

COVID-19 CASES

AS OF THURSDAY 4/9/2020, 6:00PM HST

Statistics regarding daily new cases and active cases of the eight countries that has the highest number of total cases, Switzerland, Austria, South Korea, Israel, Australia, and Cyprus.

Source: <https://www.worldometers.info/coronavirus/>

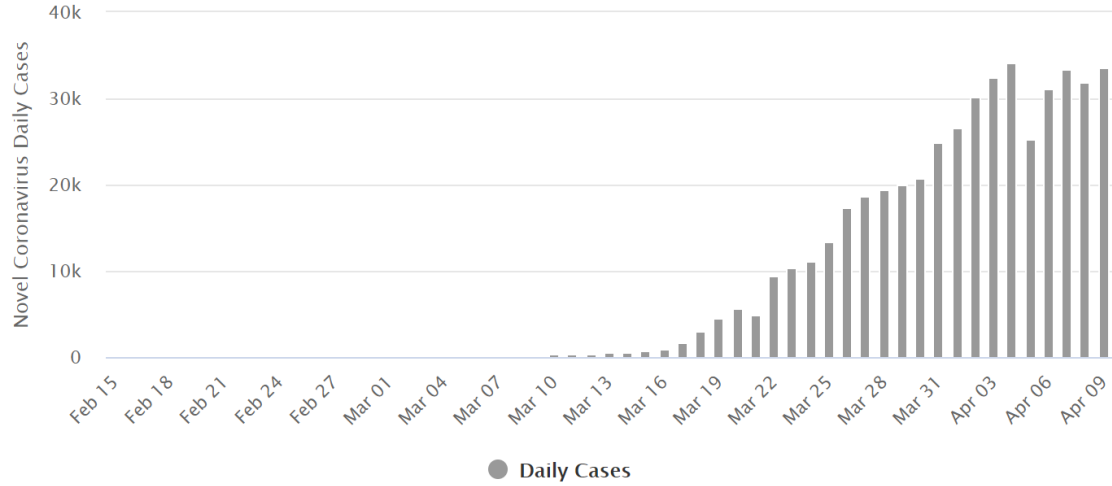
Statistics regarding daily new cases are also included for Hawaii.

Source: <https://health.hawaii.gov/news/covid-19-updates/>

Daily New Cases in the United States

Daily New Cases

Cases per Day
Data as of 0:00 GMT+0

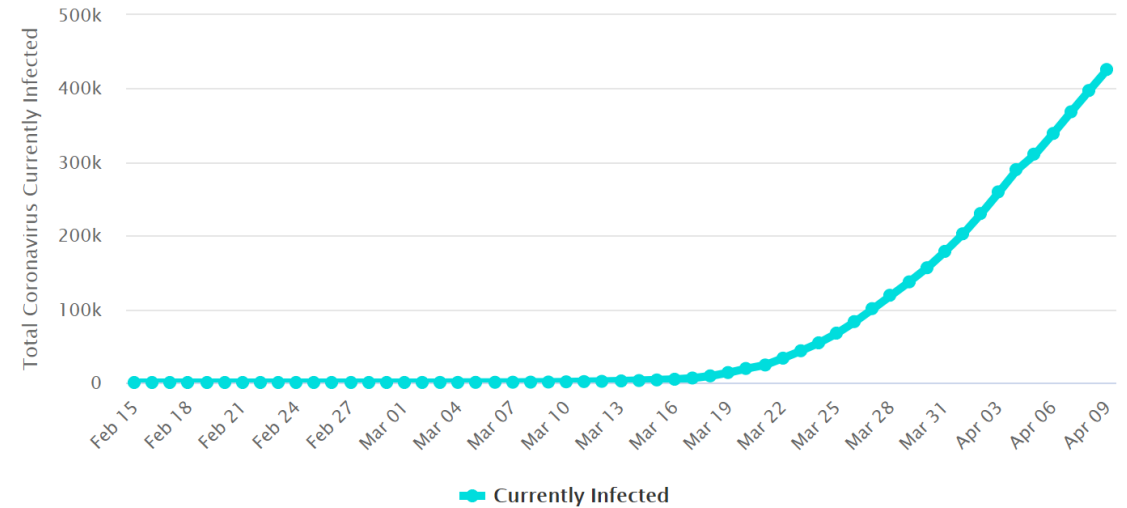


I. USA

Active Cases in the United States

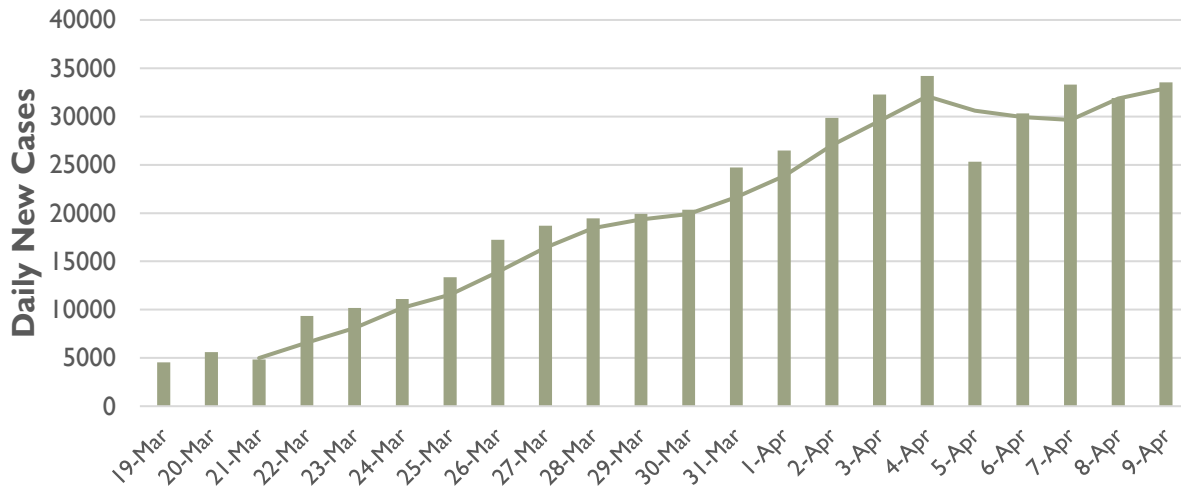
Active Cases

(Number of Infected People)



3-Day Moving Average Trendline

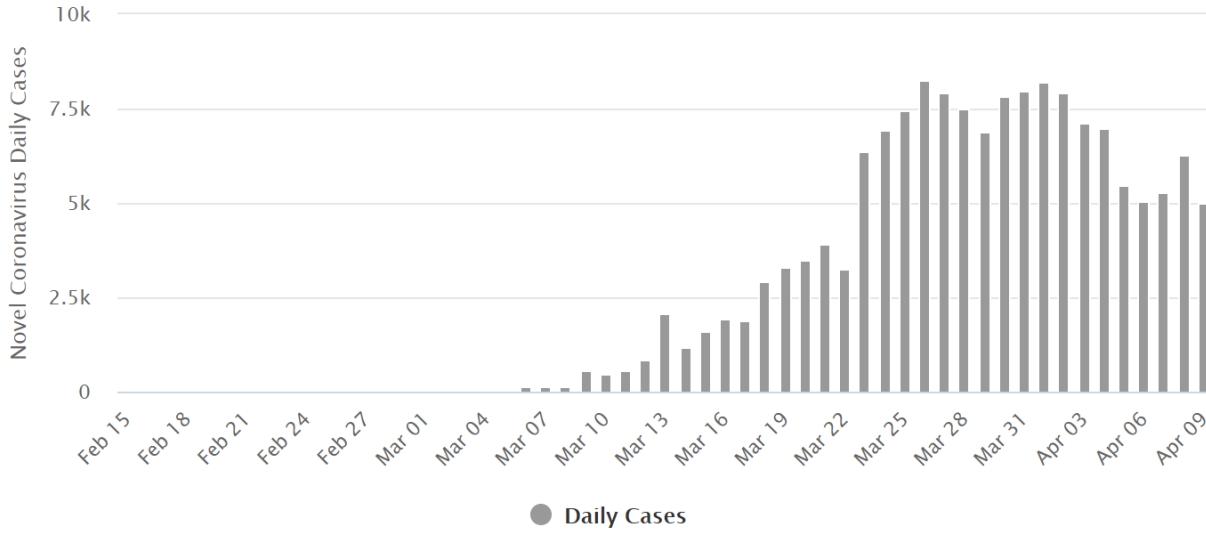
USA 3 per. Mov. Avg. (Daily New Cases)



Daily New Cases in Spain

Daily New Cases

Cases per Day
Data as of 0:00 GMT+0

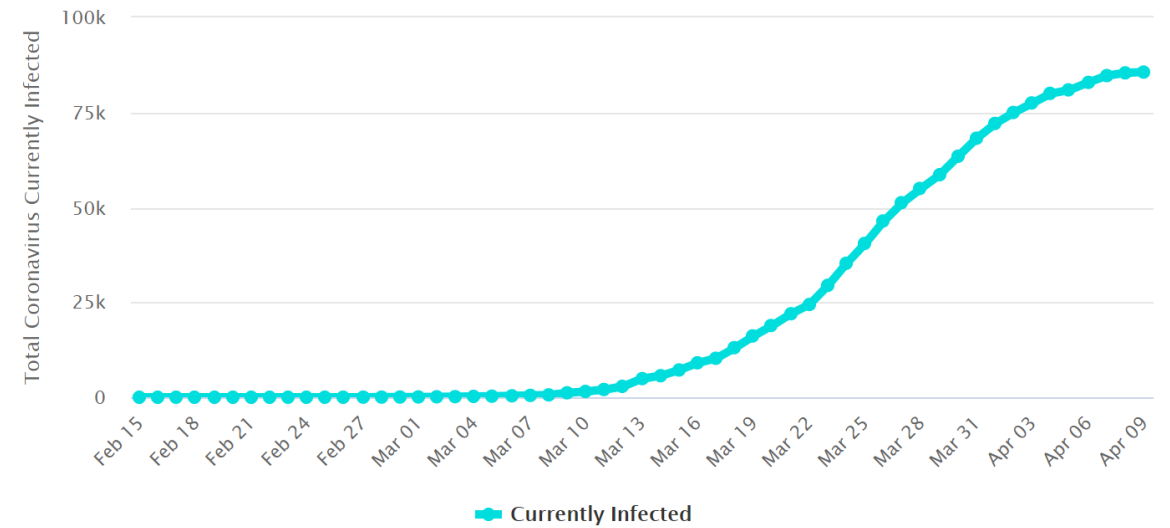


2. Spain

Active Cases in Spain

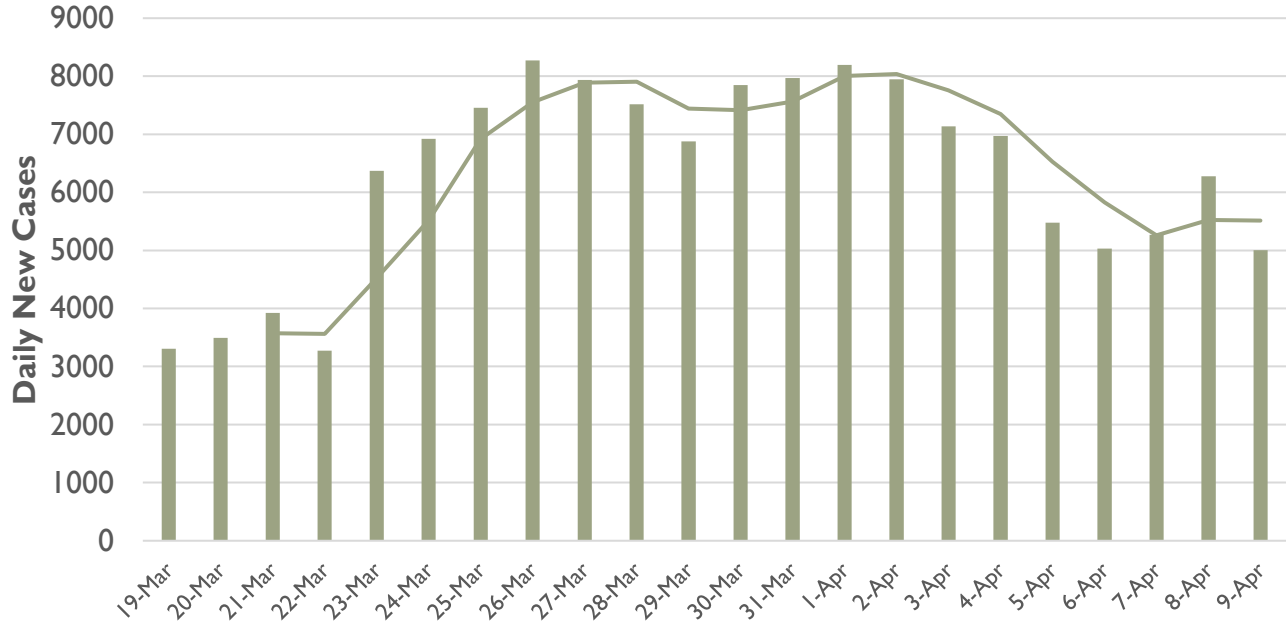
Active Cases

(Number of Infected People)



3-Day Moving Average Trendline

Spain — 3 per. Mov. Avg. (Daily New Cases)

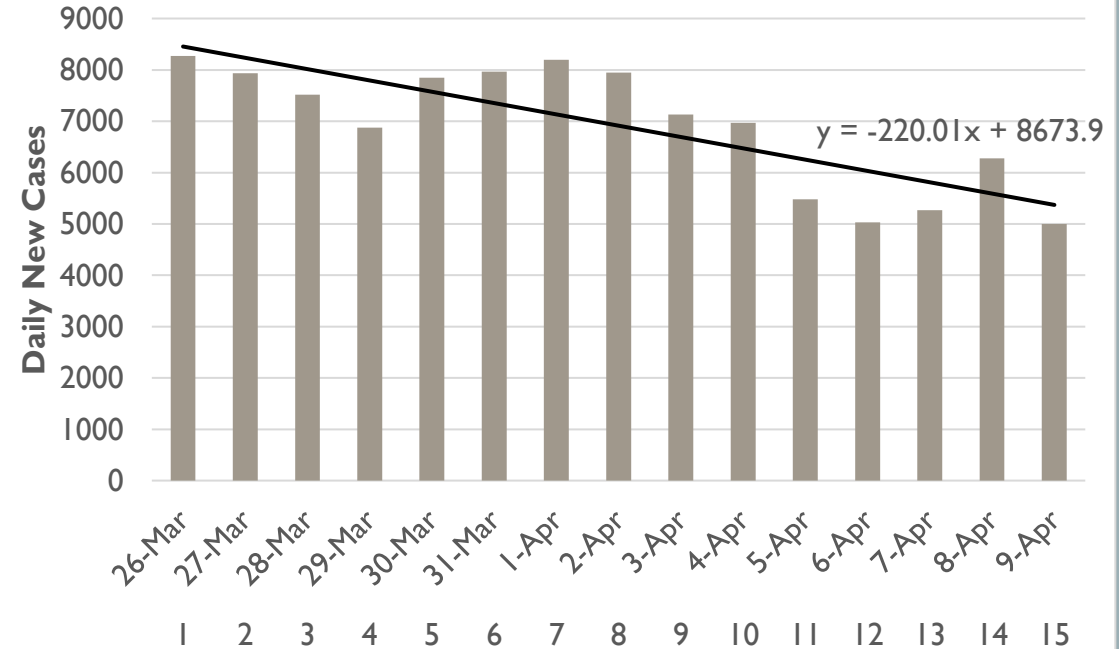


Trendlines for Spain

Spain Bar Chart of Daily New Cases from Peak till Today

Linear Trendline

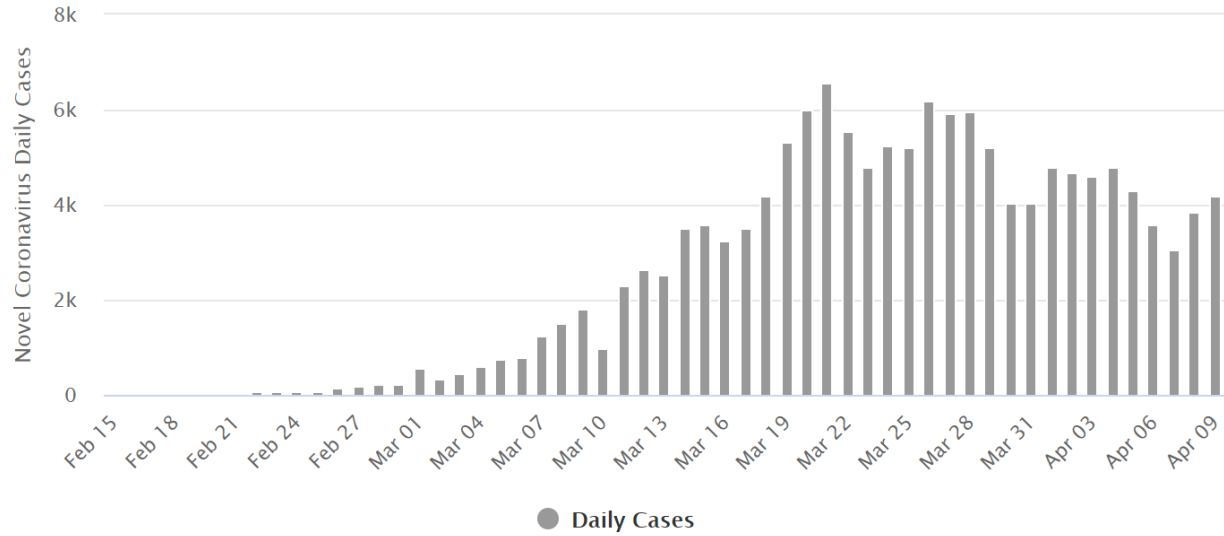
when $y = 0$; $x = 39$
(May 04)



Daily New Cases in Italy

Daily New Cases

Cases per Day
Data as of 0:00 GMT+0

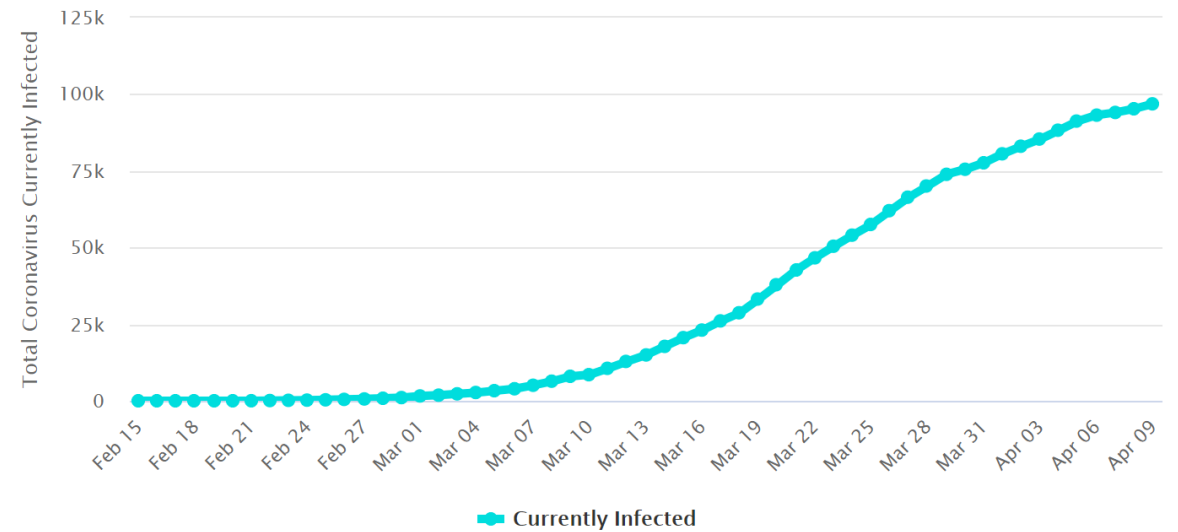


3. Italy

Active Cases in Italy

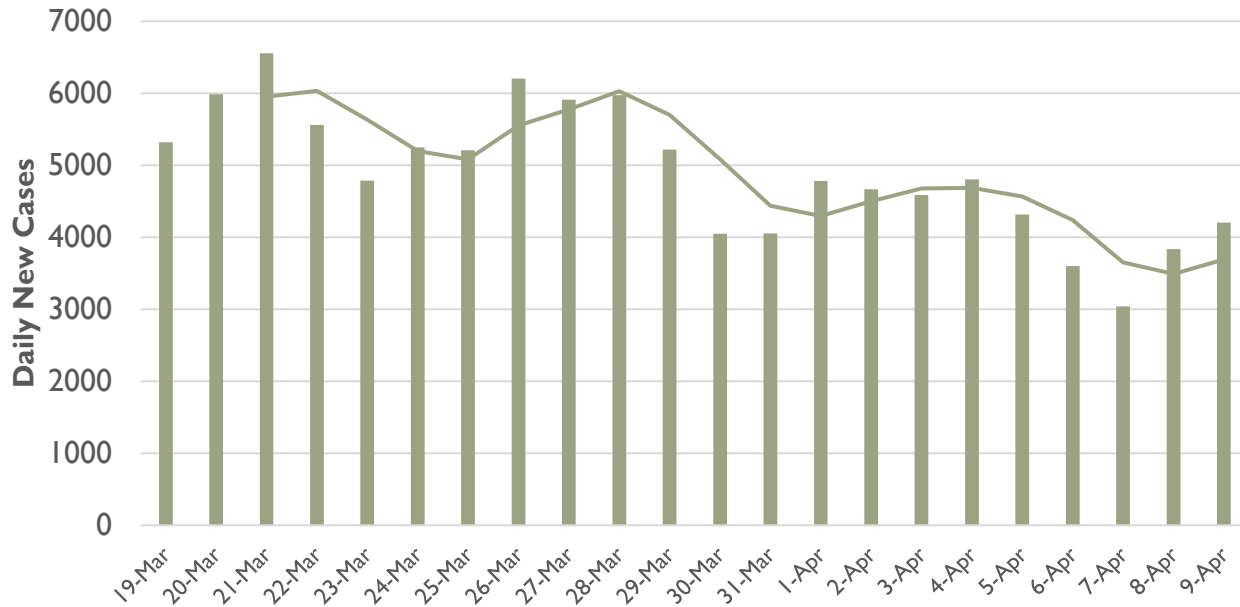
Active Cases

(Number of Infected People)



3-Day Moving Average Trendline

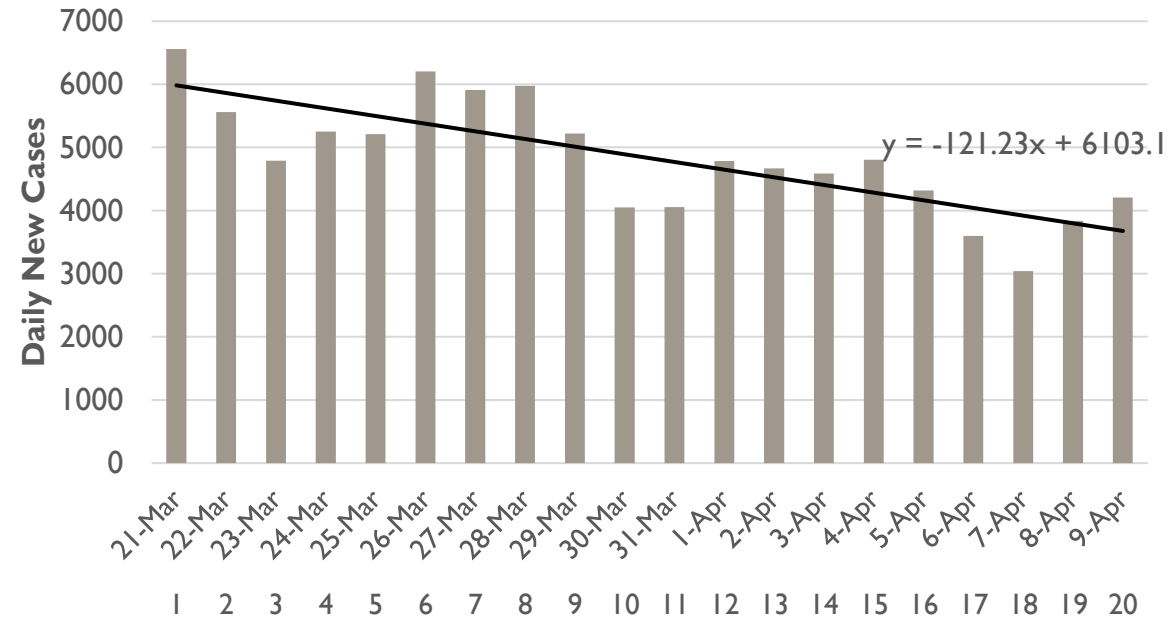
Italy 3 per. Mov. Avg. (Daily New Cases)



Trendlines for Italy

Italy Bar Chart of Daily New Cases from Peak till Today

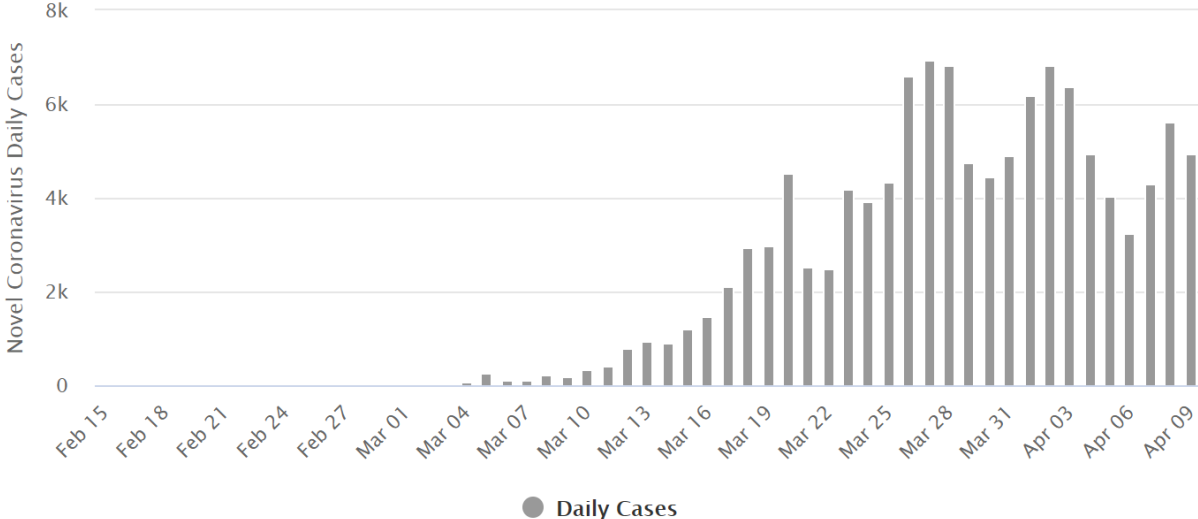
Linear Trendline
when $y = 0; x = 50$
(May 10)



Daily New Cases in Germany

Daily New Cases

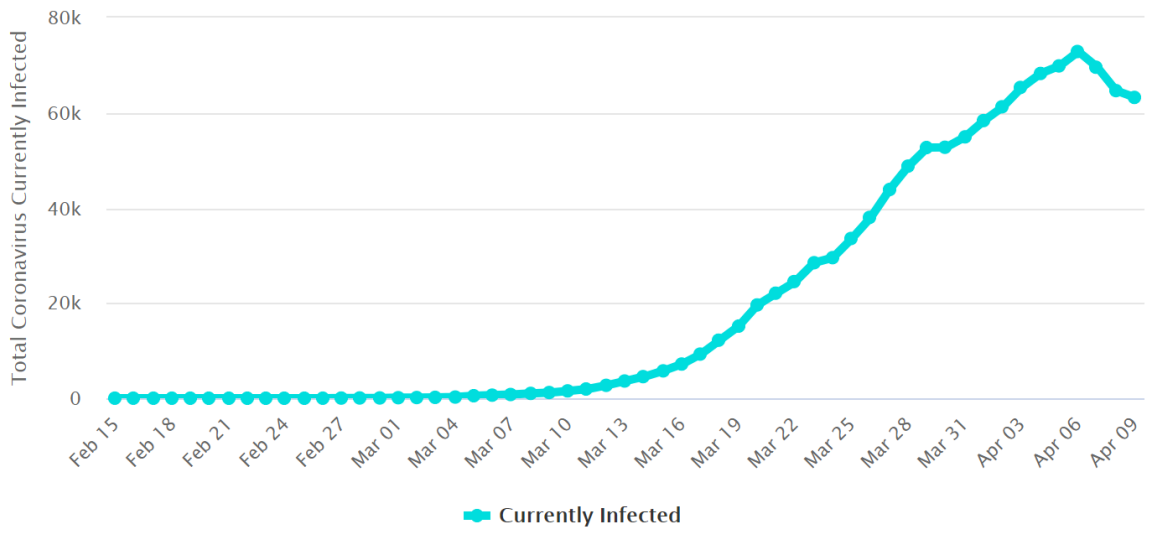
Cases per Day
Data as of 0:00 GMT+0



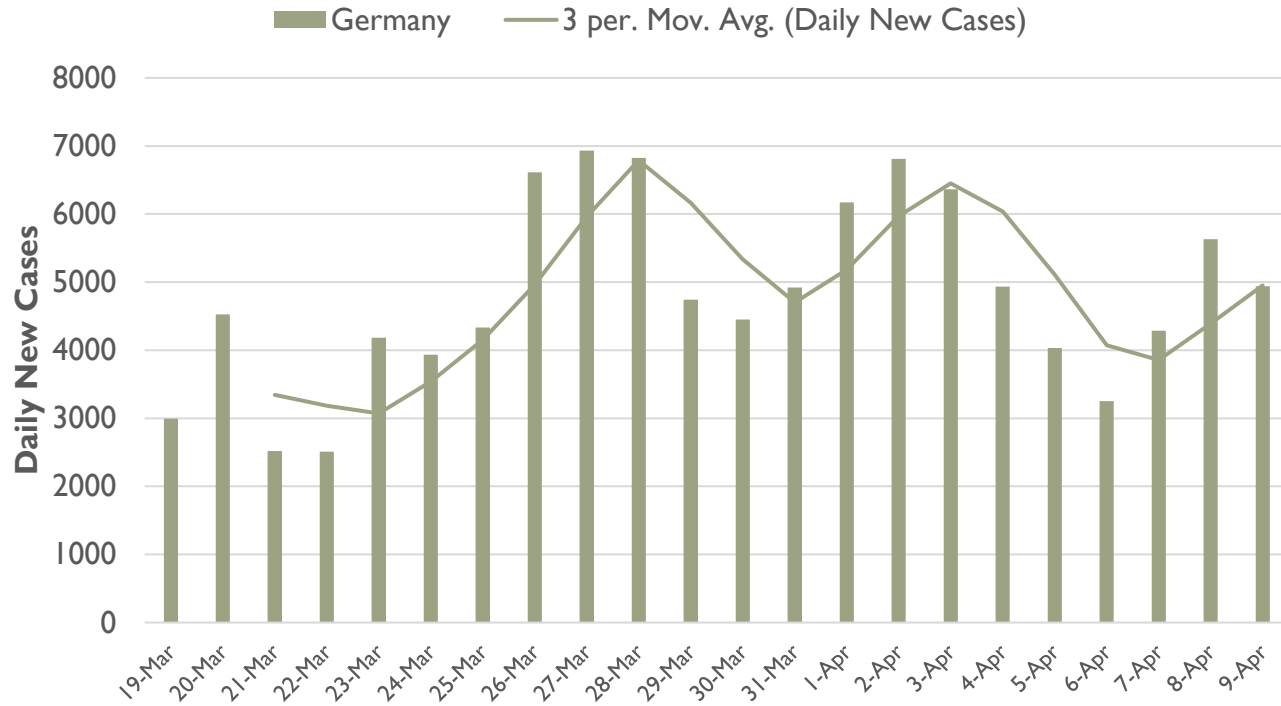
4. Germany

Active Cases in Germany

Active Cases
(Number of Infected People)

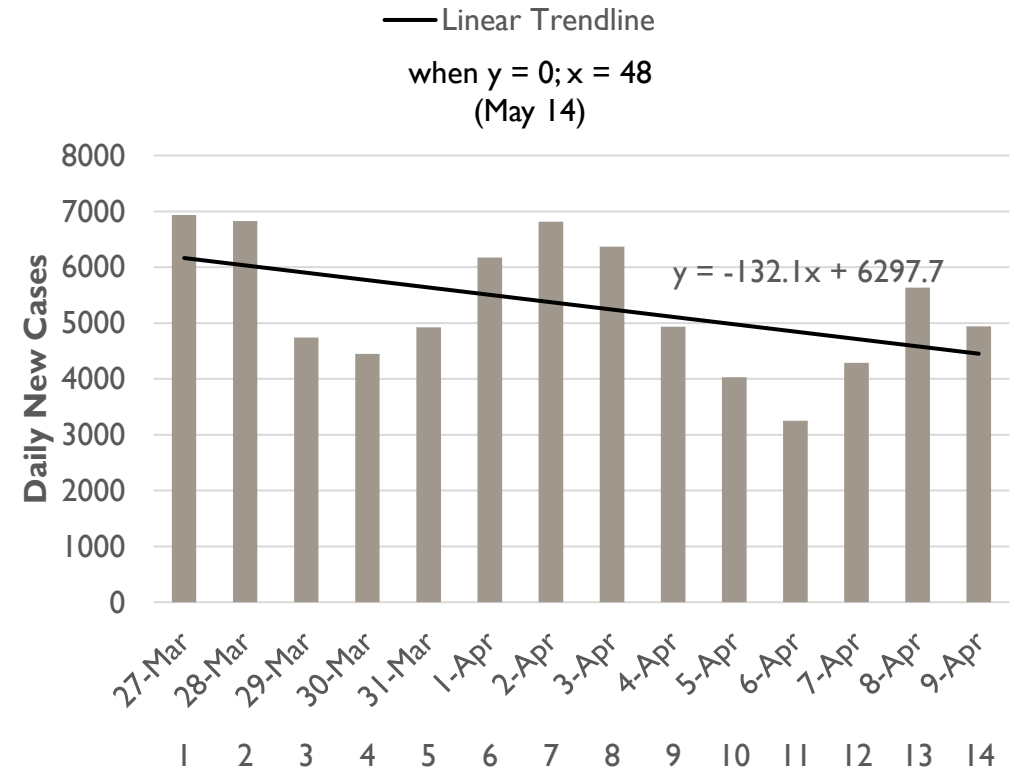


3-Day Moving Average Trendline

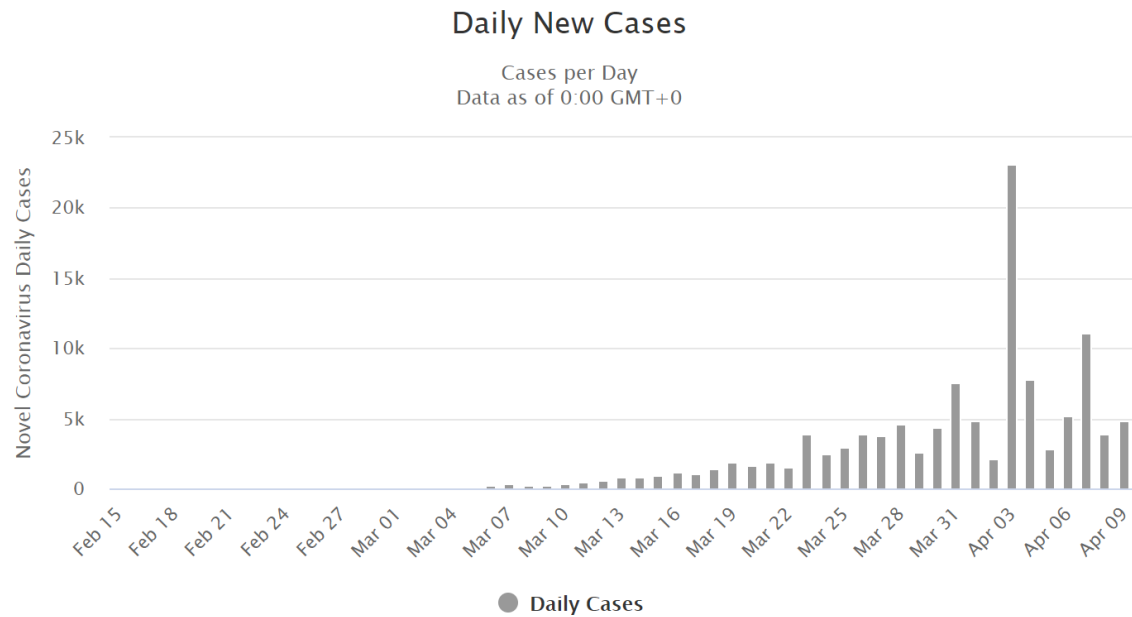


Trendlines for Germany

Germany Bar Chart of Daily New Cases from Peak till Today

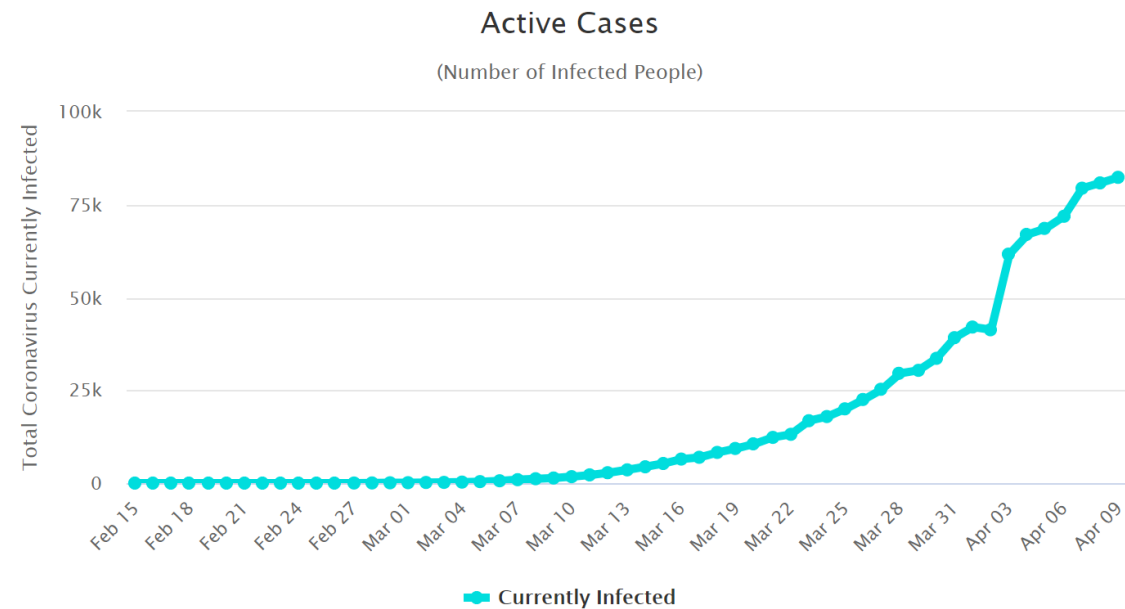


Daily New Cases in France

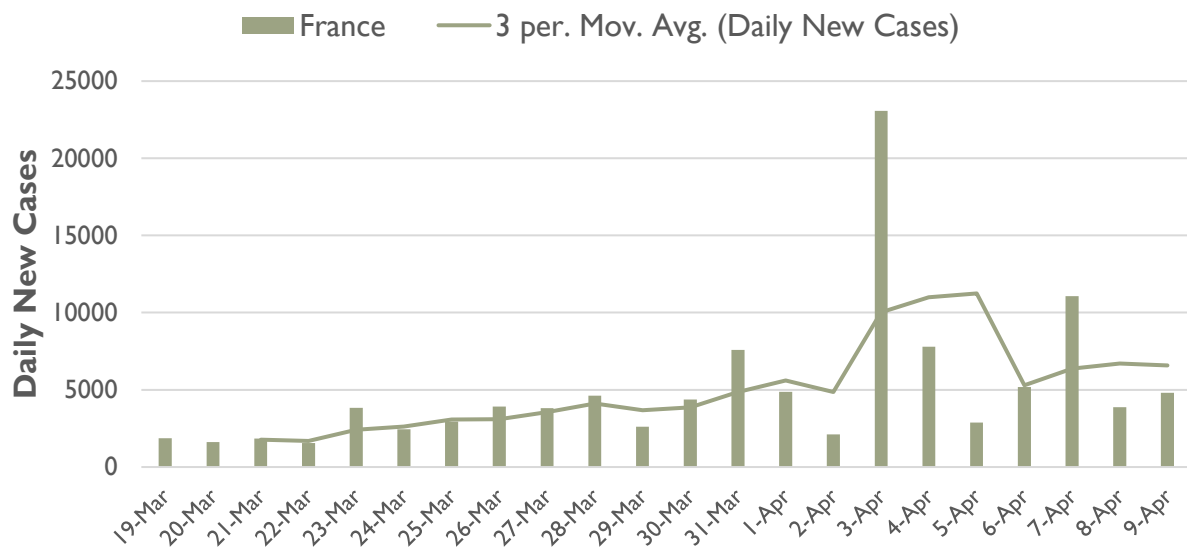


5. France

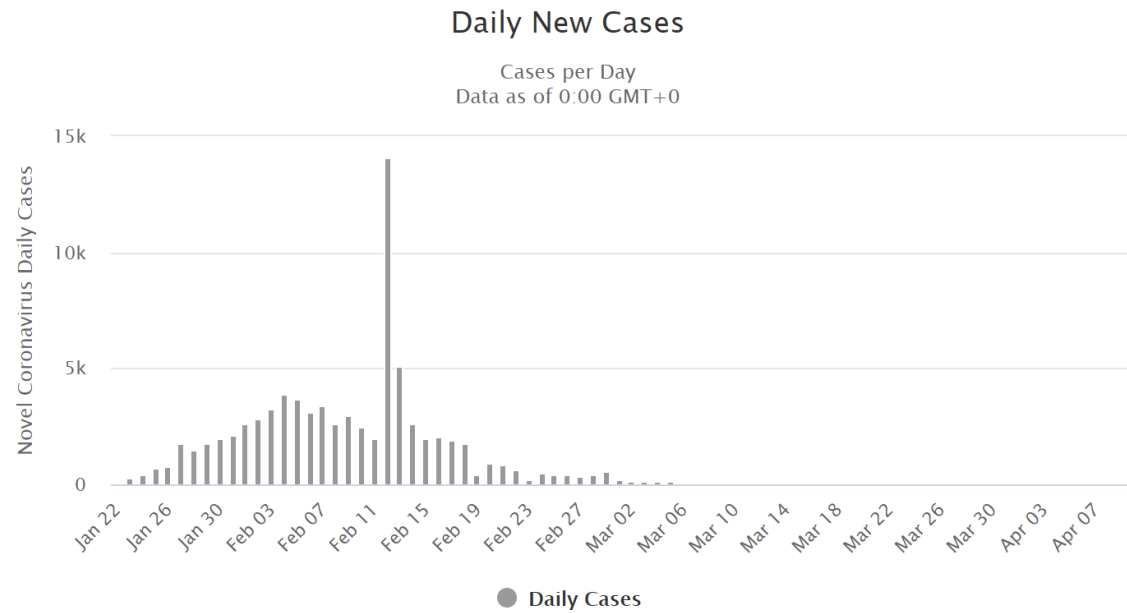
Active Cases in France



3-Day Moving Average Trendline

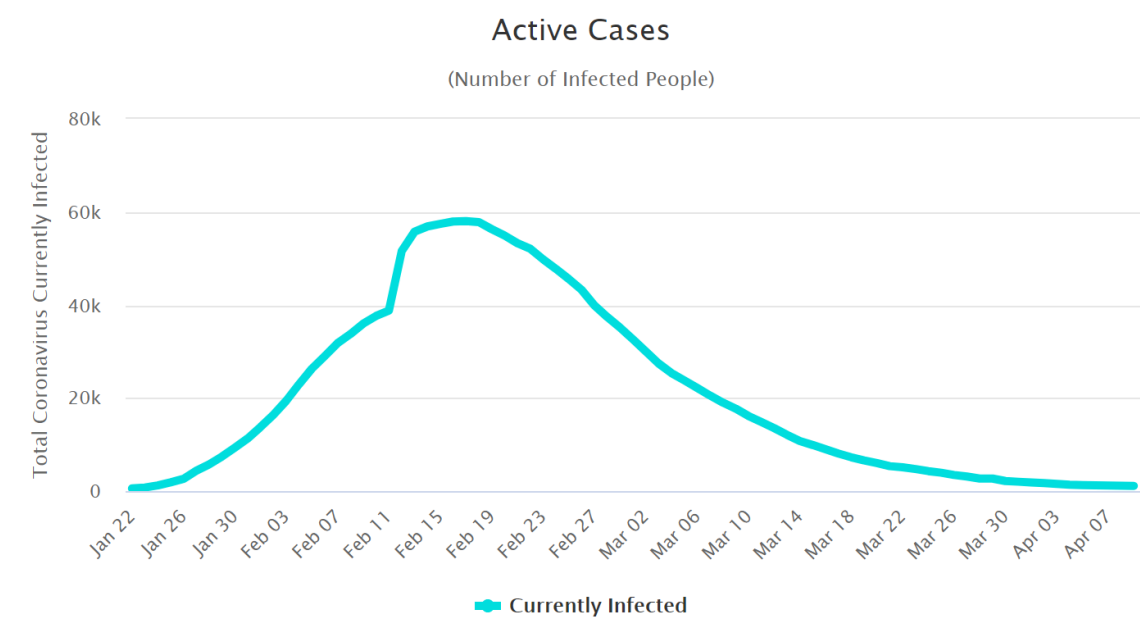


Daily New Cases in China

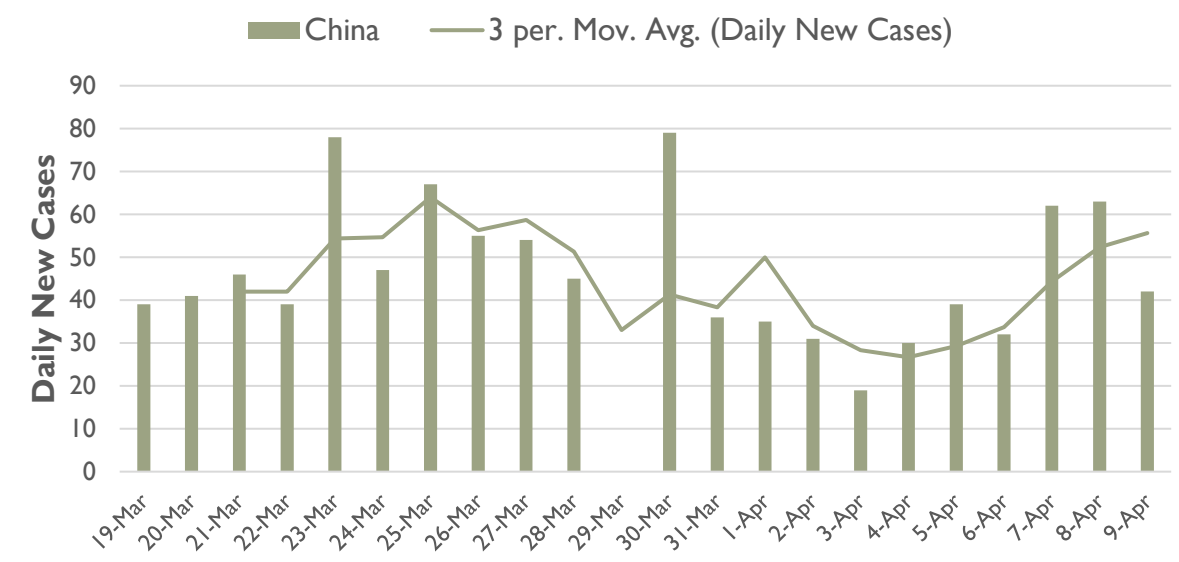


6. China

Active Cases in China



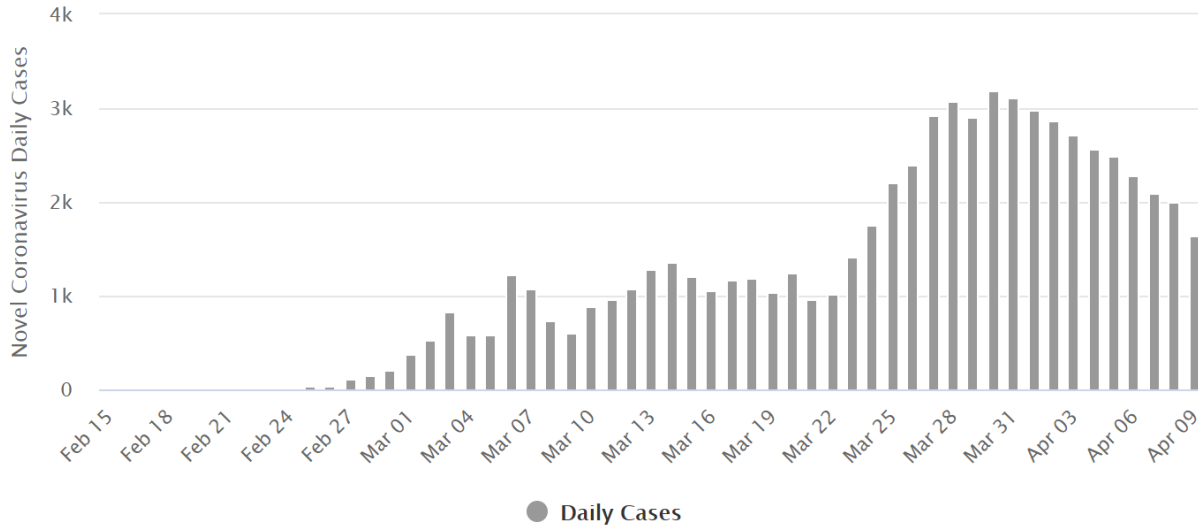
3-Day Moving Average Trendline



Daily New Cases in Iran

Daily New Cases

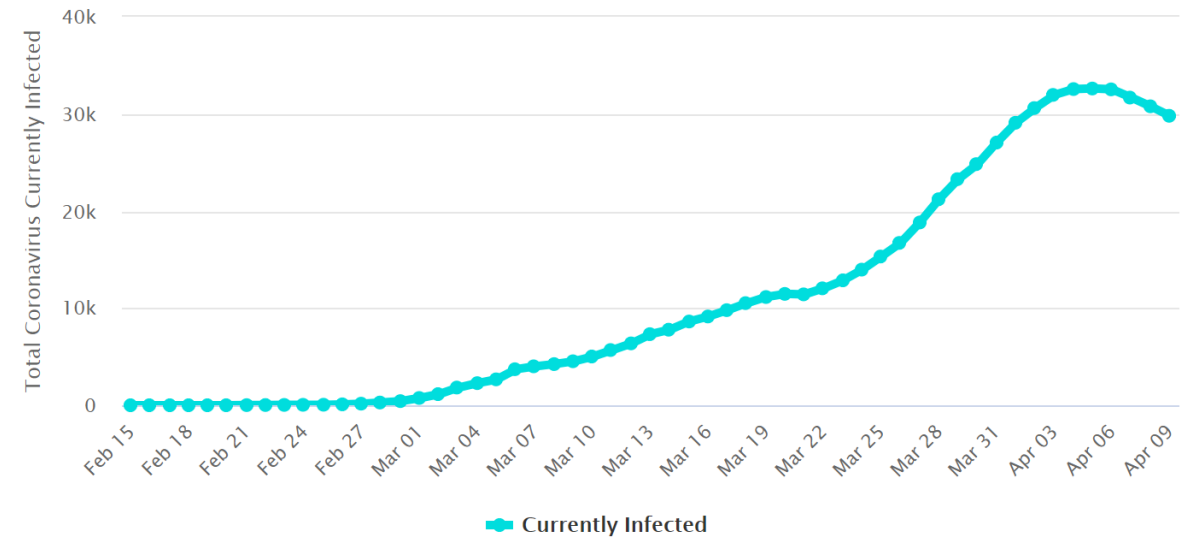
Cases per Day
Data as of 0:00 GMT+0



7. Iran

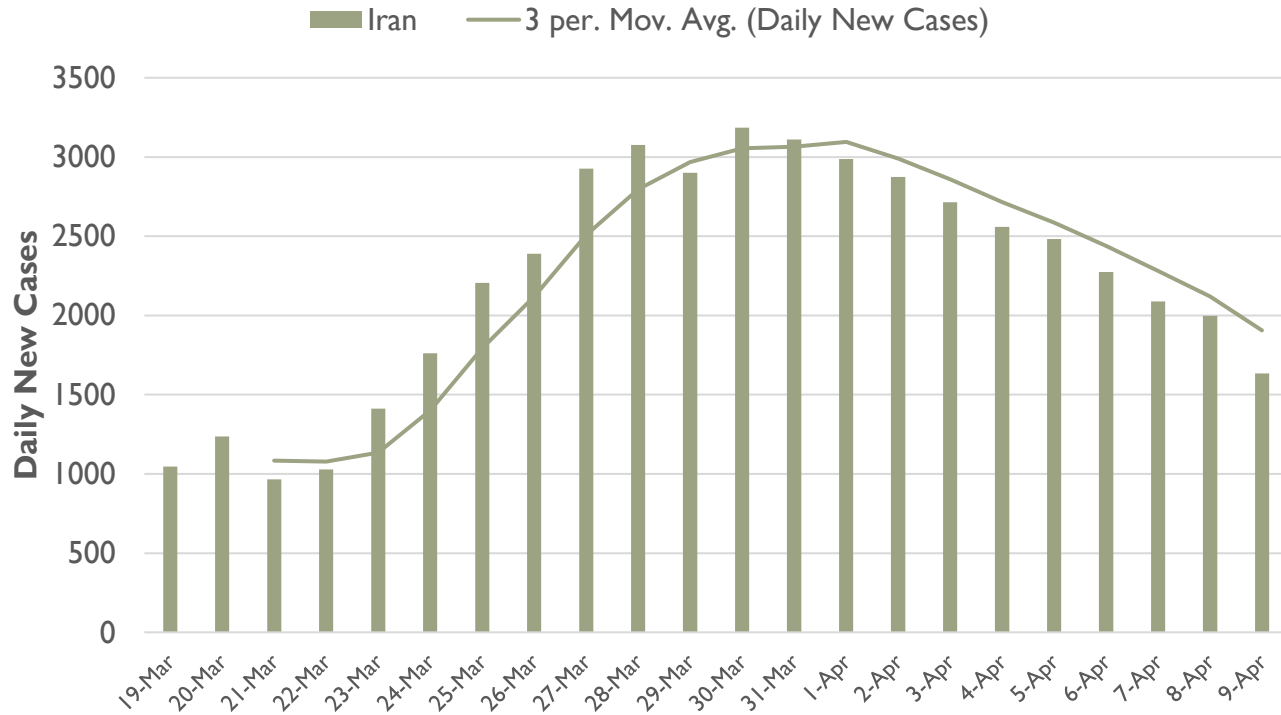
Active Cases in Iran

Active Cases
(Number of Infected People)

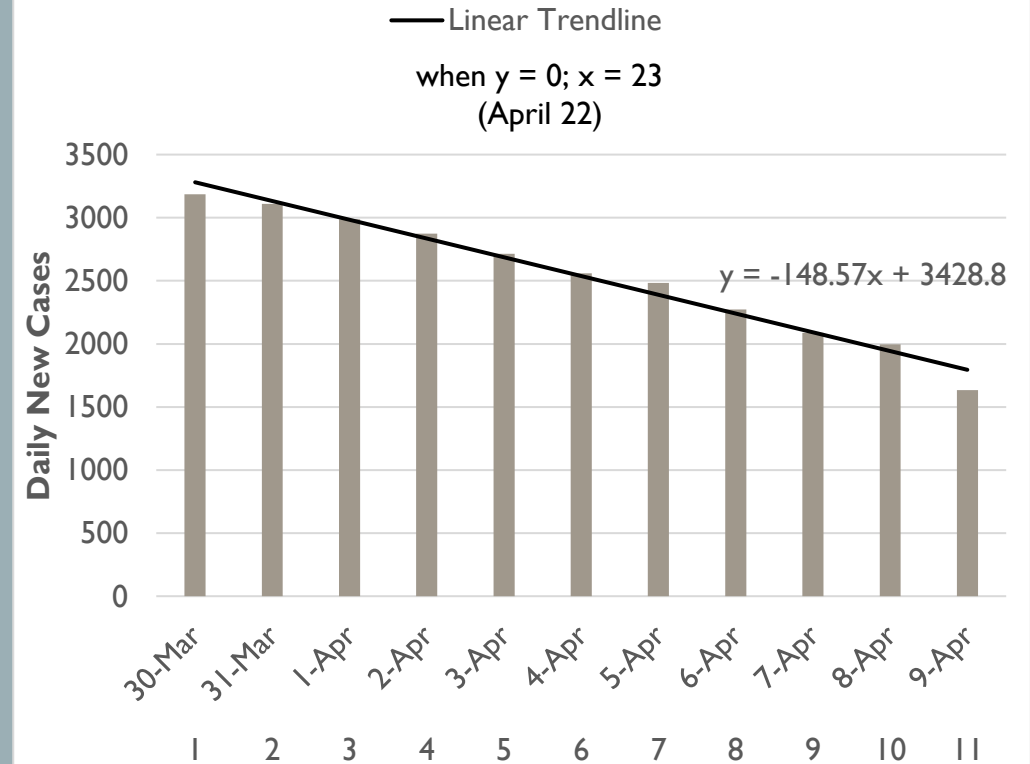


Trendlines for Iran

3-Day Moving Average Trendline



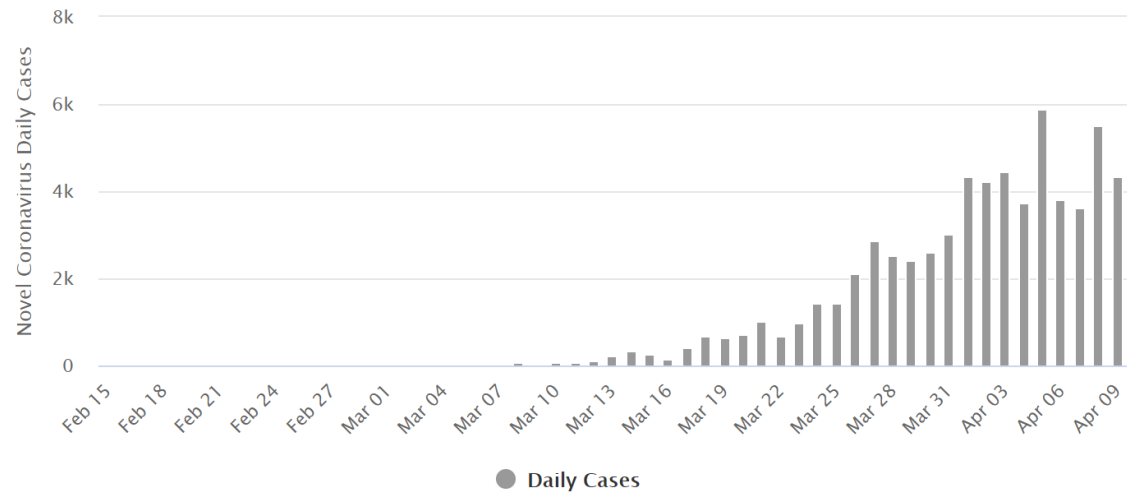
Iran Bar Chart of Daily New Cases from Peak Till Today



Daily New Cases in the United Kingdom

Daily New Cases

Cases per Day
Data as of 0:00 GMT+0

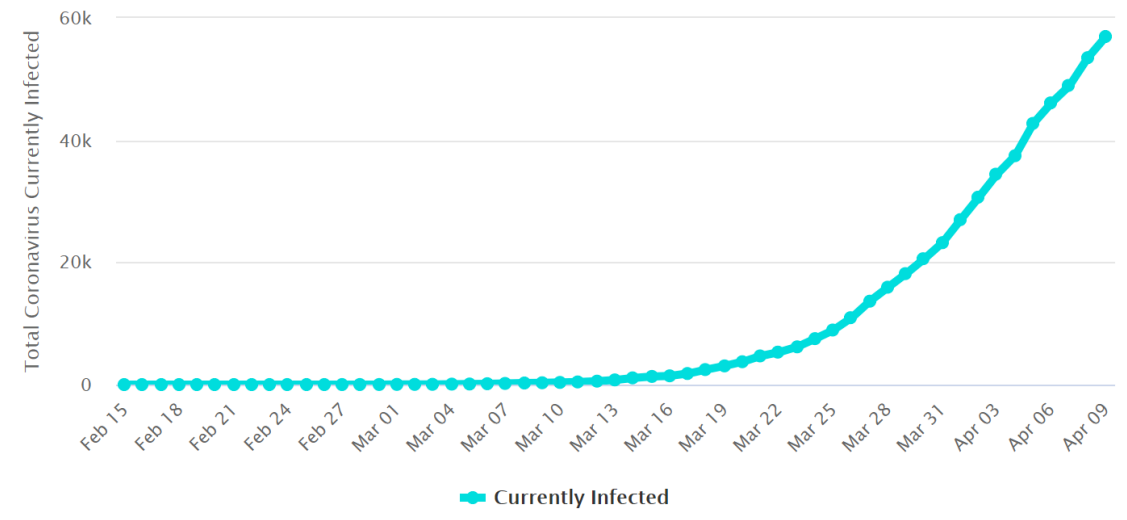


8. UK

Active Cases in the United Kingdom

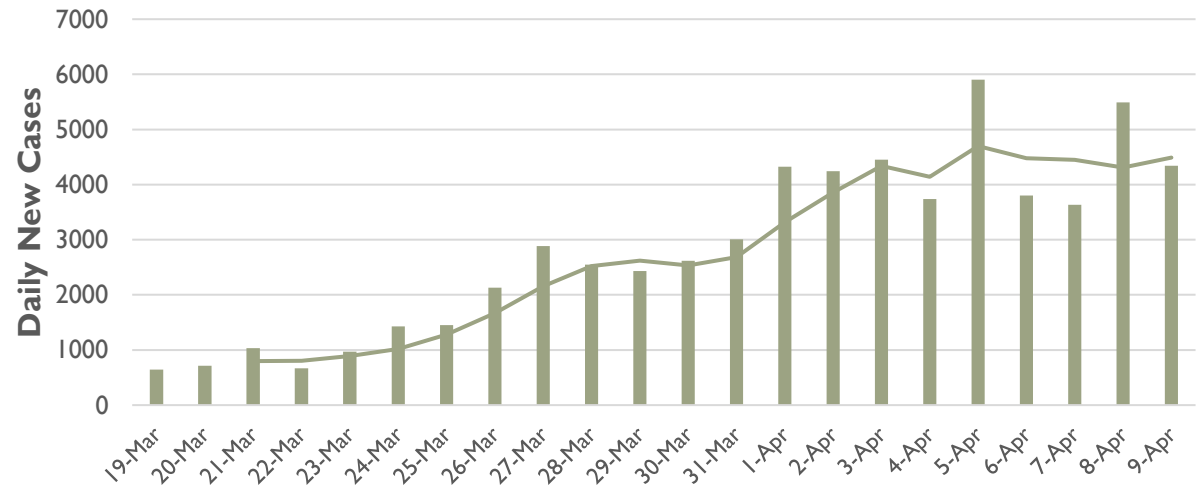
Active Cases

(Number of Infected People)



3-Day Moving Average Trendline

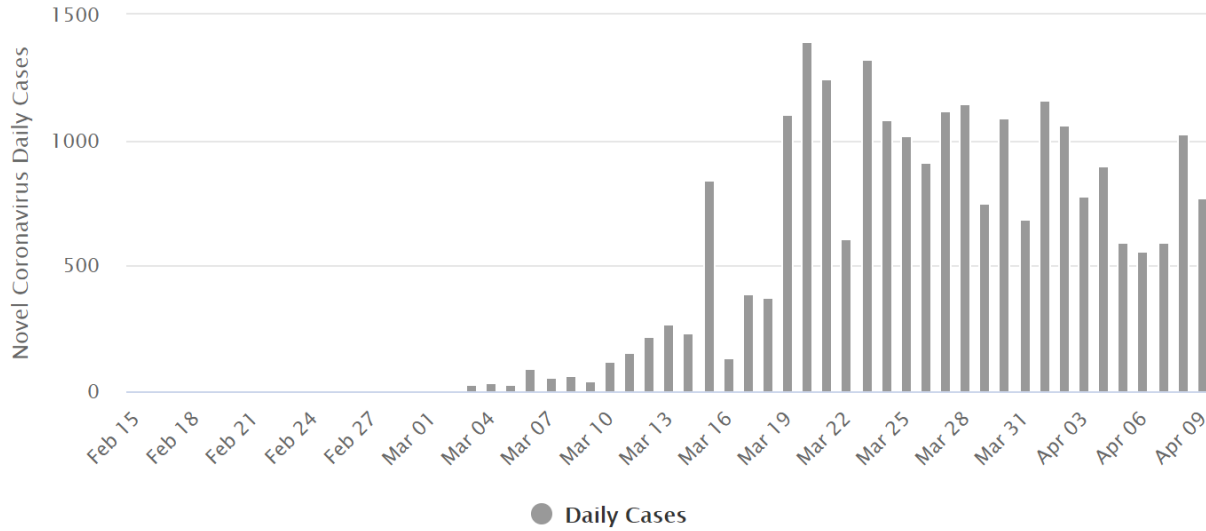
UK 3 per. Mov. Avg. (Daily New Cases)



Daily New Cases in Switzerland

Daily New Cases

Cases per Day
Data as of 0:00 GMT+0

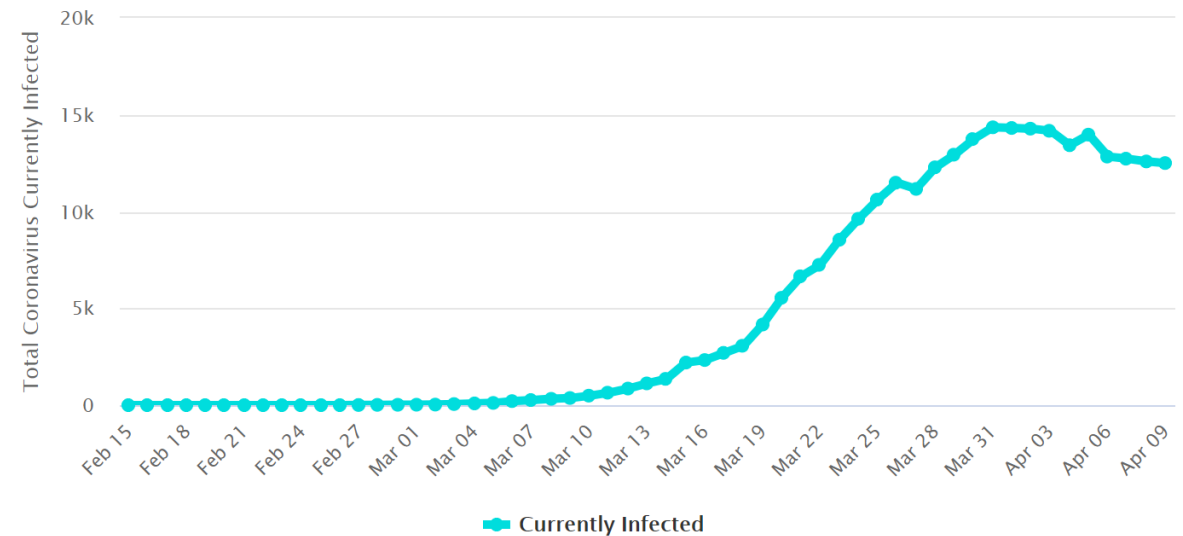


9. Switzerland

Active Cases in Switzerland

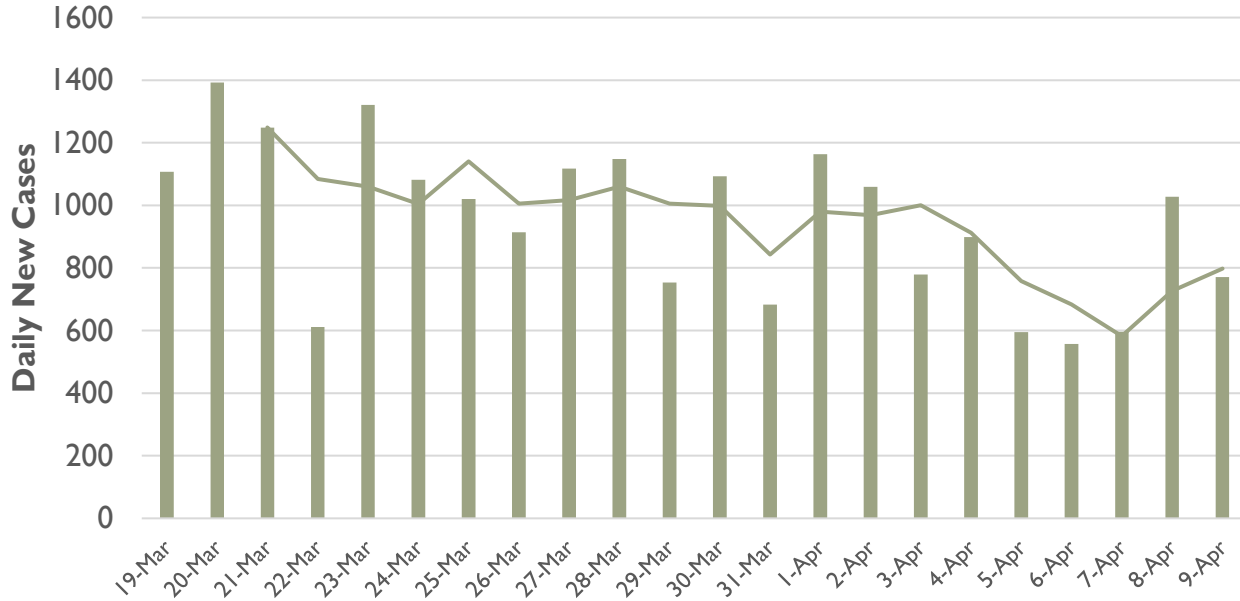
Active Cases

(Number of Infected People)



3-Day Moving Average Trendline

Switzerland 3 per. Mov. Avg (Daily New Cases)

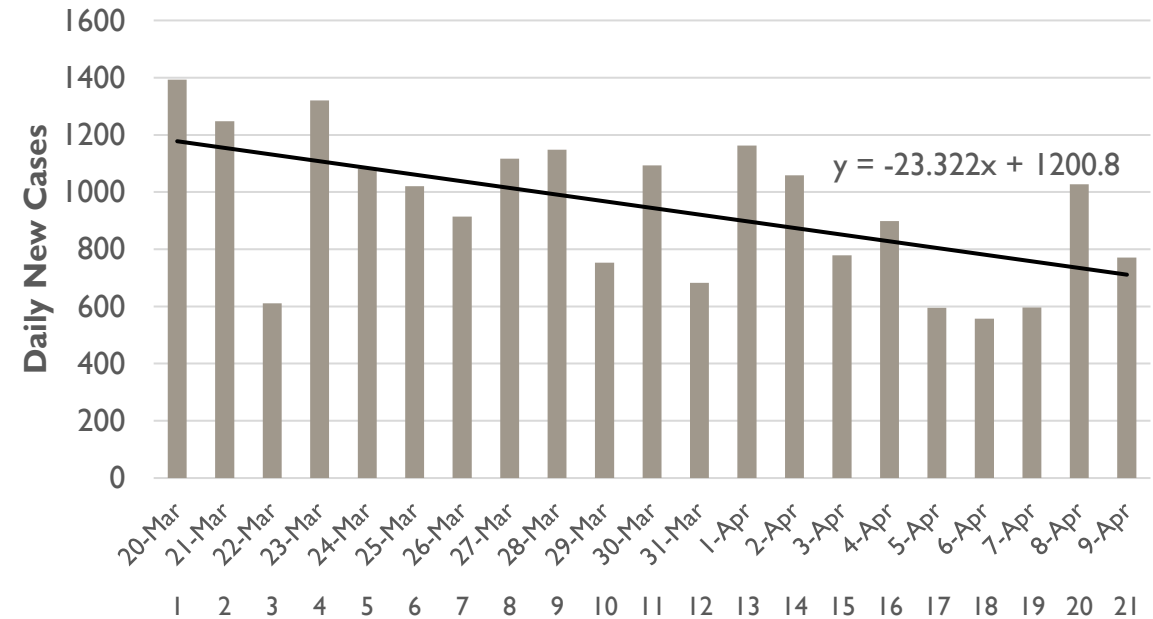


Trendlines for Switzerland

Switzerland Bar Chart of Daily New Cases from Peak till Today

Linear Trendline

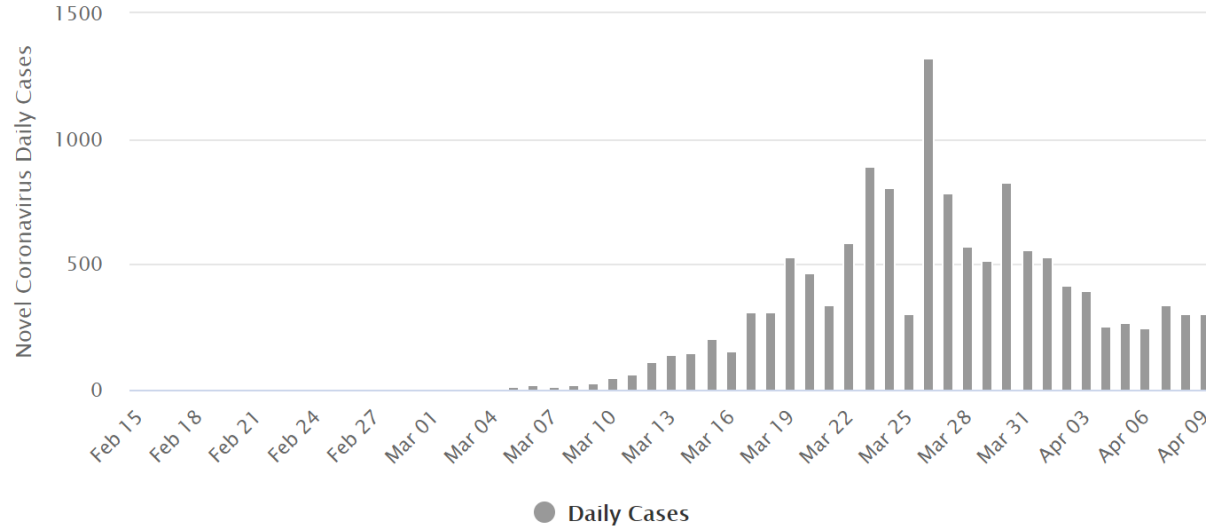
when $y = 0; x = 51$
(May 10)



Daily New Cases in Austria

Daily New Cases

Cases per Day
Data as of 0:00 GMT+0

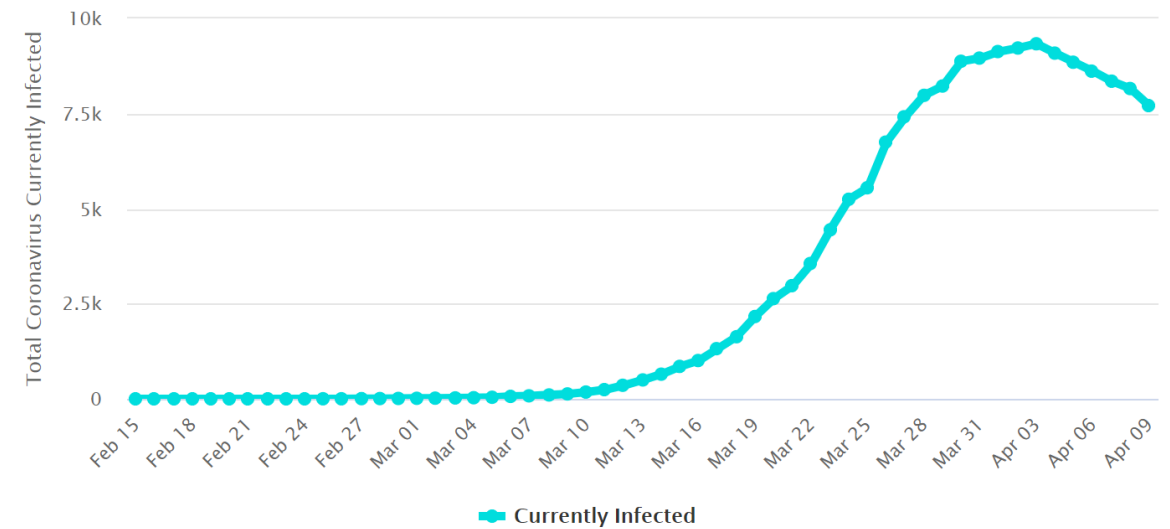


Austria

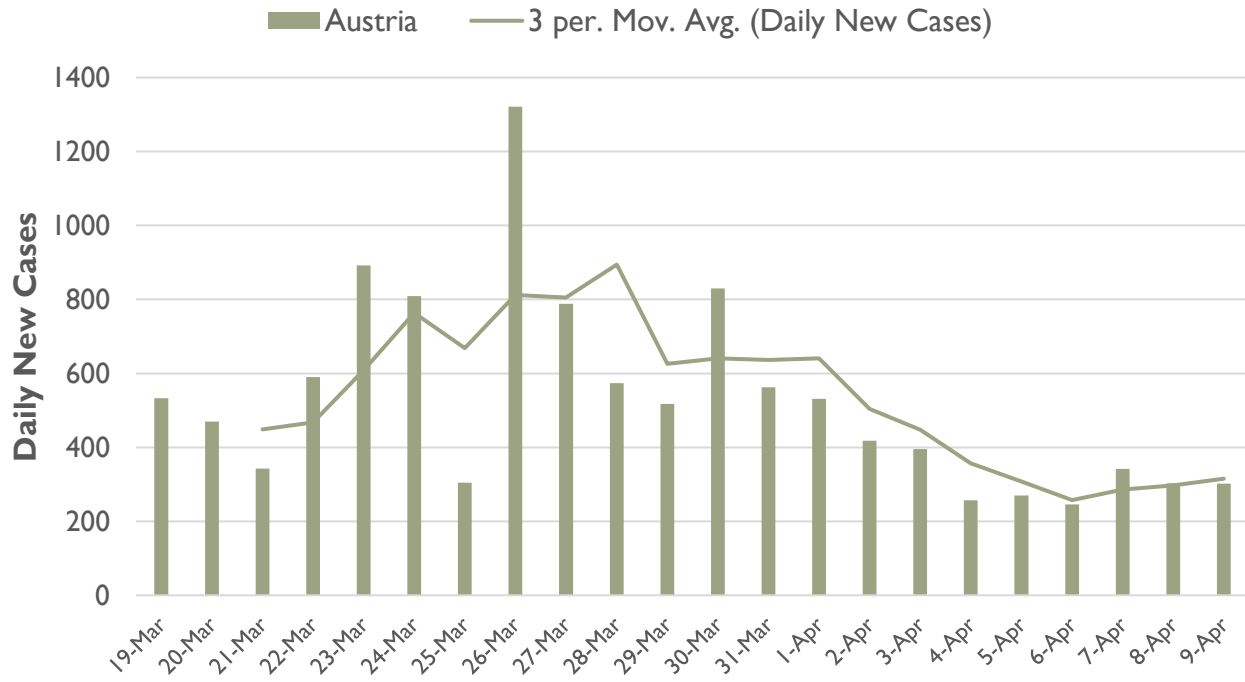
Active Cases in Austria

Active Cases

(Number of Infected People)

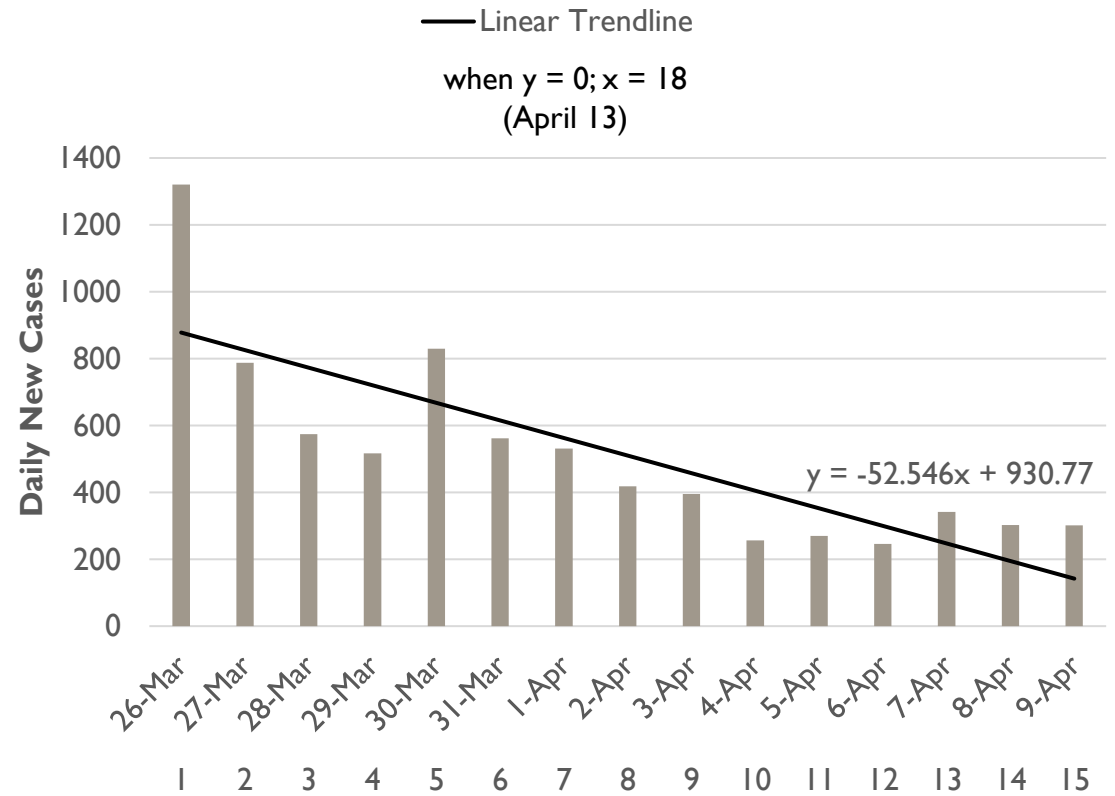


3-Day Moving Average Trendline



Trendlines for Austria

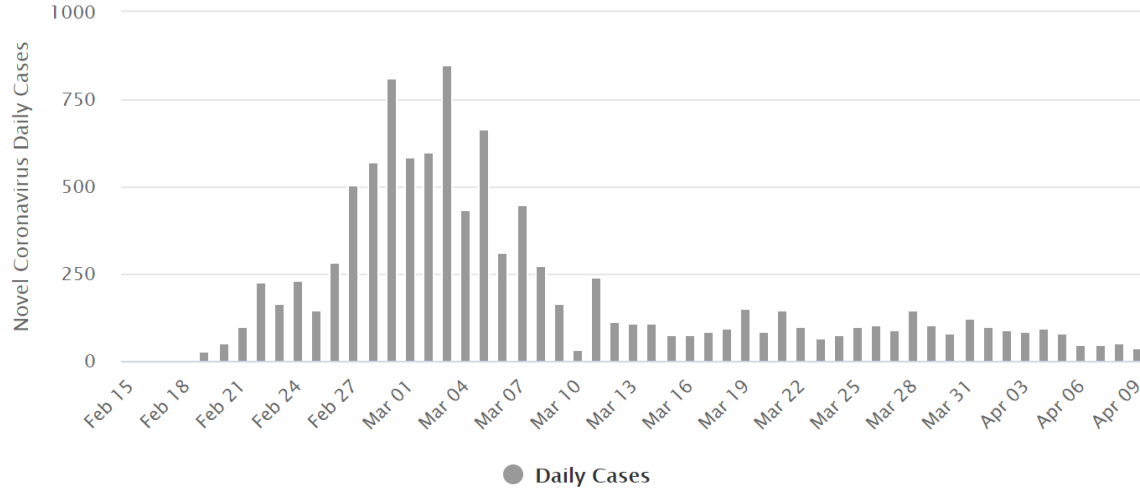
Austria Bar Chart of Daily New Cases from Peak till Today



Daily New Cases in South Korea

Daily New Cases

Cases per Day
Data as of 0:00 GMT+0

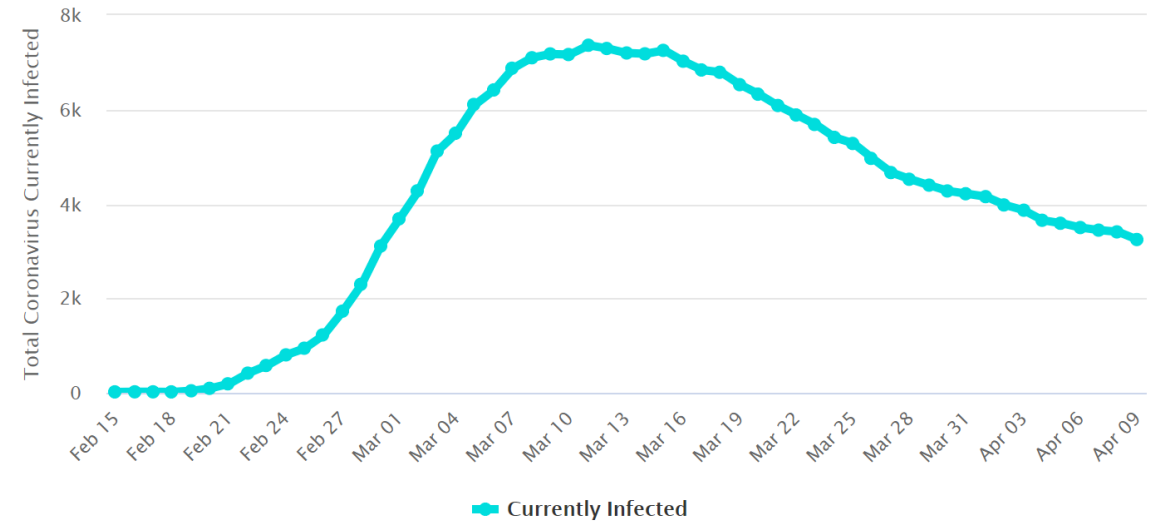


South Korea

Active Cases in South Korea

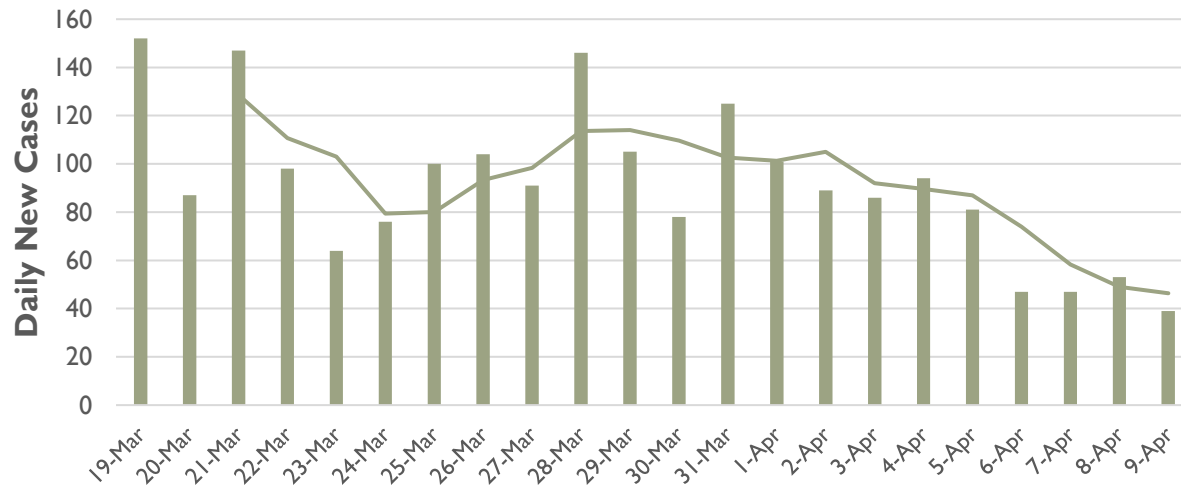
Active Cases

(Number of Infected People)



3-Day Moving Average Trendline

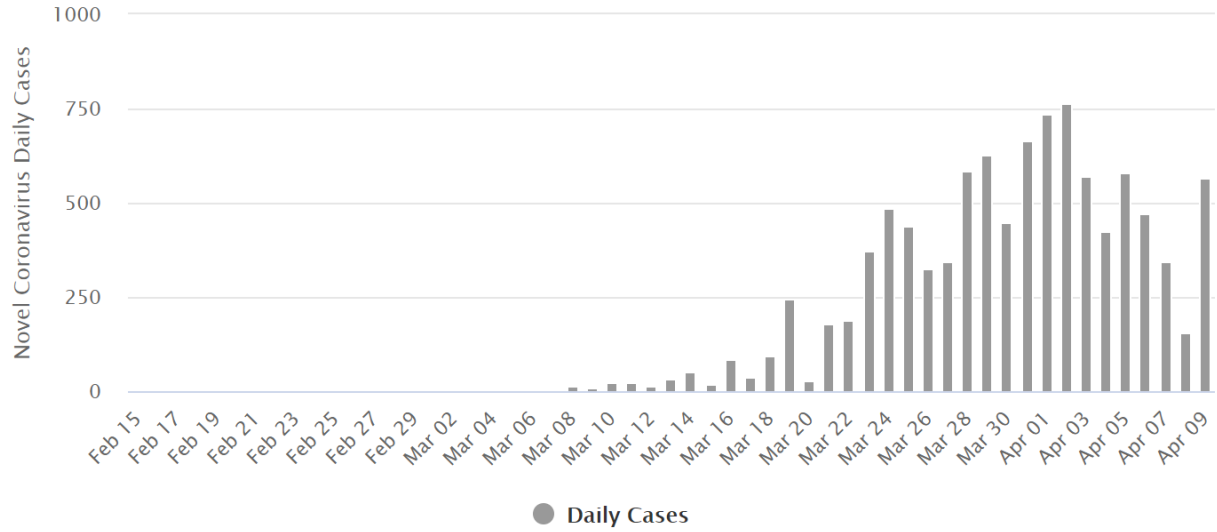
S Korea 3 per. Mov. Avg. (Daily New Cases)



Daily New Cases in Israel

Daily New Cases

Cases per Day
Data as of 0:00 GMT+0

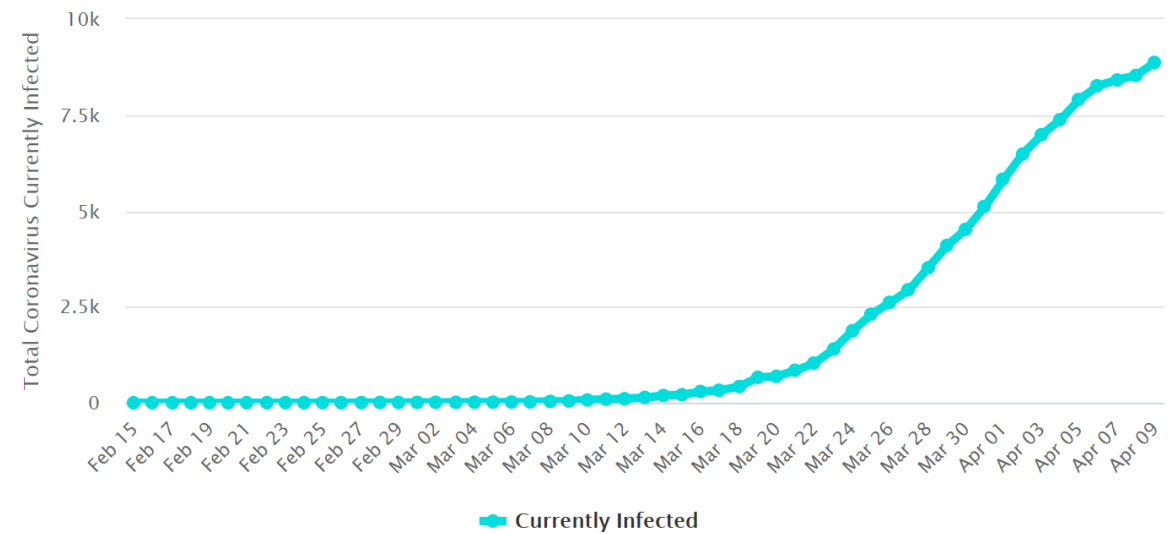


Israel

Active Cases in Israel

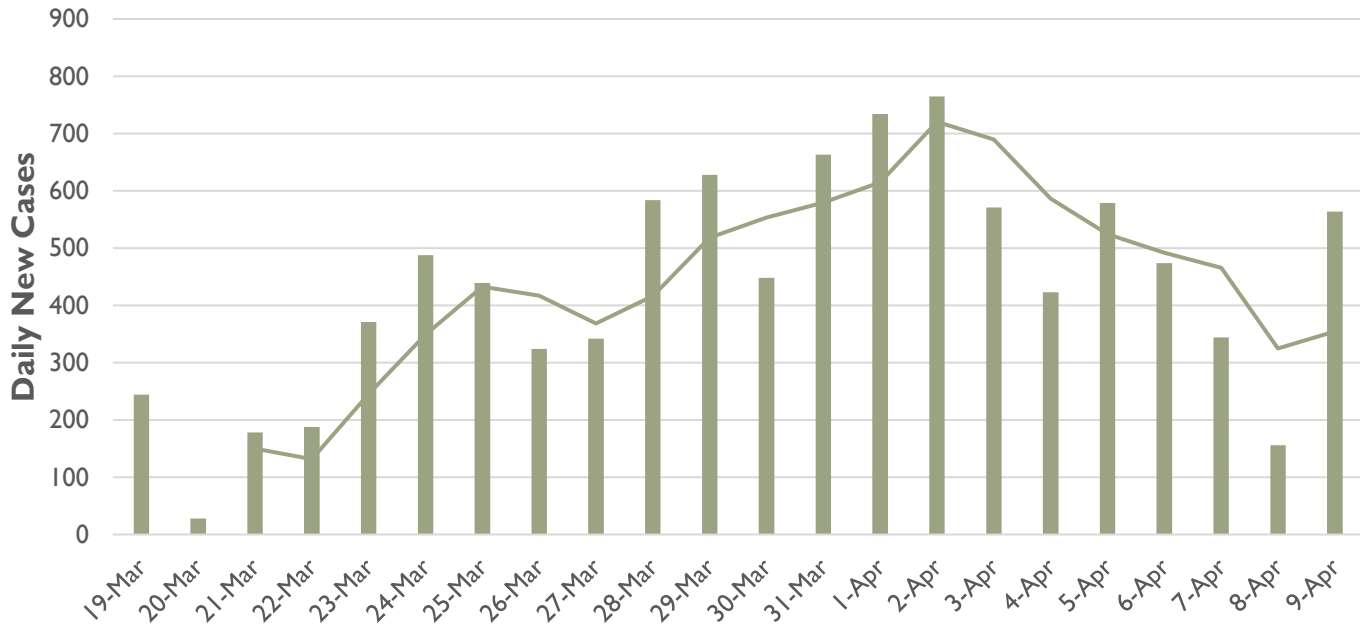
Active Cases

(Number of Infected People)



3-Day Moving Average Trendline

■ Israel — 3 per. Mov. Avg. (Daily New Cases)

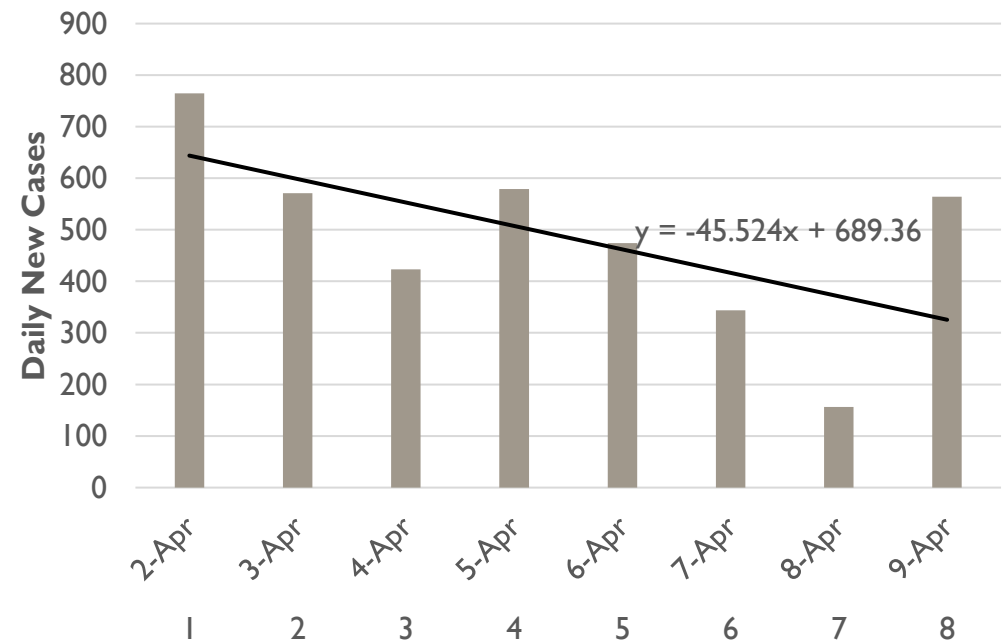


Trendlines for Israel

Israel Bar Chart of Daily New Cases from Peak till Today

— Linear Trendline

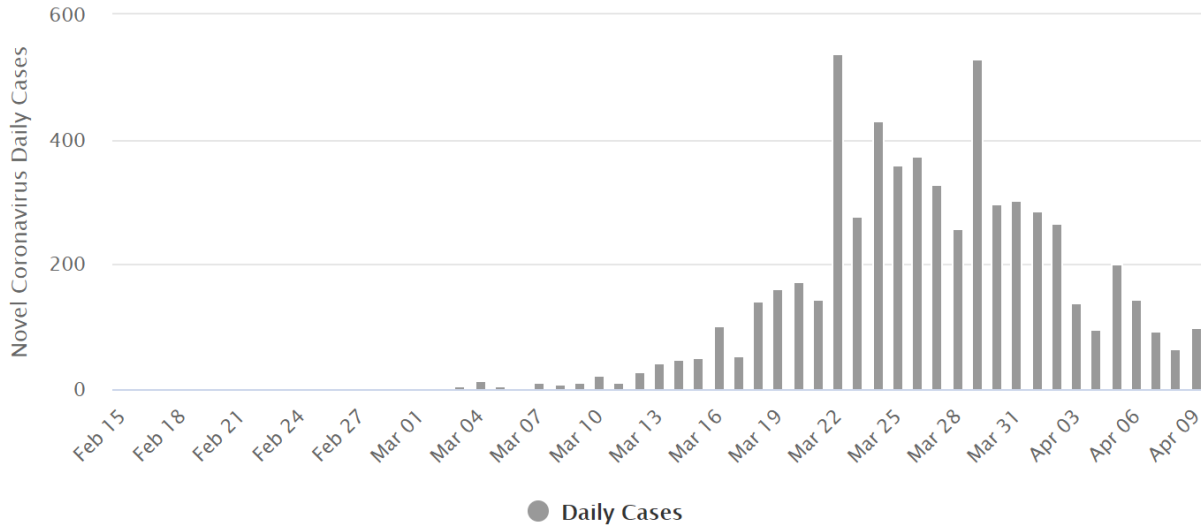
when $y = 0; x = 15$
(April 17)



Daily New Cases in Australia

Daily New Cases

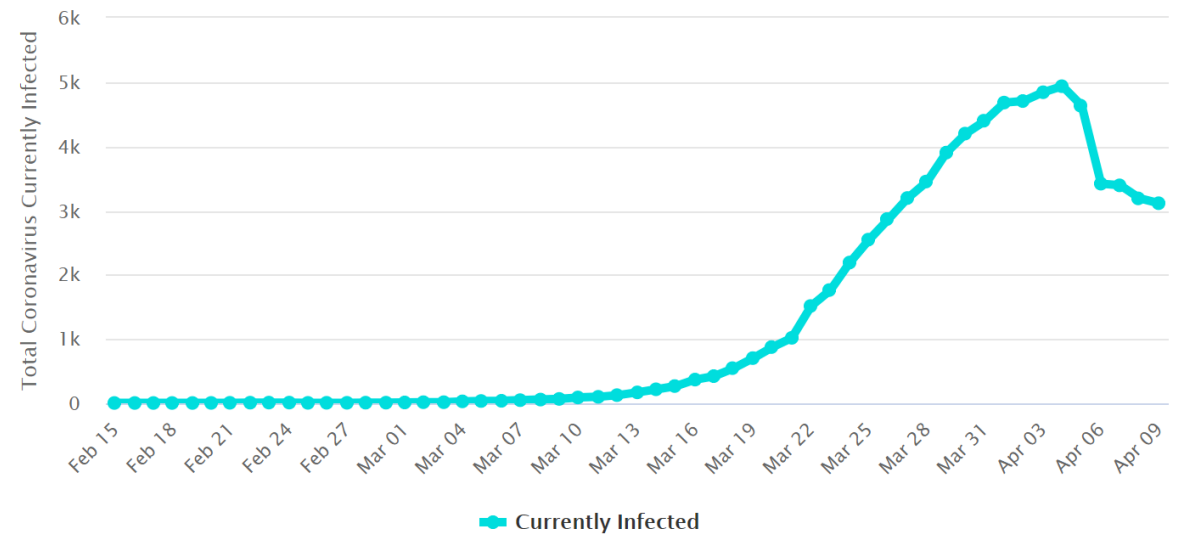
Cases per Day
Data as of 0:00 GMT+0



Australia

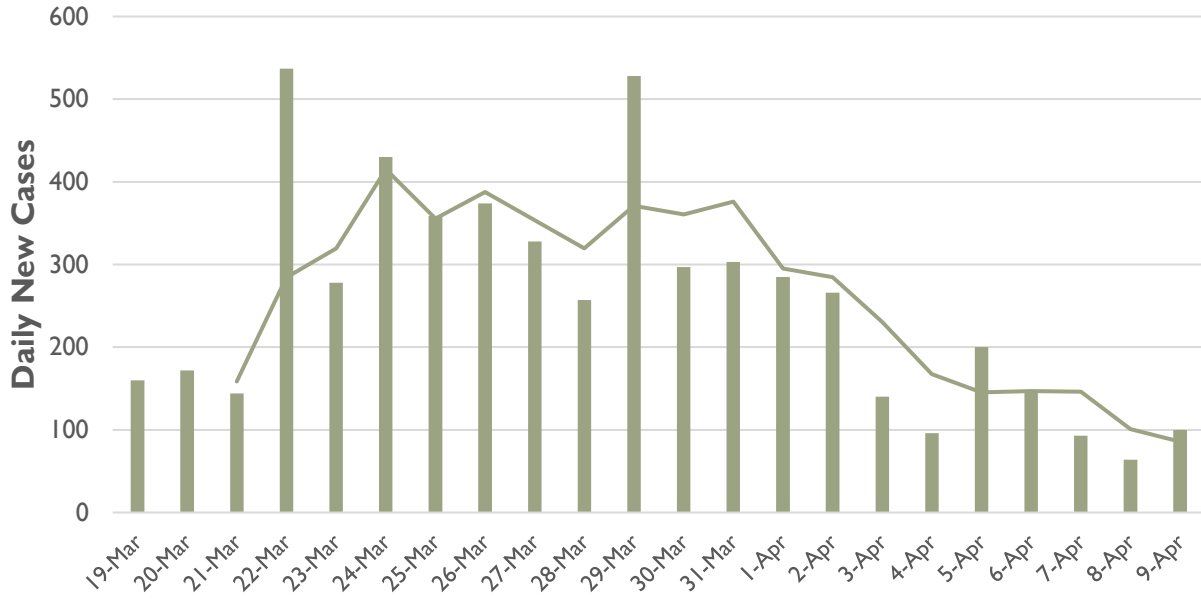
Active Cases in Australia

Active Cases
(Number of Infected People)



3-Day Moving Average Trendline

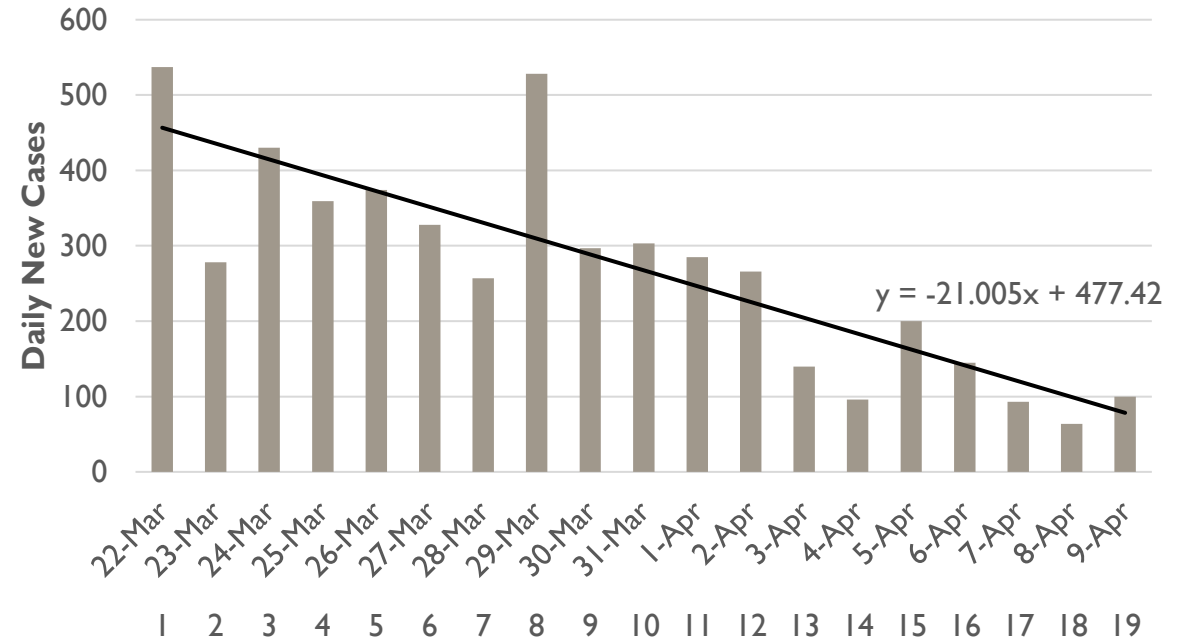
Australia 3 per. Mov. Avg. (Daily New Cases)



Trendlines for Australia

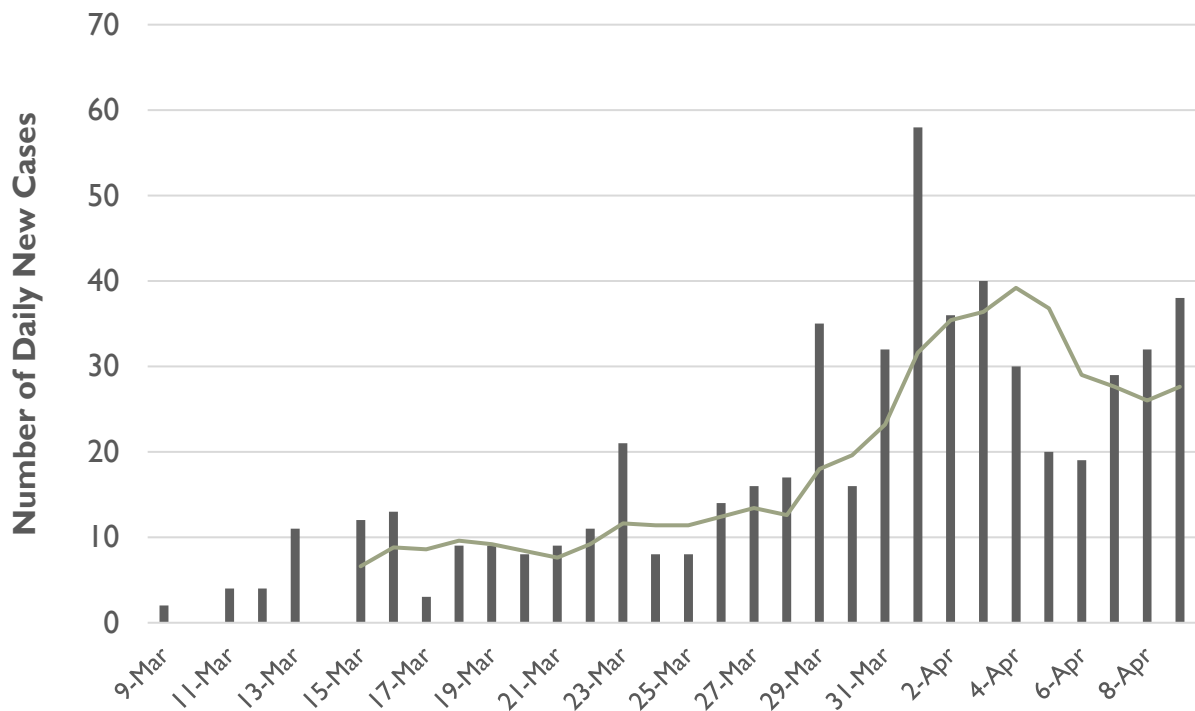
Australia Bar Chart of Daily New Cases from Peak till Today

Linear Trendline
when $y = 0$; $x = 23$
(April 14)



Daily New Cases in Cyprus

— 5 per. Mov. Avg. (Daily New Cases)



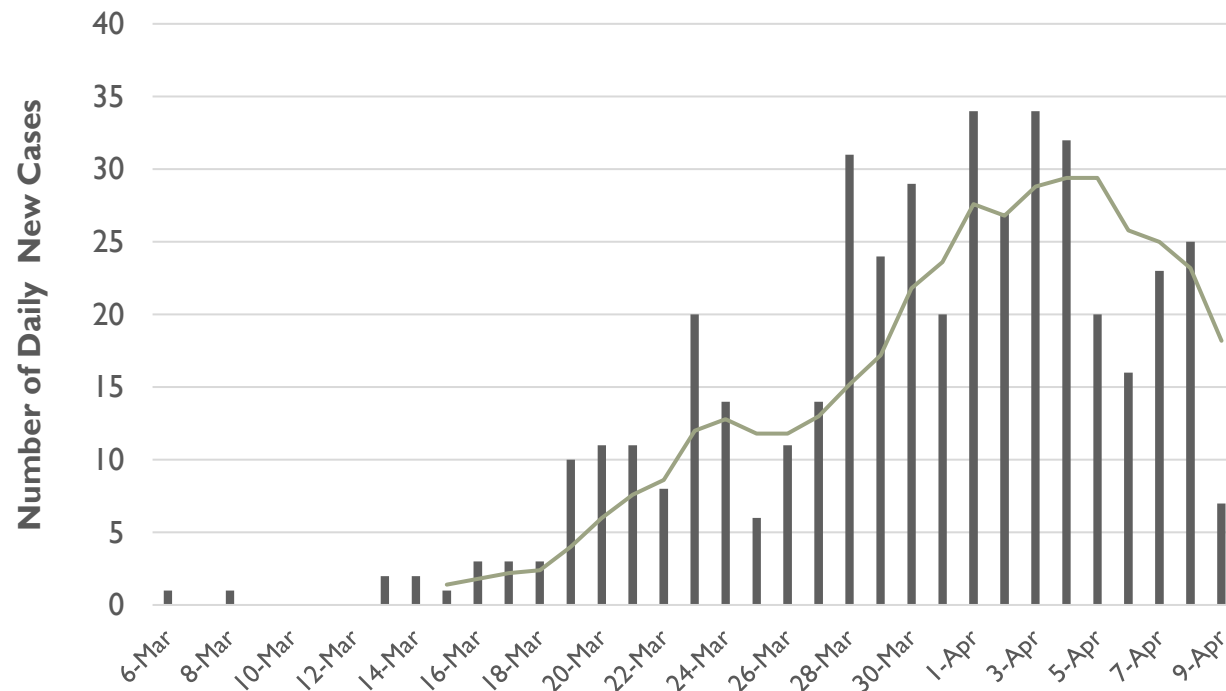
Cyprus

Correlation, r (Between Cyprus and Hawaii) = 0.650
 r is significant at $\alpha = 5\%$

Hawaii

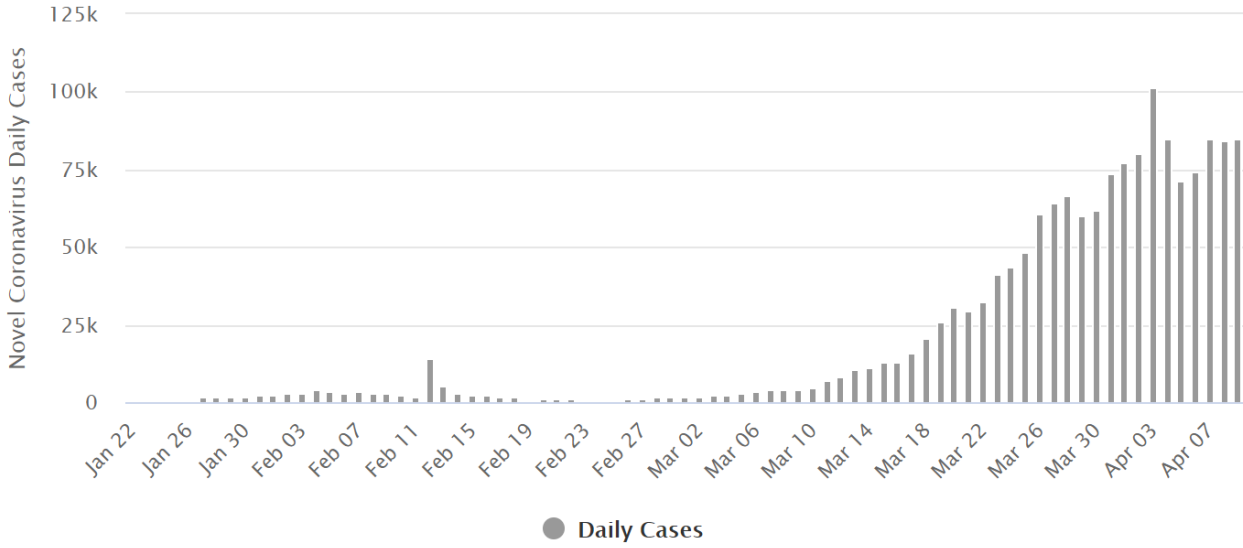
Daily New Cases in Hawaii

— 5 per. Mov. Avg. (Daily New Cases)



Daily New Cases

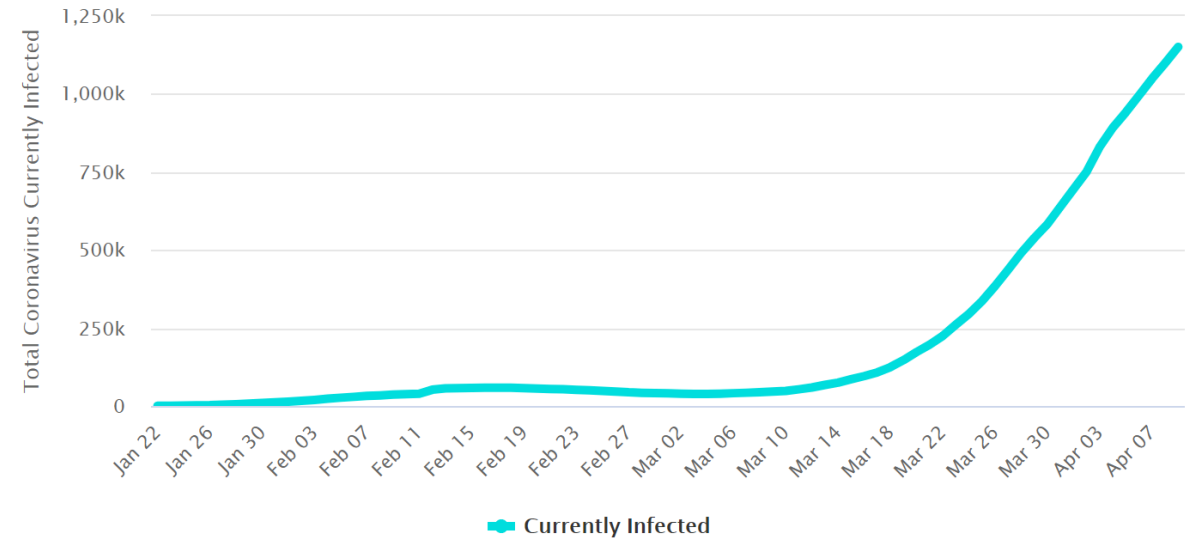
Cases per Day
Data as of 0:00 GMT+0



Worldwide

Active Cases

(Number of Infected People)



3-Day Moving Average Trendline

Worldwide 3 per. Mov. Avg. (Daily New Cases)

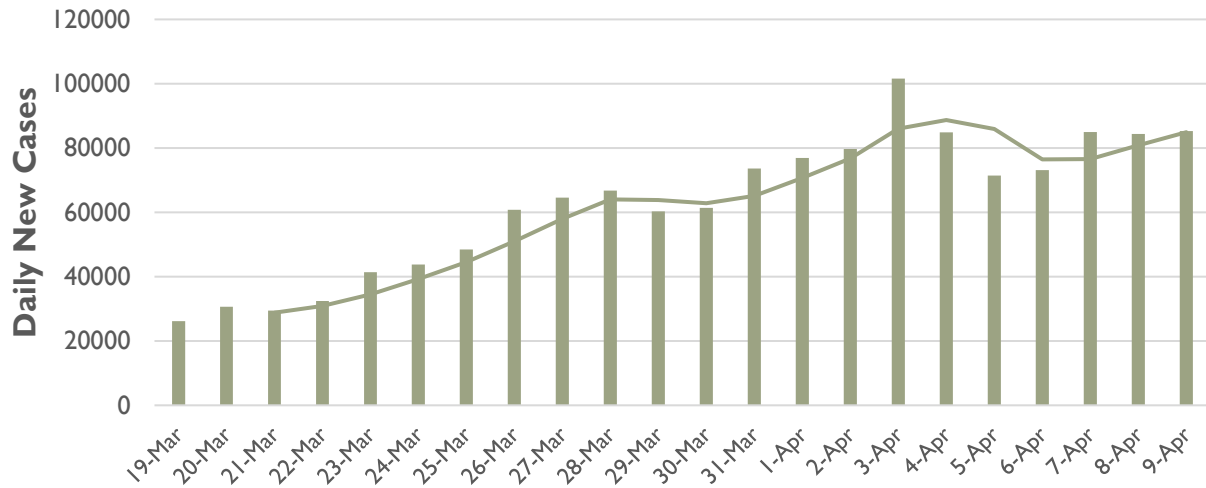


Table 1.a

GROWTH IN NEW CASES SINCE THE DAY BEFORE

	3/19	3/20	3/21	3/22	3/23	3/24	3/25	3/26	3/27	3/28	3/29	3/30	3/31	4/1	4/2	4/3	4/4	4/5	4/6	4/7	4/8	4/9
USA	1.591	1.235	0.862	1.936	1.089	1.091	1.204	1.290	1.085	1.041	1.024	1.022	1.216	1.070	1.128	1.081	1.059	0.740	1.198	1.099	0.958	1.050
Spain	1.124	1.056	1.123	0.834	1.946	1.087	1.077	1.109	0.959	0.947	0.915	1.141	1.015	1.029	0.970	0.898	0.977	0.786	0.918	1.047	1.192	0.797
Italy	1.265	1.125	1.095	0.848	0.861	1.096	0.993	1.191	0.953	1.011	0.873	0.776	1.001	1.180	0.976	0.982	1.048	0.898	0.834	0.844	1.262	1.096
Germany	1.011	1.513	0.556	0.997	1.667	0.941	1.101	1.527	1.048	0.984	0.695	0.939	1.106	1.254	1.104	0.934	0.775	0.817	0.807	1.319	1.314	0.877
France	1.325	0.869	1.142	0.844	2.462	0.638	1.196	1.339	0.971	1.211	0.564	1.684	1.732	0.641	0.435	10.898	0.338	0.371	1.792	2.139	0.351	1.237
China	1.15	1.051	1.122	0.848	2.000	0.603	1.426	0.821	0.982	0.833	0.000	---	0.456	0.972	0.886	0.613	1.579	1.300	0.821	1.938	1.016	0.667
Iran	0.878	1.183	0.781	1.064	1.373	1.249	1.252	1.083	1.225	1.051	0.943	1.098	0.976	0.961	0.962	0.944	0.943	0.970	0.916	0.919	0.956	0.818
UK	0.951	1.110	1.450	0.643	1.454	1.476	1.018	1.466	1.355	0.882	0.956	1.076	1.149	1.437	0.981	1.049	0.839	1.580	0.644	0.956	1.511	0.791
Switzerland	2.968	1.258	0.896	0.490	2.162	0.819	0.943	0.896	1.222	1.028	0.656	1.452	0.625	1.703	0.911	0.736	1.154	0.662	0.936	1.070	1.723	0.751
Austria	1.697	0.882	0.730	1.720	1.512	0.907	0.377	4.331	0.597	0.728	0.901	1.605	0.677	0.945	0.787	0.945	0.651	1.051	0.911	1.390	0.886	0.997
S Korea	1.634	0.572	1.690	0.667	0.653	1.188	1.316	1.040	0.875	1.604	0.719	0.743	1.603	0.808	0.881	0.966	1.093	0.862	0.580	1.000	1.128	0.736
Israel	2.542	0.115	6.357	1.056	1.973	1.315	0.900	0.738	1.056	1.708	1.075	0.713	1.480	1.107	1.042	0.746	0.741	1.369	0.819	0.726	0.453	3.615
Australia	1.135	1.075	0.837	3.729	0.518	1.547	0.835	1.042	0.877	0.784	2.054	0.563	1.020	0.941	0.933	0.526	0.686	2.083	0.725	0.641	0.688	1.563
Cyprus	1.000	0.889	1.125	1.222	1.909	0.381	1.000	1.750	1.143	1.063	2.059	0.457	2.000	1.813	0.621	1.111	0.750	0.667	0.950	1.526	1.103	1.188
Hawaii	3.333	1.100	1.000	0.727	2.500	0.700	0.429	1.833	1.273	2.214	0.774	1.208	0.690	1.700	0.794	1.259	0.941	0.625	0.800	1.438	1.087	0.280
Worldwide	1.271	1.174	0.960	1.102	1.275	1.058	1.107	1.254	1.061	1.035	0.903	1.019	1.199	1.043	1.037	1.274	0.835	0.842	1.024	1.161	0.993	1.010

Table I.b**AVERAGE GROWTH OF LAST FIVE DAYS**

	3/23-27	3/24-28	3/25-29	3/26-30	3/27-31	3/28-4/1	3/29-4/2	3/30-4/3	3/31-4/4	4/1-4/5	4/2-4/6	4/3-4/7	4/4-4/8	4/5-4/9
USA	1.152	1.142	1.129	1.092	1.077	1.074	1.092	1.103	1.111	1.016	1.041	1.035	1.011	1.009
Spain	1.236	1.036	1.002	1.014	0.996	1.009	1.014	1.011	0.978	0.932	0.910	0.925	0.984	0.948
Italy	1.019	1.049	1.004	0.961	0.923	0.968	0.961	0.983	1.037	1.017	0.948	0.921	0.977	0.987
Germany	1.257	1.120	1.071	1.039	0.954	0.996	1.019	1.067	1.035	0.977	0.887	0.930	1.006	1.027
France	1.321	1.071	1.056	1.154	1.232	1.166	1.011	3.078	2.809	2.537	2.767	3.107	0.998	1.178
China	1.166	0.933	0.812	0.659	0.568	0.565	0.578	0.732	0.901	1.070	1.040	1.250	1.331	1.148
Iran	1.236	1.172	1.111	1.080	1.059	1.006	0.988	0.988	0.957	0.956	0.947	0.938	0.941	0.916
UK	1.354	1.239	1.135	1.147	1.084	1.100	1.120	1.138	1.091	1.177	1.019	1.014	1.106	1.096
Switzerland	1.208	0.982	0.949	1.051	0.996	1.093	1.069	1.085	1.026	1.033	0.880	0.912	1.109	1.028
Austria	1.545	1.388	1.387	1.632	0.902	0.971	0.983	0.992	0.801	0.876	0.869	0.990	0.978	1.047
S Korea	1.014	1.205	1.111	0.996	1.109	1.095	0.951	1.000	1.070	0.922	0.876	0.900	0.933	0.861
Israel	1.196	1.143	1.095	1.058	1.206	1.217	1.084	1.018	1.023	1.001	0.943	0.880	0.821	1.396
Australia	0.964	1.017	1.118	1.064	1.060	1.072	1.102	0.797	0.821	1.034	0.991	0.932	0.965	1.140
Cyprus	1.237	1.067	1.403	1.294	1.344	1.478	1.390	1.200	1.259	0.992	0.820	1.001	0.999	1.087
Hawaii	1.347	1.290	1.305	1.461	1.232	1.317	1.033	1.130	1.077	1.064	0.884	1.013	0.978	0.846
Worldwide	1.151	1.103	1.072	1.054	1.043	1.040	1.040	1.115	1.078	1.006	1.003	1.027	0.971	1.006

Table 2

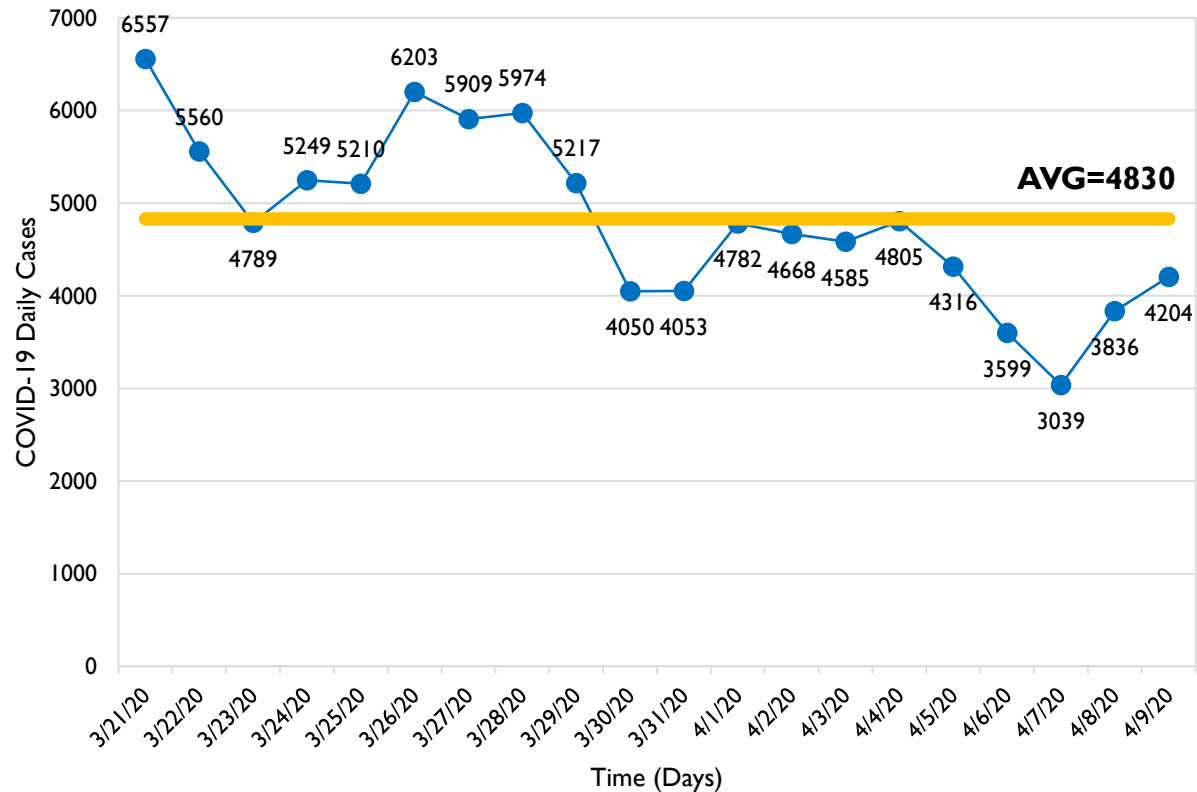
RATIO OF THE AVERAGE NEW CASES OF RECENT THREE DAYS TO MAX DAILY PEAK

	3/22	3/23	3/24	3/25	3/26	3/27	3/28	3/29	3/30	3/31	4/1	4/2	4/3	4/4	4/5	4/6	4/7	4/8	4/9
USA	0.701	0.796	0.921	0.865	0.806	0.879	0.949	0.972	0.978	0.876	0.901	0.905	0.915	0.939	0.895	0.876	0.867	0.932	0.963
Spain	0.908	0.710	0.798	0.927	0.913	0.954	0.956	0.900	0.896	0.914	0.968	0.972	0.938	0.889	0.789	0.704	0.636	0.668	0.667
Italy	0.920	0.859	0.793	0.775	0.847	0.881	0.919	0.869	0.775	0.677	0.655	0.686	0.713	0.715	0.697	0.647	0.557	0.532	0.563
Germany	0.703	0.678	0.782	0.917	0.750	0.860	0.979	0.889	0.770	0.679	0.747	0.861	0.930	0.871	0.737	0.587	0.556	0.633	0.714
France	0.900	0.629	0.681	0.800	0.790	0.906	0.892	0.797	0.838	0.640	0.740	0.640	0.434	0.476	0.488	0.229	0.276	0.291	0.285
China	0.003	0.004	0.004	0.005	0.004	0.004	0.004	0.002	0.003	0.003	0.004	0.002	0.002	0.002	0.002	0.002	0.003	0.004	0.004
Iran	0.789	0.804	0.795	0.813	0.887	0.857	0.909	0.965	0.959	0.962	0.971	0.939	0.897	0.853	0.812	0.766	0.716	0.665	0.598
UK	0.777	0.859	0.715	0.883	0.784	0.747	0.873	0.909	0.878	0.893	0.767	0.892	0.975	0.931	0.796	0.759	0.753	0.730	0.761
Switzerland	0.778	0.761	0.721	0.819	0.722	0.730	0.761	0.722	0.716	0.605	0.703	0.695	0.718	0.655	0.544	0.491	0.418	0.522	0.573
Austria	0.793	0.682	0.856	0.750	0.614	0.609	0.677	0.474	0.485	0.482	0.485	0.381	0.339	0.270	0.233	0.195	0.217	0.225	0.239
S Korea	0.130	0.121	0.093	0.094	0.110	0.116	0.134	0.134	0.129	0.121	0.119	0.123	0.108	0.105	0.102	0.087	0.069	0.058	0.054
Israel	0.538	0.662	0.715	0.887	0.855	0.755	0.713	0.825	0.881	0.874	0.838	0.942	0.902	0.766	0.685	0.643	0.609	0.424	0.464
Australia	0.529	0.595	0.773	0.662	0.722	0.659	0.595	0.691	0.672	0.700	0.549	0.530	0.429	0.312	0.271	0.274	0.272	0.187	0.160
Cyprus	0.718	0.651	0.635	0.587	0.476	0.603	0.746	0.648	0.648	0.790	0.609	0.724	0.770	0.609	0.517	0.397	0.391	0.460	0.569
Hawaii	0.909	0.650	0.700	0.667	0.517	0.517	0.602	0.742	0.903	0.785	0.814	0.794	0.931	0.912	0.843	0.667	0.578	0.627	0.539
Worldwide	0.950	0.832	0.896	0.919	0.839	0.898	0.959	0.956	0.941	0.884	0.919	0.963	0.847	0.873	0.846	0.753	0.753	0.796	0.836

COVID-19
'MODIFIED' CONTROL CHART ANALYSIS

Italy

'Modified' Control Chart of COVID-19 Daily Cases in Italy (3/21/20 - 4/9/20)

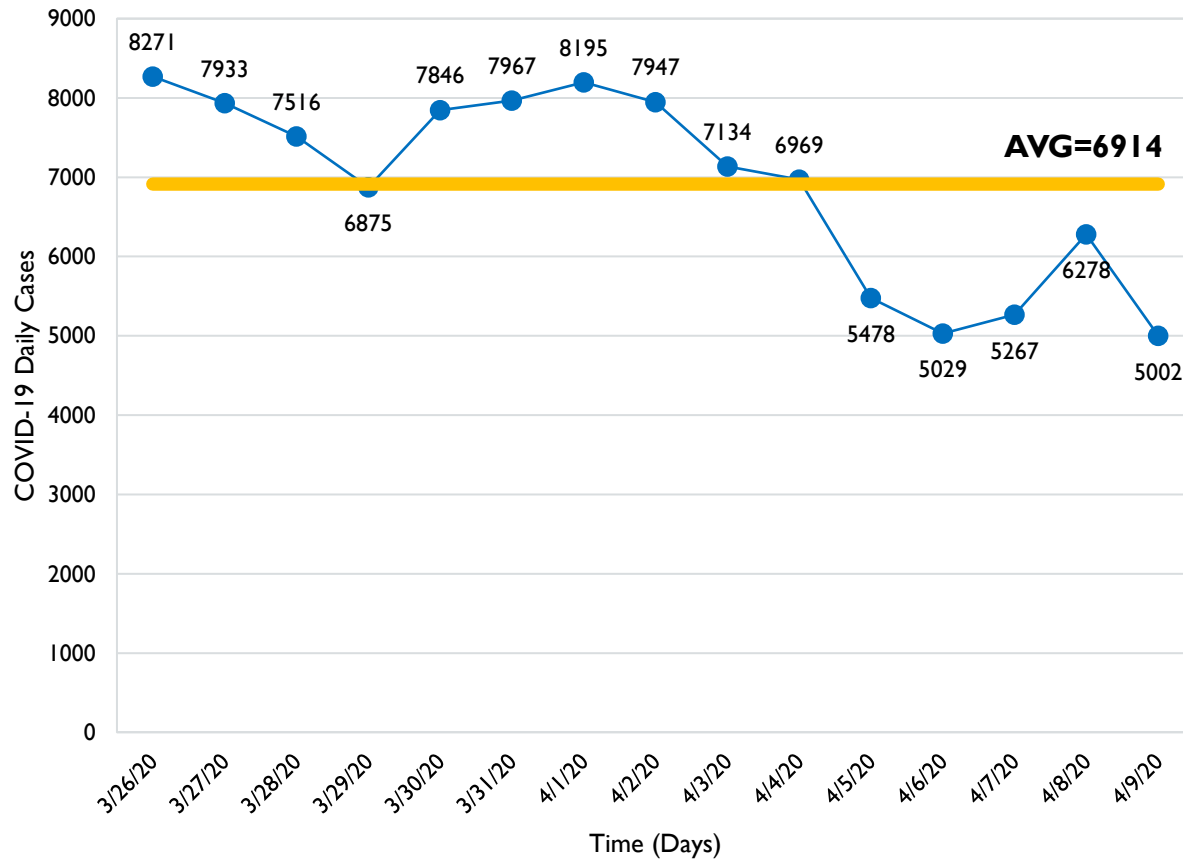


'Modified' Control Chart Analysis:

- Two points, out of three successive points, are on the same side of the centerline in Zone A or beyond.
 - The last three points (from 4/7/20 to 4/9/20) are below the control line, which suggests a good 'out-of-control' pattern for COVID-19 cases in Italy.
- Four points, out of five successive points, are on the same side of the centerline in Zone B or beyond.
 - The last five points (from 4/5/20 to 4/9/20) are all below the control line, which suggests an 'out-of-control' pattern for COVID-19 cases in Italy. A good 'out-of-control' sign.
- Nine successive points are on one side of the centerline.
 - The last nine points (from 4/1/20 to 4/9/20) are all on one side (below) of the centerline. This good 'out-of-control' pattern suggests that the daily COVID-19 cases in Italy are stabilizing in a positive direction.

Spain

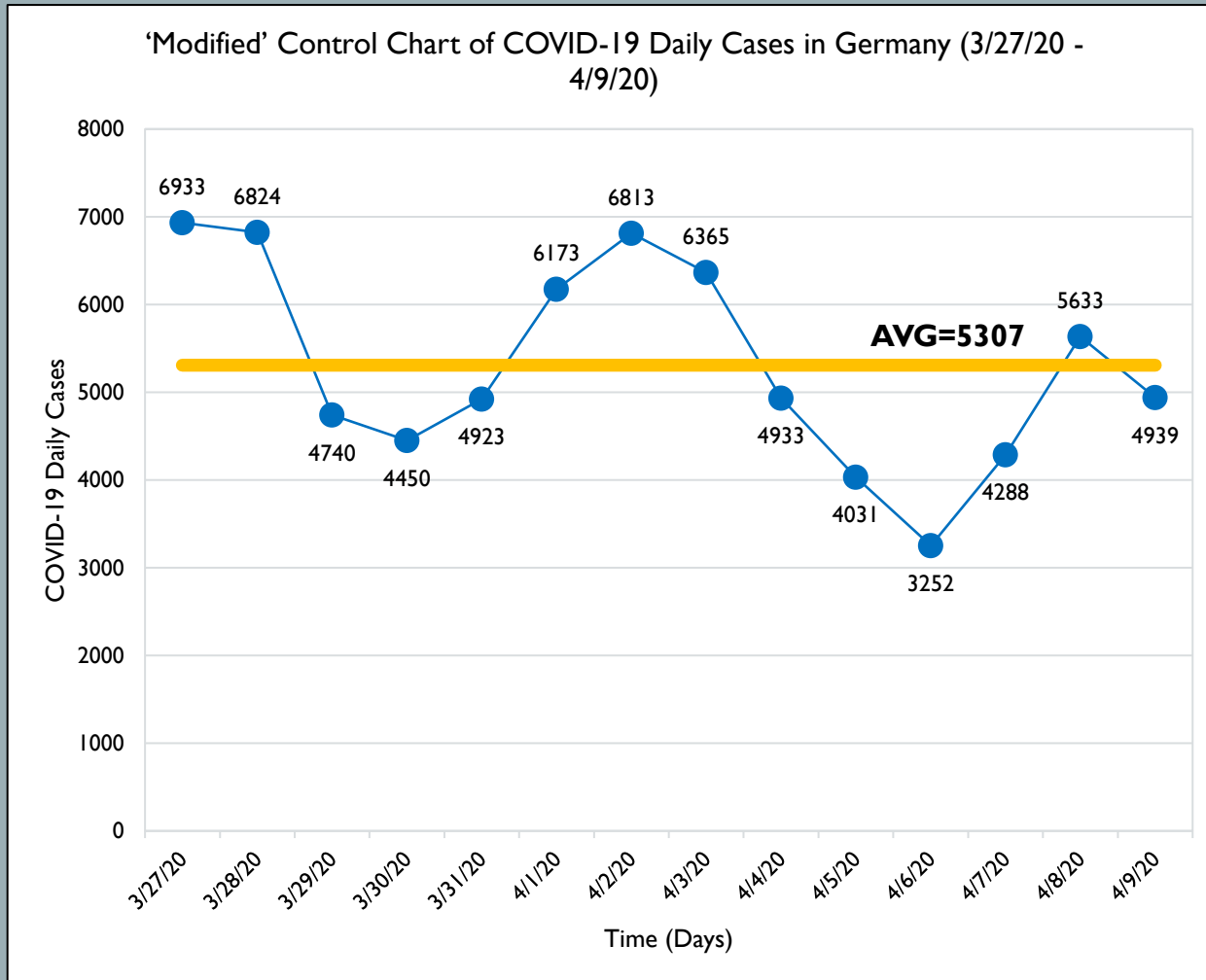
'Modified' Control Chart of COVID-19 Daily Cases in Spain (3/26/20 - 4/9/20)



'Modified' Control Chart Analysis:

- Two points, out of three successive points, are on the same side of the centerline in Zone A or beyond.
 - The last three points (from 4/7/20 to 4/9/20) are below the control line, which suggests a good 'out-of-control' pattern for COVID-19 cases in Spain. Also, the regressed trend line from 3/26/20 has a downward slope.
- Four points, out of five successive points, are on the same side of the centerline in Zone B or beyond.
 - The last five points (from 4/5/20 to 4/9/20) are all below the control line, which suggests an 'out-of-control' pattern for COVID-19 cases in Spain. A good 'out-of-control' sign.

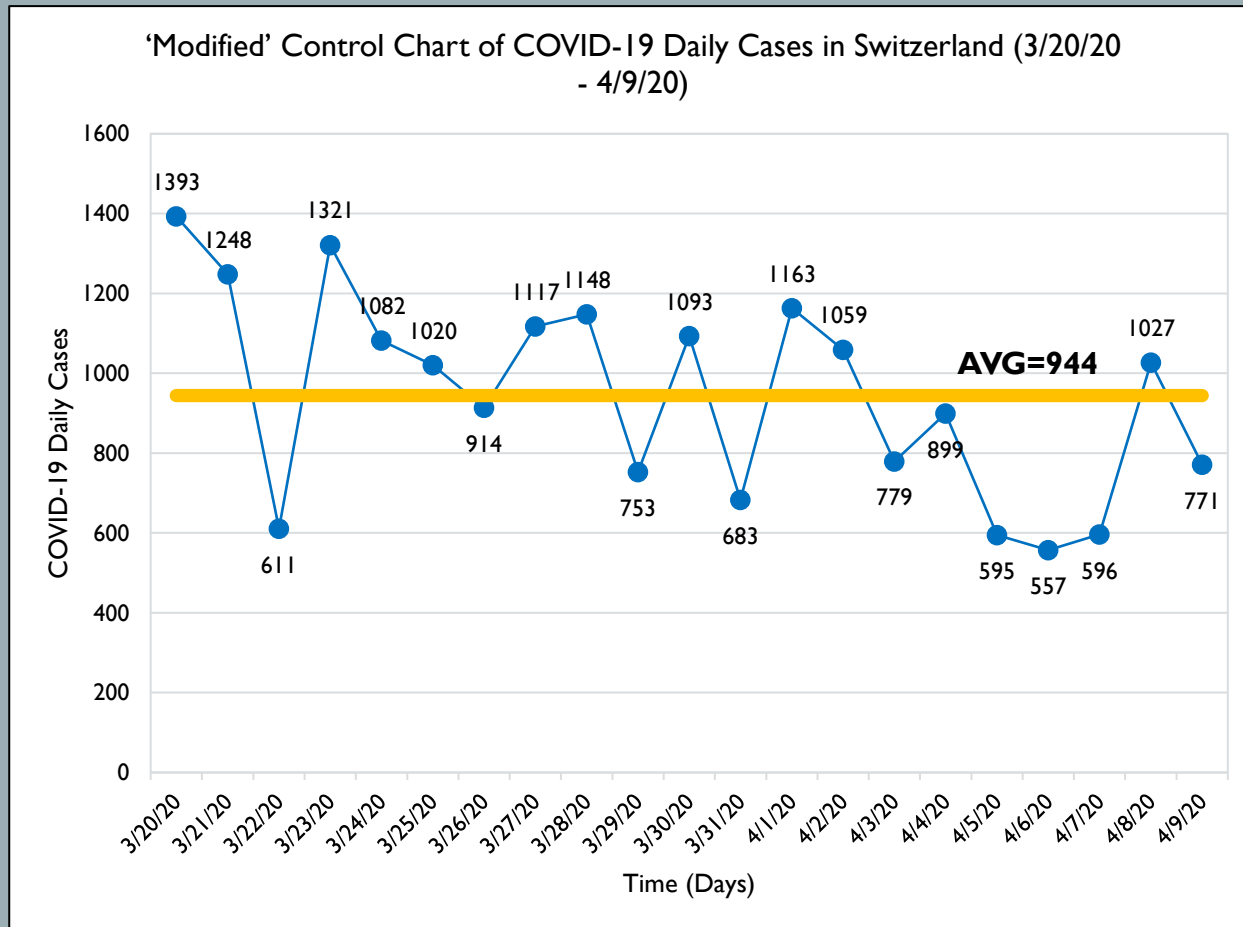
Germany



'Modified' Control Chart Analysis:

- Two points, out of three successive points, are on the same side of the centerline in Zone A or beyond.
 - Two points (4/7/20 and 4/9/20) are below the control line, which suggests a good 'out-of-control' pattern for COVID-19 cases in Germany. Also, a linear trend line with a downward slope can be observed from 3/27/20.
- Four points, out of five successive points, are on the same side of the centerline in Zone B or beyond.
 - Four points (4/5/20 to 4/7/20, 4/9/20) are all below the control line, which suggests an 'out-of-control' pattern for COVID-19 cases in Germany. A good 'out-of-control' sign.

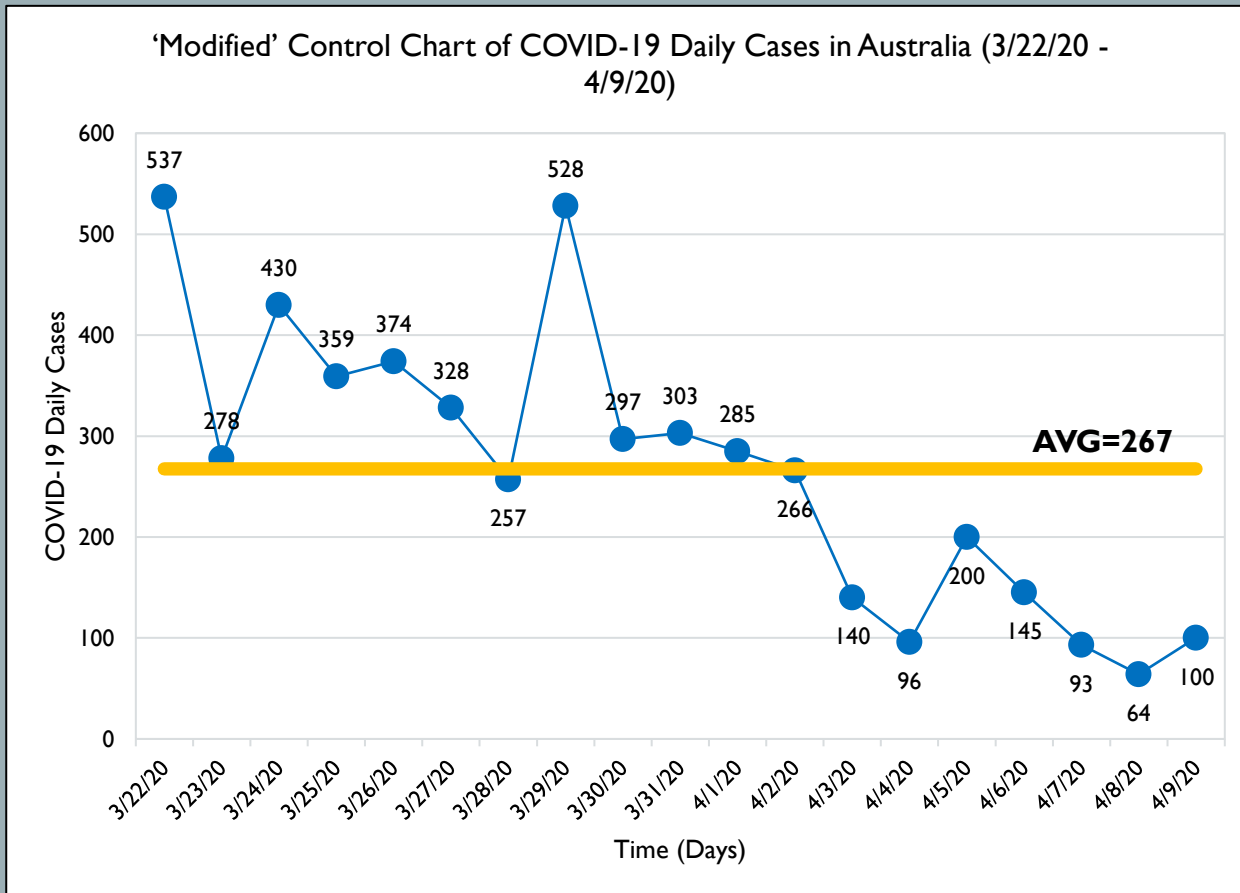
Switzerland



'Modified' Control Chart Analysis:

- Two points, out of three successive points, are on the same side of the centerline in Zone A or beyond.
 - Two points (4/7/20 and 4/9/20) are below the control line, which suggests a good 'out-of-control' pattern for COVID-19 cases in Switzerland.
- Four points, out of five successive points, are on the same side of the centerline in Zone B or beyond.
 - Four points (4/5/20 - 4/7/20, 4/9/20) are all below the control line, which suggests an 'out-of-control' pattern for COVID-19 cases in Switzerland. A good 'out-of-control' sign.

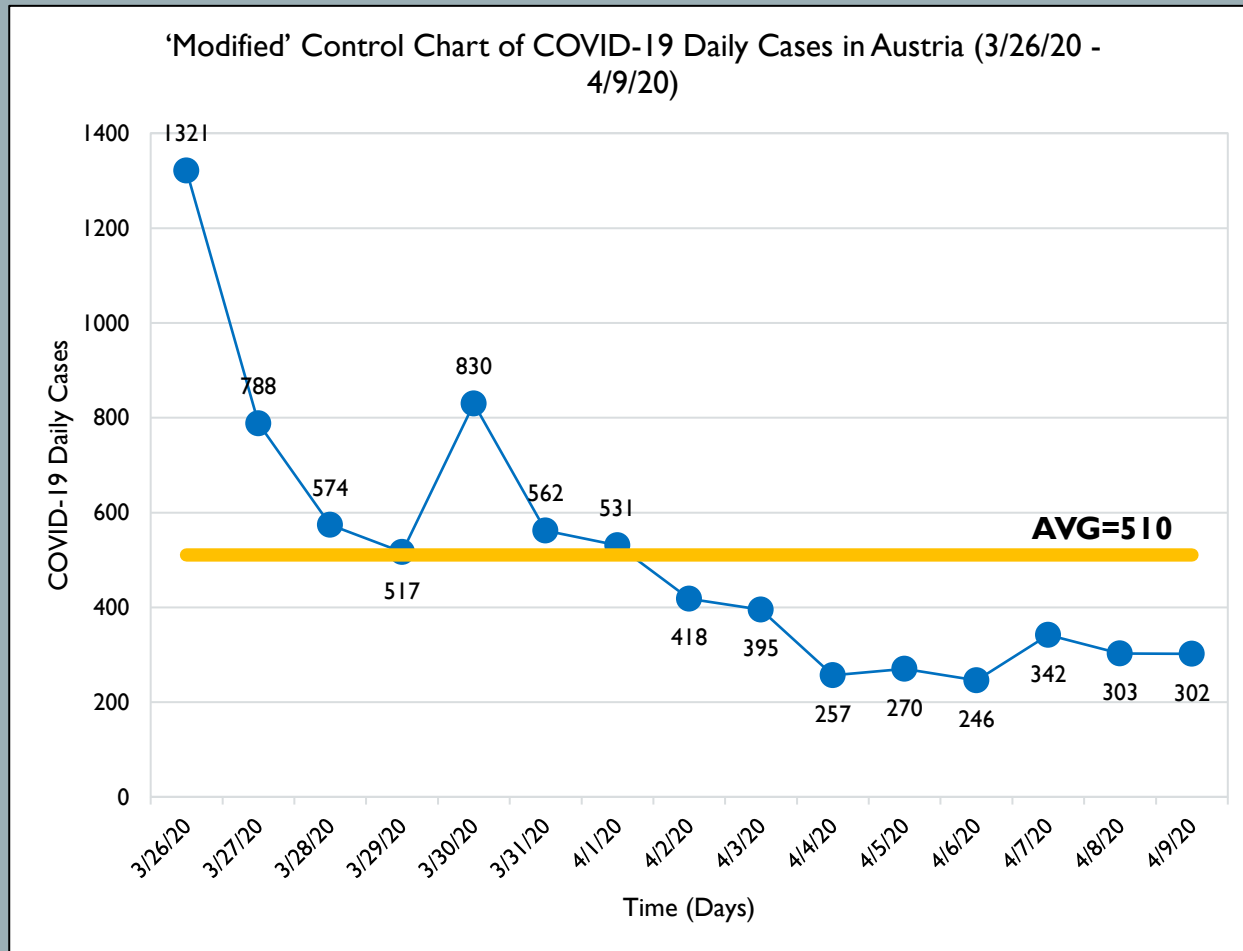
Australia



'Modified' Control Chart Analysis:

- Two points, out of three successive points, are on the same side of the centerline in Zone A or beyond.
 - The last three points (from 4/7/20 to 4/9/20) are below the control line, which suggests an 'out-of-control' pattern for COVID-19 cases in Australia. This is a good pattern. Also, a linear trend line with a downward slope can be observed from 3/22/20.
- Four points, out of five successive points, are on the same side of the centerline in Zone B or beyond.
 - The last five points (from 4/5/20 to 4/9/20) are all below the control line, which suggests an 'out-of-control' pattern for COVID-19 cases in Australia. A good 'out-of-control' sign.

Austria

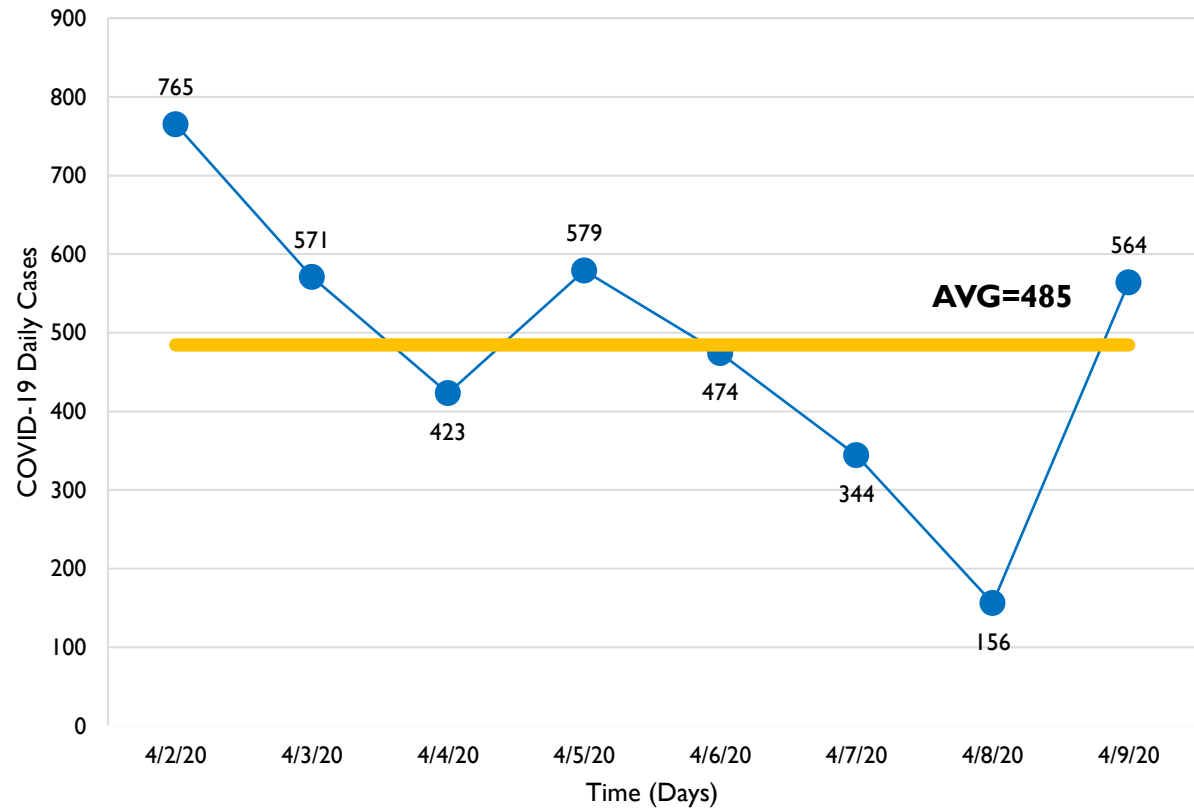


'Modified' Control Chart Analysis:

- Two points, out of three successive points, are on the same side of the centerline in Zone A or beyond.
 - The last three points (from 4/7/20 to 4/9/20) are below the control line, which suggests an 'out-of-control' pattern for COVID-19 cases in Austria. This is a good 'out-of-control' pattern.
- Four points, out of five successive points, are on the same side of the centerline in Zone B or beyond.
 - The last five points (from 4/5/20 to 4/9/20) are all below the control line, which suggests an 'out-of-control' pattern for COVID-19 cases in Austria. A good 'out-of-control' sign. Also, a linear trend line with a downward slope can be observed from 3/26/20.

Israel

'Modified' Control Chart of COVID-19 Daily Cases in Israel (4/2/20 - 4/9/20)



'Modified' Control Chart Analysis:

- Two points, out of three successive points, are on the same side of the centerline in Zone A or beyond.
 - Three successive points (from 4/6/20 to 4/8/20) are below the control line, which suggests an 'out-of-control' pattern for COVID-19 cases in Israel. This is a good 'out-of-control' pattern. Also, a linear trend line with a downward slope can be observed from 4/2/20.
- Four points, out of five successive points, are on the same side of the centerline in Zone B or beyond.
 - Four points (4/4/20, 4/6/20 - 4/8/20) are all below the control line, which suggests an 'out-of-control' pattern for COVID-19 cases in Israel. A good 'out-of-control' sign.