and appropriately integrated with other similar results.

Topics were not predefined but generated in response to sets of results extracted into the data base. The extracted results from 1000 publications grew into 15 topics as first level headings (Supplemental Figure 1).

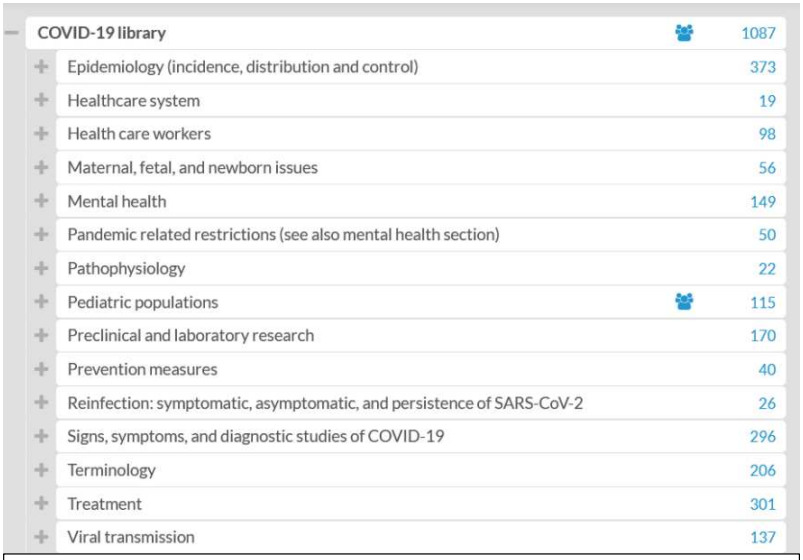
Multiple results from one article (average of 12 results) were usually entered into completely different areas of the database to allow grouping of similar results from different articles. By dragging the article to each extracted result note field, the citation remains conveniently linked to all the extracted data. This was a liberating step that freed the data from the confines of being necessarily described in one list with all the other often disparate results from one article.

Groups of entries were frequently edited to accommodate new data entries. When a note field was moved, all the children note fields moved with it and linkages to citations were automatically updated. This allowed convenient free form development of sets of data.

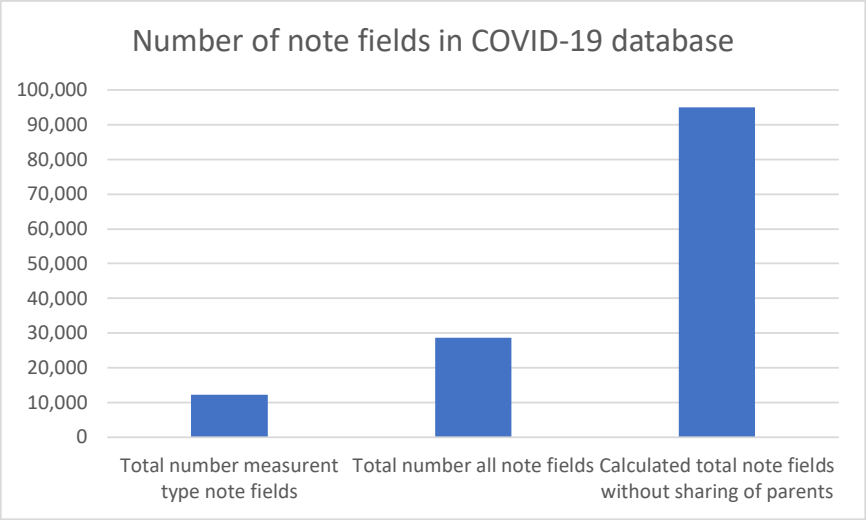
Workflow was established to manage all aspects of the review process and used the same parent child note field process. For example, in workflow, a parent entry included the name of the reviewer. Multiple children note fields described the steps of the review process such as “claimed and under review” and “ready for secondary review”. Each citation was dragged to the appropriate workflow step during the review process. Each article underwent a minimum of two reviews. The reviewers read, described, and integrated the observations presented in each manuscript into the COVID-19 library. The pilot study was considered complete when results from 1000 manuscripts were entered into the COVID-19 library.

The quality of the data was not graded in scalar manner such as 1 to 5. Results were described by entering the specific value followed by confidence intervals or other values that describe significance. For example, incidence rates included the percent followed in parentheses by the affected number of subjects

in the numerator and the total population in the denominator. This approach allowed a user to conveniently see whether 4% was 4/10 or 40/1000.



Supplemental Figure 1: Screenshot of first level headings in the COVID-19 database



Supplemental Figure 2: Number of note fields in the database: measurement type note field, total number note fields and calculated number if sharing of parents was not done.

Average number of note fields per extracted observation	7.78 (SD 1.42)
Mean number of measurements extracted per article	15 (SD 12)
Total number of all note fields in the COVID-19 library	28,613
Total number of the observation type note fields	12,209
Calculated number of note fields if no sharing of parents	94,986
Reduction in number of note fields due to sharing of parents	66,373

Supplemental Table 1: Number of note fields in the COVID-19 database