

Global analysis of daily new COVID-19 cases reveals many static-phase countries including the US potentially with unstoppable epidemics

Results

Table S1 Statistics of daily new cases of static-phase countries during the period of static phase

Static-phase countries	Mean±SD of daily new cases	Starting date of the period (ending on April 19)
US	29926±3059	March 31
UK	4995±1144	April 1
Belgium	1356±387	March 28
Canada	1368±226	March 30
Netherlands	1045±167	March 28
Sweden	517±120	March 31
Chile	364±84	March 27
Poland	374±79	April 2
Romania	353±90	April 3
Philippines	237±110	March 28
Algeria	102±33	March 31
Moldova	113±37	April 2

Table S2 Case density, testing density and level of positive COVID-19 tests among the 61 most affected countries ^a

No.	downward countries	case density	test density	positive test	No.	upward countries	case density	test density	positive test
1	Spain	4367	19896	0.21949	1	Russia	362	14682	0.02463
2	Italy	3043	23985	0.12685	2	Brazil	203	1373	0.14757
3	France	2421	7103	0.34087	3	India	15	325	0.04484
4	Germany	1772	20629	0.08589	4	Peru	541	4723	0.11454
5	Iran	1010	4354	0.23187	5	Saudi Arabia	334	14362	0.02326
6	Switzerland	3243	26293	0.12332	6	Ecuador	589	1892	0.31142
7	Portugal	2097	27647	0.07584	7	Pakistan	43	506	0.08555
8	Austria	1651	20987	0.07869	8	Mexico	74	384	0.19167
9	Israel	1611	27763	0.05802	9	Singapore	1560	16203	0.09626
10	Denmark	1329	17358	0.07653	10	UAE	784	79875	0.00982
11	Norway	1336	26798	0.04984	11	Indonesia	26	184	0.14165
12	Czechia	657	16679	0.03937	12	Serbia	789	5191	0.15191
13	Australia	261	17412	0.01497	13	Belarus	711	11487	0.06194
14	Malaysia	169	3344	0.05066	14	Qatar	2268	23160	0.09791
15	Luxembourg	5780	55852	0.10348	15	Ukraine	140	1418	0.0988
16	Thailand	40	2043	0.01971	16	Dominican Republic	465	1565	0.29718
17	Greece	230	5341	0.04313	17	Egypt	34	537	0.06345
18	Croatia	465	6482	0.0717	18	Bangladesh	21	180	0.11434
19	Ireland	3248	22598	0.14375	19	Morocco	87	490	0.17729
20	S. Korea	209	11138	0.01873	20	Kuwait	487	--	--
21	Japan	91	985	0.09243	--	--	--	--	--
No.	static-phase countries	case density	test density	positive test	No.	uncertain ones	case density	test density	positive test
1	USA	2474	12651	0.19553	1	Turkey	1133	8459	0.13399
2	UK	1901	7886	0.24105	2	Panama	1117	5076	0.22012
3	Belgium	3534	14419	0.24508	3	Colombia	82	1281	0.06367
4	Canada	1018	15099	0.06742	4	Finland	724	11154	0.06495
5	Netherlands	1992	10004	0.19913	5	South Africa	58	2140	0.0273
6	Sweden	1517	9357	0.16214	6	Argentina	70	810	0.08588
7	Chile	567	6401	0.08853	7	Hungary	217	5181	0.04192
8	Poland	260	5928	0.04393	--	--	--	--	--
9	Romania	480	5279	0.09101	--	--	--	--	--
10	Philippines	60	592	0.10177	--	--	--	--	--
11	Algeria	64	148	0.43246	--	--	--	--	--
12	Moldova	648	2916	0.22222	--	--	--	--	--

^a China was not list here due to the lack of testing information on the Worldometer website

Figure S1

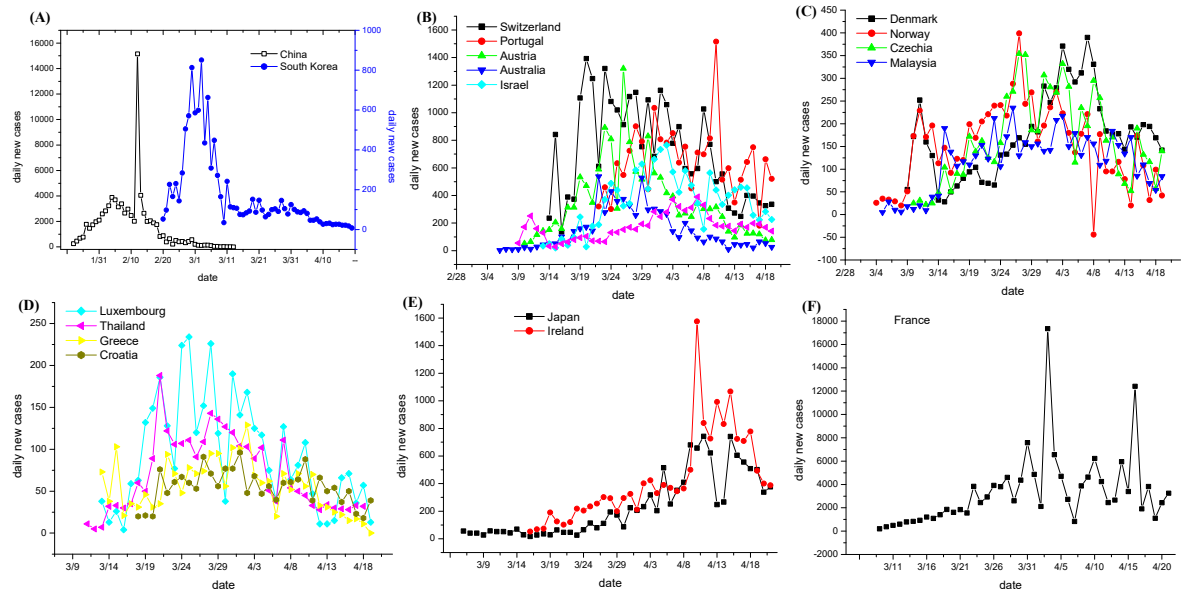


Figure S1. Daily new cases in downward countries over time.

(A) China and South Korea have almost contained the domestic epidemic, with minimal daily new cases since April. (B, C and D) These downward countries show typical declining daily new cases after passing peaks. Data (as of 19 April, 2020) are collected from Worldometer [1]. (E and F) Daily new cases appear to decline in the past 9 days in Japan and Ireland (panel E), and slightly decline in the past 19 days in France (panel F).

Figure S2

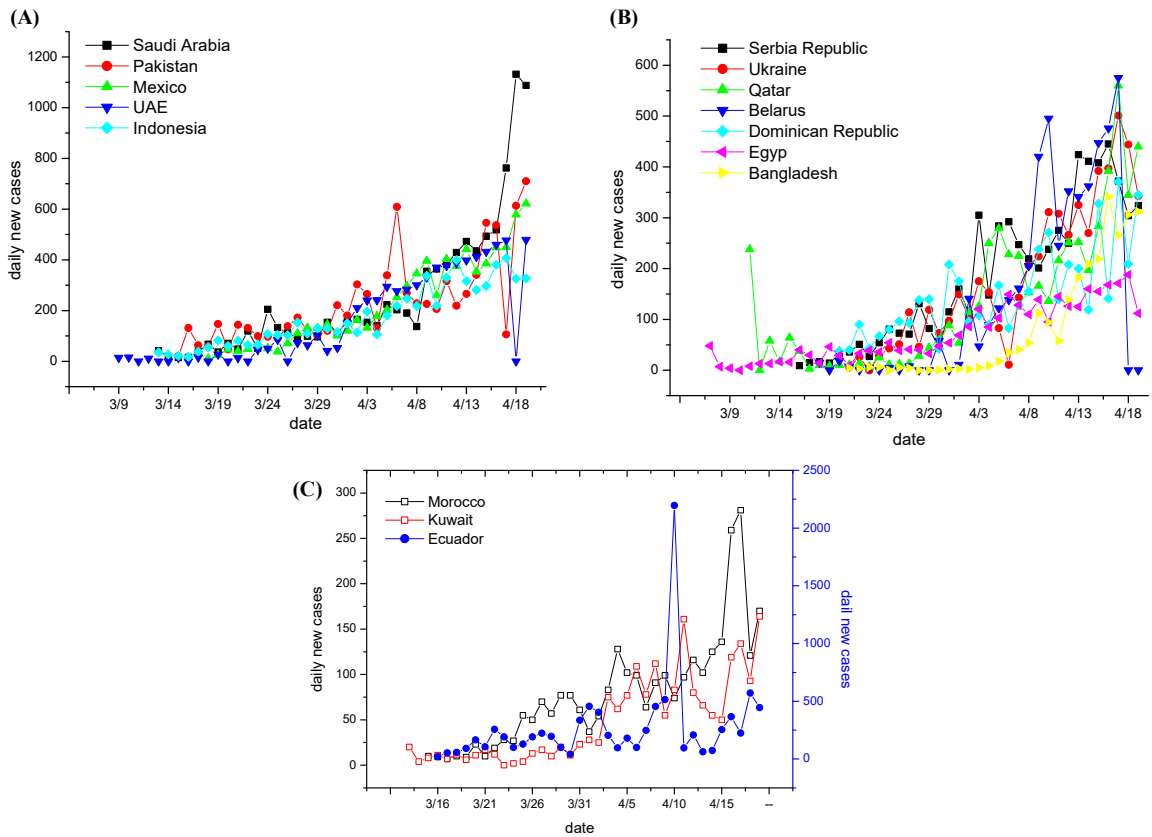


Figure S2. Daily new cases in upward countries over time.

(A, B) These upward countries show typical elevating daily new cases without apparent peaks. Data (as of 19 April, 2020) are collected from Worldometer [1]. (C) These upward countries show slight increase in daily new cases over time, particularly for Ecuador.

Figure S3

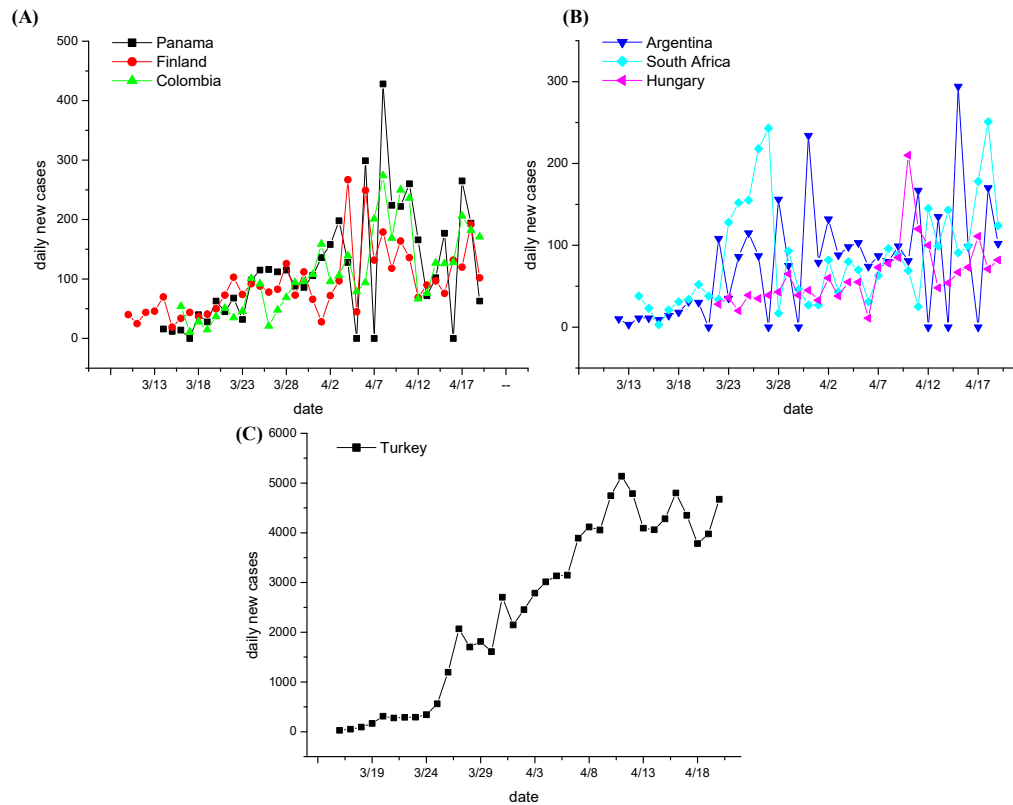


Figure S3. Daily new cases in uncertain countries over time.

(A, B) These countries show dramatic variation in daily new cases and therefore it is hard to determine the trends of the epidemic. (C) Turkey appears to reach the peak in daily new cases. However, whether it will decline as downward countries or enter into a static phase like static-phase countries remains unknown and more time is needed to determine the trend of the epidemic in Turkey.

Figure S4

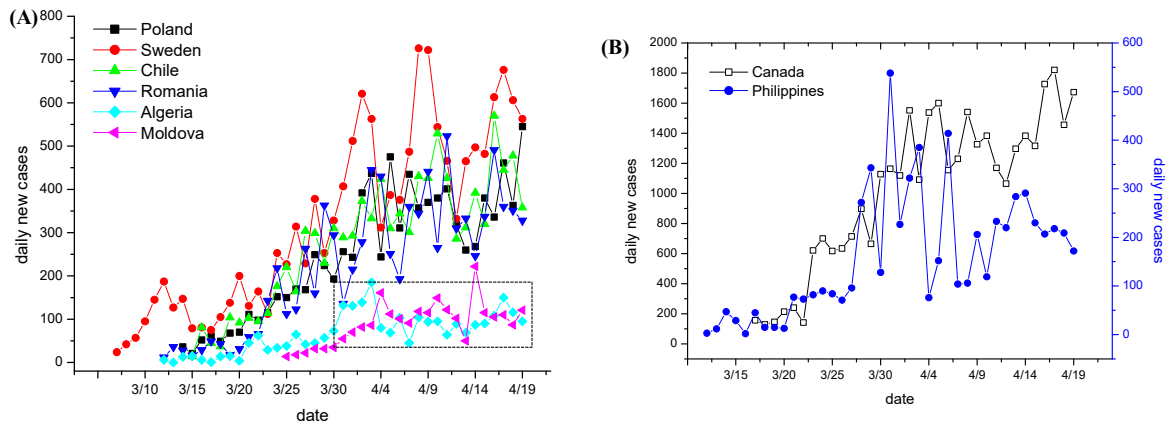


Figure S4 Daily new cases in static-phase countries over time

(A) Daily new cases in these countries are largely constant in the past over 14 days (as indicated by dotted windows). (B). Canada and Philippines are in states of near static-phase: daily new cases in Canada appear to reach a plateau since April 1 but slightly increase since April 16; daily new cases in Philippines vary dramatically since March 28 but appear to stabilize at a value of 237 ± 110 (mean \pm SD; for other countries, refer to Table S2).

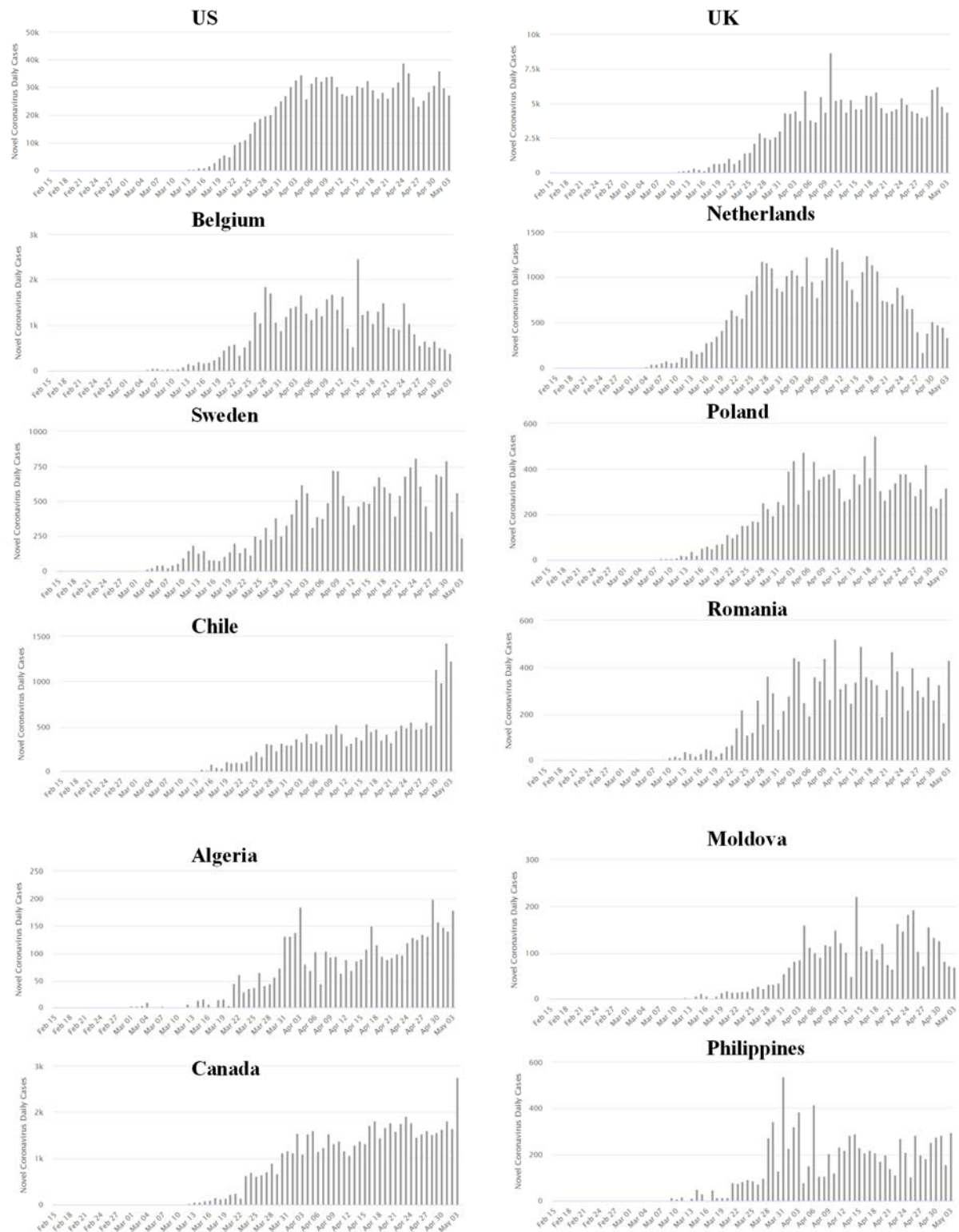


Figure S5. Daily new cases in static-phase countries over time (as of May 3, 2020).

Data collected from worldometer (<https://www.worldometers.info/coronavirus/>)

Figure S6

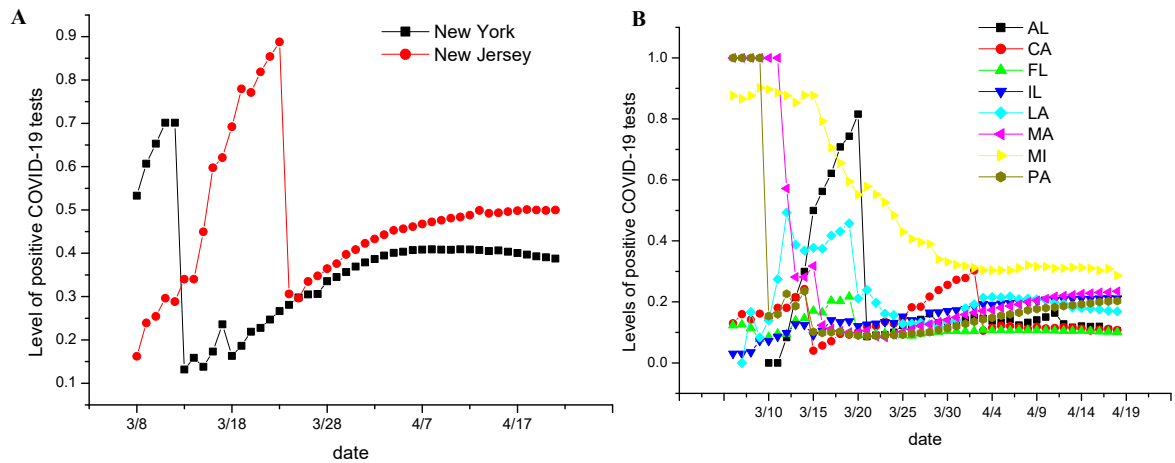


Figure S6. Levels of positive COVID-19 tests in most affected US states

(A, B) Levels of daily positive COVID-19 tests in the two most affected US states (New York and New Jersey, panel A) and other most affected states (panel B) over time. Data were collected from the website of the COVID Tracking Project (<https://covidtracking.com/api>).

References:

1. Worldometer: COVID-19 CORONAVIRUS PANDEMIC, <https://www.worldometers.info/coronavirus/>.