

## Brief Report: Research Publications Related to the Corona Virus from PUBMED search June 3, 2020

We have been downloading abstract record sets from the PubMed database relating to corona virus every 2 weeks, starting March 25.

For the previous datasets, we have generated a basic report, summarizing rudimentary analyses to introduce the data for potentially deeper probes. Those reports remain available; they variously address:

- The Data & Background on the searching
- Looking at the data in *VantagePoint* desktop text analysis software [www.theVantagePoint.com]
- Research Trend
- Notes on players participating strongly in that research (countries, organizations, researchers)
- Topical emphases
- Exploratory analysis (trying one novel empirical effort each time) – e.g., for May 21 we compared topics

Here, we offer a more concise overview with a new exploration, but first address issues in searching and downloading the records. Starting with May 20, we encountered limitations in PubMed downloading.

### Search Essentials

We apply the search [query](#), but apply it to the legacy version of the PubMed database [by shifting from “PMC” via pull-down to “PubMed”]

- "COVID-19" OR Coronavirus OR "Corona virus" OR "2019-nCoV" OR "SARS-CoV" OR "MERS-CoV" OR “Severe Acute Respiratory Syndrome” OR “Middle East Respiratory Syndrome”<sup>1</sup> = **38183** on June 3, 2;24pm.

The interface no longer allows full download (instead limiting to the first 10,000 records), so we ran a combination of partial searches to recombine in *VantagePoint* (VP) on desktop. Did so using 5 separate searches this time, for select year sets (the interface gives a slider to choose years). Download now by: 1) Save; Selection: all results; Format: PubMed; Create File.

- ("COVID-19" OR "Corona virus" OR "2019-nCoV" OR "SARS-CoV" OR "MERS-CoV" OR “Severe Acute Respiratory Syndrome” OR “Middle East Respiratory Syndrome”) – restricted to
- 2006-2019 = 10000.... Download-1
- SAVE > Selection = All Results > Format = PubMed [“create file” → downloads that file]
- 1949-2005 = 8567 .... Download-2
- 2020 = 19750 records, so need to split:
  - [search query as above] AND coronavirus = 11121
    - AND COVID-19 = 9941 ... download-3
    - NOT COVID-19 = 1180 .... download-4
  - [search as above] NOT coronavirus = 8629 ....download-5
- Consolidated these in one file using *VantagePoint* = 38183 records.

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<sup>1</sup> In MEDLINE detail: "COVID-19"[All Fields] OR ("coronavirus"[MeSH Terms] OR "coronavirus"[All Fields]) OR "Corona virus"[All Fields] OR "2019-nCoV"[All Fields] OR "SARS-CoV"[All Fields] OR "MERS-CoV"[All Fields] OR "Severe Acute Respiratory Syndrome"[All Fields] OR "Middle East Respiratory Syndrome"[All Fields].

## Results

Series of Bi-weekly searches:

- March 25, 2020: Initial dataset - 19,538 records.
- April 8, 2020: Update yielded 21,314 records.
- April 22, 2020: Update yielded 24,479 records.
- May 6, 2020: Update yielded 28,264 records.
- May 21, 2020: Update yielded 34,181
- June 3, 2020: Update yielded 38,183

Interesting that in ~71 days, the research set has ~doubled.

As mentioned, we elect not to redo the rudimentary research profiling presented in prior biweekly reports. Those remain available to peruse research participation, topical emphases, and research trend. For those of you wanting to answer “**who, what, where, when?**” questions, we make the data available in *VantagePoint* format, along with free trial use of the software to explore your interests.

The May 21 report spotlighted topics (title phrases) growing most strongly in the prior 2 weeks.

Table 1 breaks out publications in 2020 by the cleaned (imperfectly) author organizations. Of these 37, some 11 are in the U.S., and 10 are in China.

Table 2 differentiates 2020 papers by MeSH Qualifier categories dated in the first 4 months vs. May or later. The ratio of these points to shifts in topical emphases. Possibly noteworthy increasing emphases show for cytology and radiotherapy (but low N's). Others with recent emphases include: surgery, physiopathology, and blood issues.

**Table 1. Author Organizations Publishing 50 or more Papers in 2020**

[indexed in Legacy PubMed as of June 3, 2020]

	# Records	609	7228	9351	1957
# Records		2020 - 1 2	2020 - 3 4	2020 - 5	2020 - 6 onward
227	Huazhong University of Science and Technology	14	94	84	19
176	The University of Hong Kong	3	26	19	5
118	Chinese Academy of Sciences	8	16	8	2
114	University of Iowa	3	8	6	
108	Utrecht University	4		2	1
102	University of Toronto	3	27	36	6
97	The Chinese University of Hong Kong		12	18	6
86	National University of Singapore	4	19	32	8
84	Fudan University	1	28	26	2
79	University of Washington	3	19	24	5
77	University of California		11	15	6
77	University of Pennsylvania		14	22	9
65	Tan Tock Seng Hospital		17	14	7

65	University of Milan		17	31	8
64	Renmin Hospital of Wuhan University	3	27	22	9
59	University of Oxford	3	19	26	3
59	University of Southern California		3	5	1
59	Wuhan University	2	21	13	5
59	Zhongnan Hospital of Wuhan University	7	26	21	5
58	Lindsley F. Kimball Research Institute, New York Blood Center, New York, NY, USA	2	3	4	1
58	National Institute of Allergy and Infectious Diseases	1	4	6	1
58	Yale University School of Medicine		2	7	3
57	University of London	1	23	30	2
55	Department of Viroscience, Erasmus Medical Center, Rotterdam, the Netherlands	1	2	6	4
55	Leiden University Medical Center	1	3	5	3
55	Nanyang Technological University		5	10	1
55	Sinai Immunology Review Project, Icahn School of Medicine at Mount Sinai, New York, NY, USA	1	4	30	17
54	University College London	3	14	26	3
52	Brigham and Women's Hospital		28	19	3
52	Capital Medical University	6	18	17	5
52	Tehran University of Medical Sciences		17	26	5
52	The Ohio State University		1	3	1
50	Huazhong Agricultural University	4	1	1	
50	University of Cambridge		5	10	2

**Table 2. MeSH Qualifier Topics: Number of Papers in Early & Recent 2020**  
[based on Legacy PubMed search on June 3, 2020]

	2020 (Jan-Apr)	2020 (May on)	Ratio
virology	335	558	1.7
epidemiology	1019	1737	1.7
genetics	177	252	1.4
immunology	109	237	2.2
isolation & purification	201	368	1.8
prevention & control	572	938	1.6
metabolism	84	159	1.9
veterinary	30	27	0.9
diagnosis	460	764	1.7
physiology	74	143	1.9
methods	219	444	2.0
transmission	425	623	1.5
chemistry	56	86	1.5

pathogenicity	155	187	1.2
analysis	39	57	1.5
pathology	89	174	2.0
classification	38	48	1.3
microbiology	3	3	1.0
blood	32	92	2.9
pharmacology	48	82	1.7
therapy	304	603	2.0
drug effects	75	132	1.8
complications	241	501	2.1
drug therapy	238	415	1.7
biosynthesis	6	15	2.5
therapeutic use	173	313	1.8
etiology	124	224	1.8
statistics & numerical data	98	185	1.9
administration & dosage	30	72	2.4
standards	128	254	2.0
enzymology	13	35	2.7
mortality	87	139	1.6
physiopathology	36	106	2.9
growth & development	9	15	1.7
organization & administration	106	214	2.0
psychology	108	198	1.8
ultrastructure	10	11	1.1
diagnostic imaging	110	209	1.9
antagonists & inhibitors	26	50	1.9
adverse effects	53	128	2.4
cytology	3	18	6.0
trends	91	148	1.6
economics	57	88	1.5
analogs & derivatives	30	48	1.6
chemical synthesis	1	1	1.0
legislation & jurisprudence	39	64	1.6
supply & distribution	55	97	1.8
instrumentation	8	20	2.5
history	13	21	1.6
nursing	16	32	2.0
ethics	27	50	1.9
surgery	16	48	3.0
education	16	32	2.0
deficiency	1	2	2.0

toxicity	1	2	2.0
chemically induced	8	12	1.5
radiation effects	0	0	na
ethnology	4	9	2.3
transplantation	0	0	na
rehabilitation	7	12	1.7
pharmacokinetics	3	3	1.0
blood supply	0	1	na
urine	1	1	1.0
agonists	3	5	1.7
injuries	0	4	na
radiotherapy	1	4	4.0
congenital	0	0	na