Foreword

The present report aims to provide a comprehensive picture of the **pandemic situation of COVID-19** in the EU countries, and to be able to foresee the situation in the next coming days. We provide some figures and tables with several **indexes and indicators** as well as an **Analysis** section that discusses a specific topic related with the pandemic.

As for the predictions, we employ an **empirical model**, verified with the evolution of the number of confirmed cases in previous countries where the epidemic is close to conclude, including all provinces of China. The model does not pretend to interpret the causes of the evolution of the cases but to permit the **evaluation of the quality of control measures made in each state** and a **short-term prediction of trends**. Note, however, that the effects of the measures' control that start on a given day are not observed until approximately 7-14 days later.

We show an individual report with 8 graphs and a summary table with the main indicators for different countries and regions. We are adjusting the model to **countries and regions** with at least 4 days with more than 100 confirmed cases and a current load over 200 cases.

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**Disclaimer:** These reports have been written by declared authors, who fully assume their content. They are submitted daily to the European Commission, but this body does not necessarily share their analyses, discussions and conclusions.
Situation and highlights

Global situation

The combination of the vaccination and the seasonal effects on the dynamics of the new cases of COVID-19 during the last months explains the observed reduction of the incidence. We have extensively discussed previously the effect of the summer and, however, this is not the first summer in pandemic. Therefore, we can compare the actual data with the same data at the late-spring in 2020. Last year, at the beginning of June the incidence reported was, in some sense, substantially lower than now. At that time the combination of the seasonal effects with the intense non-pharmaceutical measures reduced substantially the number of new cases. As a matter of comparison, we select the country with the highest rate of vaccination in the region of EU+EFTA+UK, United Kingdom, which was actually the country with the highest incidence in 2020, with an incidence of 40 cases per 10^5 inhabitants (14 days). This incidence level is even smaller than the actual number of cases, which reaches 76 cases per 10^5 inhabitants. However, the situation of the mortality per 10^5 inhabitants is opposite. While the mortality on June 1st of 2020 was 61 deaths per 10^5 inhabitants, the actual value is 1.8. Other examples with a similar comparison can be seen in the next table.

An important factor on the difference of cases and deaths between the two years is the under-reporting of new cases of last year in comparison with the actual rate of reporting. However, this effect is multiplied by the reduction of the new deaths among the population vaccinated (typically the population with the highest risk). The whole political and scientific

<table>
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<th>A14 cases June 2021</th>
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</table>
communities agree in the astonishing positive effect of the vaccination. The positive effects of the vaccination are becoming evident and, therefore, the effort to vaccinate the highest fraction of people will become the next challenge of political and health institutions of all the countries of the region.

Last year, we believed that the situation was much better under control than the real situation. Due to the under-reporting, the population and the political institutions relaxed NPIs. It is desirable that it is not happening this year and the possible dangers, like new variants, are carefully analyzed.

Highlights

- Only UK shows a sustained growing trend ($\rho \approx 1.4$). Its incidence reaches more than 80 cases per $10^5$ inhabitants last 14 days, but its mortality remains very low.
- Denmark and Netherlands remain at the top of the European incidence rank, with an $A_{14}$ above 200 cases per $10^5$ inh.

Situation and trends per country

Maps of current situation in EU countries. Colour scale is indicated in each legend.

- Cumulative incidence: total number of reported cases per 100,000 inhabitants
- $A_{14}$: Cumulative incidence last 14 days per 100,000 inhabitants (active cases)
- $\rho_7$: Empiric reproduction number
- $EPG$: Effective Potential Growth ($EPG = A_{14} \cdot \rho_7$)
### Tables of current situation in EU countries. Colour scale is indicated in each legend.

#### Incidence, mortality and epidemiological indexes.

<table>
<thead>
<tr>
<th>Country</th>
<th>14-day attack rate /10^5 inh.</th>
<th>Active cases (last 14 days)</th>
<th>Attack rate /10^5 inh.</th>
<th>Cumulative cases</th>
<th>Mortality (last 14 days) /10^5 inh.</th>
<th>Mortality /10^5 inh.</th>
<th>Biocom-Cov degree</th>
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#### Colour scale
- >150.0: Worst
- 0.0: Best
- 0.0 - >150.0: Worst

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<th>Province</th>
<th>14-day attack rate /10^5 inh.</th>
<th>Active cases (last 14 days)</th>
<th>Attack rate /10^5 inh.</th>
<th>Cumulative cases</th>
<th>Mortality (last 14 days) /10^5 inh.</th>
<th>Mortality /10^5 inh.</th>
<th>Biocom-Cov degree</th>
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#### Colour scale
- >150.0: Worst
- 0.0: Best
- 0.0 - >150.0: Worst

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(1) \( \rho_7 \) is the average of 7 consecutive \( \rho \), but can still fluctuate. (2) EPG stands for Effective Growth Potential, which is the product of reported cumulative incidence of last 14 days per 10^5 inhabitants by \( \rho_7 \) (empiric reproduction number). Biocom-Cov degree is an epidemiological situation scale based on the level of last week's mean daily new cases (https://upcommons.upc.edu/handle/2117/189661, https://upcommons.upc.edu/handle/2117/189808).
Situation of hospitalisations and ICUs in some EU countries. The analysis is done for those countries that report a historical series with current (active) number of patients in hospitals and ICUs. We provide:

- Current active hospitalisations and patients in ICU per 100,000 inhabitants.
- Current absolute number of active hospitalisations and patients in ICU.
- Rate of occupation of curative care hospital beds by Covid-19 patients (data from Eurostat 2018), only for hospitalisations.
- Current rate of occupation with regards to the maximum Covid-19 occupation reached in this pandemic.
- Weekly increase in Covid-19 patients in hospitals and ICUs.

### Vaccination rates in some EU countries

<table>
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<tr>
<th>Country</th>
<th>Total vaccinations</th>
<th>Daily vaccinations</th>
<th>People partially vaccinated</th>
<th>People fully vaccinated</th>
<th>Total doses per hundred people</th>
<th>People partially vaccinated per hundred people</th>
<th>People fully vaccinated per hundred people</th>
</tr>
</thead>
<tbody>
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<td>United Kingdom</td>
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Situation and trends in some European regions

Table of current situation in **Spain** by region. Colour scale is indicated in each legend.

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<th>Active cases (last 14 days)</th>
<th>Attack rate /10^5 inh.</th>
<th>Cumulative cases</th>
<th>Mortality (last 14 days) /10^5 inh.</th>
<th>Mortality /10^5 inh.</th>
<th>Biocom-Cov degree</th>
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<th>( EPG^{(2)} )</th>
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Table of current situation in **Portugal** by region. Colour scale is indicated in each legend.

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<th>Attack rate /10^5 inh.</th>
<th>Cumulative cases</th>
<th>Mortality (last 14 days) /10^5 inh.</th>
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Table of current situation in **Austria** by region. Colour scale is indicated in each legend.

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<th>Attack rate /10^5 inh.</th>
<th>Cumulative cases</th>
<th>Mortality (last 14 days) /10^5 inh.</th>
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Situation and trends in other countries

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<td>Peru</td>
<td>176.8</td>
<td>58,281</td>
<td>6,016.0</td>
<td>1,983,570</td>
<td>121.8</td>
<td>166.2</td>
<td>0.95</td>
<td>168</td>
<td>8</td>
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<tr>
<td>Iran</td>
<td>152.1</td>
<td>127,747</td>
<td>3,537.5</td>
<td>2,971,270</td>
<td>27.8</td>
<td>96.7</td>
<td>0.91</td>
<td>139</td>
<td>8</td>
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<tr>
<td>India</td>
<td>148.4</td>
<td>2,047,599</td>
<td>2,101.2</td>
<td>28,996,473</td>
<td>31.9</td>
<td>25.3</td>
<td>0.76</td>
<td>112</td>
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<tr>
<td>Belarus</td>
<td>143.2</td>
<td>13,444</td>
<td>4,337.6</td>
<td>400,422</td>
<td>14.7</td>
<td>30.9</td>
<td>0.92</td>
<td>131</td>
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<tr>
<td>Iraq</td>
<td>143.9</td>
<td>57,079</td>
<td>3,055.8</td>
<td>1,229,121</td>
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<td>41.2</td>
<td>0.97</td>
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<tr>
<td>Turkey</td>
<td>118.1</td>
<td>99,617</td>
<td>6,276.6</td>
<td>5,293,627</td>
<td>21.4</td>
<td>57.2</td>
<td>0.85</td>
<td>100</td>
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<tr>
<td>Qatar</td>
<td>106.1</td>
<td>3,056</td>
<td>7,594.6</td>
<td>218,708</td>
<td>7.6</td>
<td>19.3</td>
<td>0.67</td>
<td>92</td>
<td>7</td>
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<tr>
<td>Russia</td>
<td>87.7</td>
<td>128,048</td>
<td>3,526.5</td>
<td>5,145,843</td>
<td>36.3</td>
<td>85.3</td>
<td>1.00</td>
<td>88</td>
<td>7</td>
</tr>
<tr>
<td>Canada</td>
<td>88.7</td>
<td>32,708</td>
<td>3,689.7</td>
<td>1,392,563</td>
<td>13.1</td>
<td>68.2</td>
<td>0.78</td>
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<tr>
<td>Philippines</td>
<td>83.3</td>
<td>91,104</td>
<td>3,566.8</td>
<td>1,276,004</td>
<td>18.1</td>
<td>20.9</td>
<td>0.99</td>
<td>83</td>
<td>7</td>
</tr>
<tr>
<td>Ecuador</td>
<td>76.7</td>
<td>15,541</td>
<td>2,452.7</td>
<td>412,739</td>
<td>34.2</td>
<td>110.0</td>
<td>0.94</td>
<td>73</td>
<td>7</td>
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<tr>
<td>United States of America</td>
<td>73.9</td>
<td>244,749</td>
<td>9,082.6</td>
<td>33,042,622</td>
<td>22.4</td>
<td>117.9</td>
<td>0.79</td>
<td>58</td>
<td>6</td>
</tr>
<tr>
<td>Ukraine</td>
<td>69.0</td>
<td>30,191</td>
<td>5,068.5</td>
<td>2,216,614</td>
<td>37.7</td>
<td>117.4</td>
<td>0.74</td>
<td>51</td>
<td>6</td>
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<tr>
<td>Saudi Arabia</td>
<td>47.8</td>
<td>16,636</td>
<td>1,317.6</td>
<td>418,707</td>
<td>5.9</td>
<td>21.3</td>
<td>1.01</td>
<td>48</td>
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<tr>
<td>Indonesia</td>
<td>29.9</td>
<td>81,904</td>
<td>681.1</td>
<td>1,863,041</td>
<td>8.6</td>
<td>18.9</td>
<td>1.00</td>
<td>30</td>
<td>5</td>
</tr>
<tr>
<td>Mexico</td>
<td>28.8</td>
<td>37,077</td>
<td>1,887.6</td>
<td>2,433,581</td>
<td>55.5</td>
<td>177.5</td>
<td>1.14</td>
<td>23</td>
<td>5</td>
</tr>
<tr>
<td>Pakistan</td>
<td>15.1</td>
<td>30,031</td>
<td>422.9</td>
<td>933,630</td>
<td>4.6</td>
<td>9.9</td>
<td>0.80</td>
<td>11</td>
<td>3</td>
</tr>
<tr>
<td>Israel</td>
<td>2.7</td>
<td>234</td>
<td>9,700.0</td>
<td>839,585</td>
<td>1.5</td>
<td>74.1</td>
<td>0.99</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

Colour scale:
- >150.0: red
- 150.0-100.0: orange
- 100.0-50.0: yellow
- 50.0-0.0: green

(1) ρ7 is the average of 7 consecutive ρ, but can still fluctuate. (2) EPG stands for Effective Growth Potential, which is the product of reported cumulative incidence of last 14 days per 10^5 inhabitants by ρ (empiric reproduction number). Biocom-Cov degree is an epidemiological situation scale based on the level of last week’s mean daily new cases (https://upcommons.upc.edu/handle/2117/189661, https://upcommons.upc.edu/handle/2117/189808).
Evolution of active ICUs in some EU countries
Estonia

Active ICUs

Time

France

Active ICUs per 10^5 inh.

Time
(1) Analysis and prediction of COVID-19 for EU+EFTA+UK
Italy 07-06-2021. Pop: 60.5M. Cumulative incidence: 7002/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-06-2021</td>
<td>4242383 (+6685)</td>
</tr>
<tr>
<td>14-06-2021</td>
<td>4247503 (+13805)</td>
</tr>
<tr>
<td>17-06-2021</td>
<td>4252640 (+18942)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>65</td>
<td>45</td>
<td>1.12%</td>
<td>2268</td>
<td>66</td>
</tr>
<tr>
<td>A Week ago</td>
<td>91</td>
<td>72</td>
<td>1.26%</td>
<td>3307</td>
<td>113</td>
</tr>
<tr>
<td>Maximum</td>
<td>800</td>
<td>833</td>
<td>4.99%</td>
<td>35073</td>
<td>822</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = 6

Actual $R_0 = 0.8$

Actual CFR = 1.1%
Poland 07-06-2021. Pop: 37.8M. Cumulative incidence: 7598/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-05-2021</td>
<td>2876658 (+9301)</td>
</tr>
<tr>
<td>14-06-2021</td>
<td>2877377 (+1548)</td>
</tr>
<tr>
<td>17-05-2021</td>
<td>2877765 (+2037)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EP5</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>23</td>
<td>14</td>
<td>2.37%</td>
<td>496</td>
<td>57</td>
</tr>
<tr>
<td>A Week ago</td>
<td>42</td>
<td>28</td>
<td>2.76%</td>
<td>912</td>
<td>109</td>
</tr>
<tr>
<td>Maximum</td>
<td>1004</td>
<td>1119</td>
<td>5.00%</td>
<td>28878</td>
<td>664</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = 3

Actual $\rho_2 = 0.6$

Actual CFR = 2.4%

Risk diagram (last 15 days)
Romania 07-06-2021. Pop: 19.2M. Cumulative incidence: 5609/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-05-2021</td>
<td>1079339 (+627)</td>
</tr>
<tr>
<td>14-06-2021</td>
<td>1079335 (+783)</td>
</tr>
<tr>
<td>17-05-2021</td>
<td>1080001 (+1048)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A16</th>
<th>EPIC</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>17</td>
<td>12</td>
<td>6.46%</td>
<td>174</td>
<td>81</td>
</tr>
<tr>
<td>A Week ago</td>
<td>28</td>
<td>19</td>
<td>3.85%</td>
<td>281</td>
<td>48</td>
</tr>
<tr>
<td>Maximum</td>
<td>608</td>
<td>674</td>
<td>4.95%</td>
<td>8521</td>
<td>171</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = 3

Actual $p_f = 0.7$

Actual CFR = 6.5%

Risk diagram (last 15 days)
Belgium 07-06-2021. Pop: 11.6M. Cumulative incidence: 9243/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-05-2021</td>
<td>1073645 (+23741)</td>
</tr>
<tr>
<td>14-06-2021</td>
<td>1075316 (+4045)</td>
</tr>
<tr>
<td>17-06-2021</td>
<td>1076637 (+5386)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>AI4</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>172</td>
<td>113</td>
<td>0.47%</td>
<td>986</td>
<td>10</td>
</tr>
<tr>
<td>A Week ago</td>
<td>237</td>
<td>210</td>
<td>0.53%</td>
<td>1876</td>
<td>13</td>
</tr>
<tr>
<td>Maximum</td>
<td>1396</td>
<td>2081</td>
<td>4.80%</td>
<td>16158</td>
<td>286</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = 8

Actual ρ = 0.7

Actual CFR = 0.5%

Risk diagram (last 15 days)
Slovakia 07-06-2021. Pop: 5.5M. Cumulative incidence: 7153/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-05-2021</td>
<td>390896 (+350)</td>
</tr>
<tr>
<td>14-06-2021</td>
<td>391211 (+685)</td>
</tr>
<tr>
<td>17-06-2021</td>
<td>391537 (+992)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>29</td>
<td>25</td>
<td>2.85%</td>
<td>97</td>
<td>10</td>
</tr>
<tr>
<td>A Week ago</td>
<td>30</td>
<td>31</td>
<td>1.86%</td>
<td>126</td>
<td>7</td>
</tr>
<tr>
<td>Maximum</td>
<td>766</td>
<td>873</td>
<td>4.08%</td>
<td>3260</td>
<td>113</td>
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Actual $r_7 = 0.9$

Actual CFR = 2.8%
Lithuania 07-06-2021. Pop: 2.7M. Cumulative incidence: 10166/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-05-2021</td>
<td>277341 (+5821)</td>
</tr>
<tr>
<td>14-06-2021</td>
<td>277795 (+10361)</td>
</tr>
<tr>
<td>17-06-2021</td>
<td>278094 (+1335)</td>
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Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>186</td>
<td>148</td>
<td>0.70 %</td>
<td>283</td>
<td>6</td>
</tr>
<tr>
<td>A Week ago</td>
<td>293</td>
<td>199</td>
<td>0.89 %</td>
<td>442</td>
<td>10</td>
</tr>
<tr>
<td>Maximum</td>
<td>1545</td>
<td>1698</td>
<td>4.88 %</td>
<td>3199</td>
<td>47</td>
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Actual $r_f = 0.8$

Actual CFR = 0.7 %

Risk diagram (last 15 days)
Slovenia 07-06-2021. Pop: 2.1M. Cumulative incidence: 12287/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-06-2021</td>
<td>256264 (+8321)</td>
</tr>
<tr>
<td>14-06-2021</td>
<td>256899 (+14871)</td>
</tr>
<tr>
<td>17-06-2021</td>
<td>257636 (+2204)</td>
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Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>176</td>
<td>158</td>
<td>0.37%</td>
<td>244</td>
<td>1</td>
</tr>
<tr>
<td>A Week ago</td>
<td>207</td>
<td>189</td>
<td>0.38%</td>
<td>279</td>
<td>2</td>
</tr>
<tr>
<td>Maximum</td>
<td>1179</td>
<td>1569</td>
<td>4.93%</td>
<td>2029</td>
<td>58</td>
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</table>

BIOCOM-Cov2 Degree = 8

Actual $p_Y = 0.9$

Actual CFR = 0.3%
Estonia  07-06-2021. Pop: 1.3M. Cumulative incidence: 9818/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-05-2021</td>
<td>130446 (+2041)</td>
</tr>
<tr>
<td>14-06-2021</td>
<td>130600 (+358)</td>
</tr>
<tr>
<td>17-05-2021</td>
<td>130729 (+487)</td>
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Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A16</th>
<th>EP2</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
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</thead>
<tbody>
<tr>
<td>Today</td>
<td>107</td>
<td>80</td>
<td>0.55%</td>
<td>81</td>
<td>1</td>
</tr>
<tr>
<td>A Week ago</td>
<td>164</td>
<td>116</td>
<td>0.60%</td>
<td>121</td>
<td>2</td>
</tr>
<tr>
<td>Maximum</td>
<td>1556</td>
<td>1623</td>
<td>4.92%</td>
<td>1513</td>
<td>13</td>
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</tbody>
</table>

BIOCOM-Cov2 Degree = 7

Actual $\rho_Y = 0.8$

Actual CFR = 0.6%

Risk diagram (last 15 days)
Norway 07-06-2021. Pop: 5.4M. Cumulative incidence: 2339/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-06-2021</td>
<td>12750 (+688)</td>
</tr>
<tr>
<td>14-06-2021</td>
<td>120141 (+1324)</td>
</tr>
<tr>
<td>17-06-2021</td>
<td>125666 (+1849)</td>
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</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>78</td>
<td>80</td>
<td>0.03 %</td>
<td>291</td>
<td>6</td>
</tr>
<tr>
<td>A Week ago</td>
<td>102</td>
<td>82</td>
<td>0.15 %</td>
<td>310</td>
<td>0</td>
</tr>
<tr>
<td>Maximum</td>
<td>239</td>
<td>560</td>
<td>4.97 %</td>
<td>1028</td>
<td>8</td>
</tr>
</tbody>
</table>
Cyprus 07-06-2021. Pop: 1.2M. Cumulative incidence: 6035/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-05-2021</td>
<td>72914 (+115)</td>
</tr>
<tr>
<td>14-06-2021</td>
<td>73085 (+276)</td>
</tr>
<tr>
<td>17-06-2021</td>
<td>73163 (+204)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>70</td>
<td>63</td>
<td>0.19 %</td>
<td>57</td>
<td>1</td>
</tr>
<tr>
<td>A Week ago</td>
<td>102</td>
<td>71</td>
<td>0.19 %</td>
<td>64</td>
<td>1</td>
</tr>
<tr>
<td>Maximum</td>
<td>937</td>
<td>1114</td>
<td>4.48 %</td>
<td>881</td>
<td>4</td>
</tr>
</tbody>
</table>

Actual $p_7 = 0.9$

Actual CFR = 0.2 %

Risk diagram (last 15 days)
Luxembourg 07-06-2021. Pop: 0.6M. Cumulative incidence: 11223/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-06-2021</td>
<td>70444 (+188)</td>
</tr>
<tr>
<td>14-06-2021</td>
<td>70578 (+132)</td>
</tr>
<tr>
<td>17-06-2021</td>
<td>70753 (+497)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>114</td>
<td>85</td>
<td>0.46%</td>
<td>46</td>
<td>6</td>
</tr>
<tr>
<td>A Week ago</td>
<td>119</td>
<td>160</td>
<td>0.34%</td>
<td>55</td>
<td>1</td>
</tr>
<tr>
<td>Maximum</td>
<td>1431</td>
<td>3127</td>
<td>4.03%</td>
<td>684</td>
<td>8</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = 7

Actual $R_T$ = 0.7

Actual CFR = 0.5%
(2) Analysis and prediction of COVID-19 for other countries
Brazil 07-06-2021. Pop: 212.6M. Cumulative incidence: 7973/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-06-2021</td>
<td>17129815 (+102453)</td>
</tr>
<tr>
<td>14-06-2021</td>
<td>17377524 (+438462)</td>
</tr>
<tr>
<td>17-06-2021</td>
<td>17553466 (+606404)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A16</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>496</td>
<td>488</td>
<td>2.79 %</td>
<td>61706</td>
<td>1639</td>
</tr>
<tr>
<td>A week ago</td>
<td>418</td>
<td>397</td>
<td>3.10 %</td>
<td>61595</td>
<td>1838</td>
</tr>
<tr>
<td>Maximum</td>
<td>498</td>
<td>525</td>
<td>4.84 %</td>
<td>77129</td>
<td>3124</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = 9

Actual $p_f = 1.0$

Actual CFR = 2.8 %

Risk diagram (last 15 days)
Turkey  07-06-2021. Pop: 84.3M. Cumulative incidence: 6277/10^5

### Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-06-2021</td>
<td>5313259 (+196321)</td>
</tr>
<tr>
<td>14-06-2021</td>
<td>5355101 (+41434)</td>
</tr>
<tr>
<td>17-06-2021</td>
<td>5352165 (+58338)</td>
</tr>
</tbody>
</table>

### Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>118</td>
<td>160</td>
<td>0.80 %</td>
<td>6318</td>
<td>104</td>
</tr>
<tr>
<td>A Week ago</td>
<td>144</td>
<td>128</td>
<td>0.67 %</td>
<td>7913</td>
<td>154</td>
</tr>
<tr>
<td>Maximum</td>
<td>964</td>
<td>1028</td>
<td>4.93 %</td>
<td>60266</td>
<td>356</td>
</tr>
</tbody>
</table>

### BIOCOM-Cov2 Degree = 7

<table>
<thead>
<tr>
<th>Incident observed cases</th>
<th>Time (day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18000</td>
<td>08-06</td>
</tr>
<tr>
<td>16000</td>
<td>10-06</td>
</tr>
<tr>
<td>14000</td>
<td>12-06</td>
</tr>
<tr>
<td>12000</td>
<td>14-06</td>
</tr>
<tr>
<td>10000</td>
<td>16-06</td>
</tr>
<tr>
<td>8000</td>
<td>18-06</td>
</tr>
<tr>
<td>6000</td>
<td>20-06</td>
</tr>
<tr>
<td>4000</td>
<td>22-06</td>
</tr>
<tr>
<td>2000</td>
<td>24-06</td>
</tr>
<tr>
<td>0</td>
<td>26-06</td>
</tr>
</tbody>
</table>

### Actual $p_f = 0.8$

<table>
<thead>
<tr>
<th>Incidence cases per 10^5</th>
<th>Time (day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>08-06</td>
</tr>
<tr>
<td>1</td>
<td>10-06</td>
</tr>
<tr>
<td>2</td>
<td>12-06</td>
</tr>
<tr>
<td>3</td>
<td>14-06</td>
</tr>
<tr>
<td>4</td>
<td>16-06</td>
</tr>
<tr>
<td>5</td>
<td>18-06</td>
</tr>
<tr>
<td>6</td>
<td>20-06</td>
</tr>
<tr>
<td>7</td>
<td>22-06</td>
</tr>
<tr>
<td>8</td>
<td>24-06</td>
</tr>
<tr>
<td>9</td>
<td>26-06</td>
</tr>
</tbody>
</table>

### Actual CFR = 0.8 %

<table>
<thead>
<tr>
<th>Case fatality rate (%)</th>
<th>Time (day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5</td>
<td>10-05</td>
</tr>
<tr>
<td>1.0</td>
<td>12-05</td>
</tr>
<tr>
<td>1.5</td>
<td>14-05</td>
</tr>
<tr>
<td>2.0</td>
<td>16-05</td>
</tr>
<tr>
<td>2.5</td>
<td>18-05</td>
</tr>
<tr>
<td>3.0</td>
<td>20-05</td>
</tr>
<tr>
<td>3.5</td>
<td>22-05</td>
</tr>
<tr>
<td>4.0</td>
<td>24-05</td>
</tr>
<tr>
<td>4.5</td>
<td>26-05</td>
</tr>
</tbody>
</table>

### Risk diagram (last 15 days)

- Blue: 23 May
- Black: 07 June
Iran 07-06-2021. Pop: 84.0M. Cumulative incidence: 3538/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-06-2021</td>
<td>2997385 (+261050)</td>
</tr>
<tr>
<td>14-06-2021</td>
<td>3005003 (+54333)</td>
</tr>
<tr>
<td>17-06-2021</td>
<td>2048625 (+77345)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A16</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>152</td>
<td>139</td>
<td>1.11%</td>
<td>8305</td>
<td>149</td>
</tr>
<tr>
<td>A Week ago</td>
<td>176</td>
<td>261</td>
<td>1.15%</td>
<td>9945</td>
<td>187</td>
</tr>
<tr>
<td>Maximum</td>
<td>392</td>
<td>435</td>
<td>4.99%</td>
<td>24102</td>
<td>473</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = 8

Actual $\rho_I = 0.9$

Actual CFR = 1.1%

Risk diagram (last 15 days)
South Africa 07-06-2021. Pop: 59.3M. Cumulative incidence: 2866/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-06-2021</td>
<td>114305 (=13456)</td>
</tr>
<tr>
<td>14-06-2021</td>
<td>1729754 (=29905)</td>
</tr>
<tr>
<td>17-06-2021</td>
<td>1743373 (=43524)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>105</td>
<td>121</td>
<td>3.00%</td>
<td>4890</td>
<td>80</td>
</tr>
<tr>
<td>A Week ago</td>
<td>85</td>
<td>98</td>
<td>5.82%</td>
<td>3967</td>
<td>90</td>
</tr>
<tr>
<td>Maximum</td>
<td>428</td>
<td>511</td>
<td>4.99%</td>
<td>19287</td>
<td>578</td>
</tr>
</tbody>
</table>

Actual $p_7 = 1.2$

Actual CFR = 3.9%

Risk diagram (last 15 days)
Chile 07-06-2021. Pop: 19.1M. Cumulative incidence: 7506/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-06-2021</td>
<td>1458704 (+19900)</td>
</tr>
<tr>
<td>14-06-2021</td>
<td>1469475 (+54991)</td>
</tr>
<tr>
<td>17-06-2021</td>
<td>1510469 (+55885)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR %</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>521</td>
<td>531</td>
<td>1.06%</td>
<td>7220</td>
<td>168</td>
</tr>
<tr>
<td>A Week ago</td>
<td>483</td>
<td>525</td>
<td>1.77%</td>
<td>7012</td>
<td>167</td>
</tr>
<tr>
<td>Maximum</td>
<td>570</td>
<td>980</td>
<td>4.08%</td>
<td>10305</td>
<td>241</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = 9

Actual ρ = 1.0

Actual CFR = 2.0 %

Risk diagram (last 15 days)
Canada 07-06-2021. Pop: 37.7M. Cumulative incidence: 3690/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-06-2021</td>
<td>1396162 (+35991)</td>
</tr>
<tr>
<td>14-06-2021</td>
<td>1400253 (+7888)</td>
</tr>
<tr>
<td>17-06-2021</td>
<td>1402464 (+9981)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>87</td>
<td>66</td>
<td>0.52%</td>
<td>1942</td>
<td>30</td>
</tr>
<tr>
<td>A Week ago</td>
<td>134</td>
<td>97</td>
<td>0.52%</td>
<td>2730</td>
<td>40</td>
</tr>
<tr>
<td>Maximum</td>
<td>317</td>
<td>342</td>
<td>4.63%</td>
<td>8767</td>
<td>178</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = 7

Actual \( \beta_j = 0.8 \)

Actual CFR = 0.5%

Risk diagram (last 15 days)
Pakistan 07-06-2021. Pop: 220.9M. Cumulative incidence: 423/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-05-2021</td>
<td>937,750 (+11,001)</td>
</tr>
<tr>
<td>14-06-2021</td>
<td>947,419 (+8799)</td>
</tr>
<tr>
<td>17-05-2021</td>
<td>945,302 (+11672)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>34</td>
<td>11</td>
<td>2.70%</td>
<td>1797</td>
<td>78</td>
</tr>
<tr>
<td>A Week ago</td>
<td>18</td>
<td>15</td>
<td>1.90%</td>
<td>2483</td>
<td>67</td>
</tr>
<tr>
<td>Maximum</td>
<td>35</td>
<td>40</td>
<td>4.90%</td>
<td>5863</td>
<td>140</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = 3

Actual P1 = 0.8

Actual CFR = 2.2 %

Risk diagram (last 15 days)
Israel 07-06-2021. Pop: 8.7M. Cumulative incidence: 9700/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-05-2021</td>
<td>839698 (+23)</td>
</tr>
<tr>
<td>14-05-2021</td>
<td>839621 (+38)</td>
</tr>
<tr>
<td>17-05-2021</td>
<td>839636 (+51)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPIC</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>3</td>
<td>3</td>
<td>2.34%</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>A Week ago</td>
<td>4</td>
<td>2</td>
<td>1.53%</td>
<td>19</td>
<td>1</td>
</tr>
<tr>
<td>Maximum</td>
<td>1293</td>
<td>1405</td>
<td>4.95%</td>
<td>8329</td>
<td>59</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = 2

Actual $\rho_7 = 1.0$

Actual CFR = 2.3%

Risk diagram (last 15 days)
Malaysia 07-06-2021. Pop: 32.4M. Cumulative incidence: 1922/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-06-2021</td>
<td>639222 (+1/1361)</td>
</tr>
<tr>
<td>14-06-2021</td>
<td>657346 (+35886)</td>
</tr>
<tr>
<td>17-06-2021</td>
<td>670315 (+48228)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>DP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>320</td>
<td>303</td>
<td>2.02%</td>
<td>7104</td>
<td>95</td>
</tr>
<tr>
<td>A Week ago</td>
<td>392</td>
<td>349</td>
<td>1.74%</td>
<td>7680</td>
<td>70</td>
</tr>
<tr>
<td>Maximum</td>
<td>326</td>
<td>350</td>
<td>4.08%</td>
<td>2736</td>
<td>95</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = 9

Actual $\rho_1 = 0.9$

Actual CFR = 2.0 %

Risk diagram (last 15 days)
South Korea 07-06-2021. Pop: 51.3M. Cumulative incidence: 283/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-06-2021</td>
<td>147007 (+14171)</td>
</tr>
<tr>
<td>14-06-2021</td>
<td>149208 (+4118)</td>
</tr>
<tr>
<td>17-06-2021</td>
<td>1531055 (+3963)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>16</td>
<td>18</td>
<td>0.45%</td>
<td>643</td>
<td>2</td>
</tr>
<tr>
<td>A Week ago</td>
<td>16</td>
<td>14</td>
<td>0.70%</td>
<td>546</td>
<td>4</td>
</tr>
<tr>
<td>Maximum</td>
<td>28</td>
<td>439</td>
<td>4.08%</td>
<td>1047</td>
<td>23</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = 3

Actual ργ = 1.1

Actual CFR = 0.4 %

Risk diagram (last 15 days)
(3) Analysis and prediction of COVID-19 for some USA states and counties

Forecasts of the USA are done using Facebook AI model¹

California 08-06-2021. Pop: 39.5M. Cumulative incidence: 9612/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>3801224 (+36711)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>3800600 (+4307)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>3809175 (+11222)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>104</td>
<td>-63</td>
<td>2.72%</td>
<td>4289</td>
<td>43</td>
</tr>
<tr>
<td>A Week ago</td>
<td>59</td>
<td>43</td>
<td>2.19%</td>
<td>1602</td>
<td>43</td>
</tr>
<tr>
<td>Maximum</td>
<td>1447</td>
<td>1700</td>
<td>4.96%</td>
<td>43948</td>
<td>565</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = 8

Actual CFR = 2.7 %

Risk diagram (last 15 days)
United States  08-06-2021. Pop: 331.4M. Cumulative incidence: 10021/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>33111182 (+ 101353)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>33165325 (+ 47210)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>33203407 (+ 9128)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>126</td>
<td>259</td>
<td>3.92 %</td>
<td>47406</td>
<td>2102</td>
</tr>
<tr>
<td>A Week ago</td>
<td>87</td>
<td>64</td>
<td>1.32 %</td>
<td>17105</td>
<td>591</td>
</tr>
<tr>
<td>Maximum</td>
<td>997</td>
<td>1091</td>
<td>5.00 %</td>
<td>245493</td>
<td>3327</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = 8

Actual $R_0 = 2.1$

Actual CFR = 3.9 %

Risk diagram (last 15 days)
Texas 08-06-2021. Pop: 29.0M. Cumulative incidence: 10217/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>2966000 (+35851)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>2978047 (+68432)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>2974283 (+11868)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>53</td>
<td>48</td>
<td>2.48%</td>
<td>1160</td>
<td>76</td>
</tr>
<tr>
<td>A Week ago</td>
<td>68</td>
<td>50</td>
<td>1.37%</td>
<td>1052</td>
<td>34</td>
</tr>
<tr>
<td>Maximum</td>
<td>1106</td>
<td>1864</td>
<td>4.93%</td>
<td>23044</td>
<td>336</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = 6

Actual $R_T = 0.9$

Actual CFR = 2.5%

Risk diagram (last 15 days)

Risk diagram (last 15 days)
New York 08-06-2021. Pop: 19.5M. Cumulative incidence: 10821/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>2092000 (=13076)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>2094669 (=10412)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>2096668 (=8523)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>59</td>
<td>68</td>
<td>3.91 %</td>
<td>833</td>
<td>141</td>
</tr>
<tr>
<td>A Week ago</td>
<td>75</td>
<td>53</td>
<td>0.84 %</td>
<td>910</td>
<td>21</td>
</tr>
<tr>
<td>Maximum</td>
<td>1117</td>
<td>1227</td>
<td>5.00 %</td>
<td>16335</td>
<td>1206</td>
</tr>
</tbody>
</table>

Actual $\rho_7 = 1.2$

Actual CFR = 3.9%

Risk diagram (last 15 days)
Illinois 08-06-2021. Pop: 12.7M. Cumulative incidence: 10969/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>1392192 (+22224)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>1394572 (+4604)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>1396248 (+6260)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>101</td>
<td>14</td>
<td>3.52%</td>
<td>1067</td>
<td>98</td>
</tr>
<tr>
<td>A Week ago</td>
<td>120</td>
<td>79</td>
<td>1.15%</td>
<td>791</td>
<td>26</td>
</tr>
<tr>
<td>Maximum</td>
<td>1333</td>
<td>1560</td>
<td>4.91%</td>
<td>12384</td>
<td>184</td>
</tr>
</tbody>
</table>

BIOCOP-Cov2 Degree = 8

Actual $\rho_{y} = 1.4$

Actual CFR = 3.5%

Risk diagram (last 15 days)
Pennsylvania 08-06-2021. Pop: 12.8M. Cumulative incidence: 9460/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>121317/2 (+21301)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>1215510 (+4396)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>1217029 (+5925)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th>A16</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>128</td>
<td>10</td>
<td>1.49%</td>
<td>1522</td>
<td>35</td>
</tr>
<tr>
<td>125</td>
<td>76</td>
<td>1.02%</td>
<td>912</td>
<td>23</td>
</tr>
<tr>
<td>1274</td>
<td>1232</td>
<td>4.84%</td>
<td>10579</td>
<td>223</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = 8

Actual $p_f = 1.5$

Actual CFR = 1.5%

Risk diagram (last 15 days)
Georgia 08-06-2021. Pop: 10.6M. Cumulative incidence: 10382/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>1100619 (≈ 1633)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>1107374 (+132)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>1103038 (+1266)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPC</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>131</td>
<td>494</td>
<td>2.57%</td>
<td>1547</td>
<td>19</td>
</tr>
<tr>
<td>A Week ago</td>
<td>67</td>
<td>57</td>
<td>2.23%</td>
<td>441</td>
<td>25</td>
</tr>
<tr>
<td>Maximum</td>
<td>1238</td>
<td>7636</td>
<td>5.60%</td>
<td>9778</td>
<td>139</td>
</tr>
</tbody>
</table>

Actual $R_0 = 3.8$

Actual CFR = 2.6%

Risk diagram (last 15 days)
New Jersey 08-06-2021. Pop: 8.9M. Cumulative incidence: 11465/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>1019387 (+10800)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>1020694 (+2387)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>1021043 (+3336)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>414</td>
<td>1950</td>
<td>1.79%</td>
<td>4977</td>
<td>11</td>
</tr>
<tr>
<td>A Week ago</td>
<td>55</td>
<td>77</td>
<td>1.29%</td>
<td>275</td>
<td>13</td>
</tr>
<tr>
<td>Maximum</td>
<td>967</td>
<td>17843</td>
<td>5.00%</td>
<td>6480</td>
<td>333</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = 9

Actual CFR = 1.8 %

Risk diagram (last 15 days)
Tennessee 08-06-2021. Pop: 6.8M. Cumulative incidence: 12445/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>8412 (± 8328)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>6427 (± 7118)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>8436 (± 6246)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A16</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>343</td>
<td>906</td>
<td>2.46%</td>
<td>3092</td>
<td>24</td>
</tr>
<tr>
<td>A Week ago</td>
<td>67</td>
<td>56</td>
<td>1.08%</td>
<td>250</td>
<td>8</td>
</tr>
<tr>
<td>Maximum</td>
<td>1370</td>
<td>2209</td>
<td>4.88%</td>
<td>9629</td>
<td>135</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = 9

Actual $p_2 = 2.6$

Actual CFR = 2.5%
Indiana 08-06-2021. Pop: 6.7M. Cumulative incidence: 11152/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>751900 (+11130)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>751176 (+23941)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>754047 (+32051)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>R7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>145</td>
<td>364</td>
<td>4.45%</td>
<td>935</td>
<td>69</td>
</tr>
<tr>
<td>A Week ago</td>
<td>125</td>
<td>84</td>
<td>0.83%</td>
<td>452</td>
<td>9</td>
</tr>
<tr>
<td>Maximum</td>
<td>1368</td>
<td>1576</td>
<td>4.94%</td>
<td>6001</td>
<td>273</td>
</tr>
</tbody>
</table>

BIOCov2 Degree = 8

Actual $p_f = 2.5$

Actual CFR = 4.5%

Risk diagram (last 15 days)
Massachusetts 08-06-2021. Pop: 6.9M. Cumulative incidence: 10277/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>662134 (+46192)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>663044 (+45272)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>663700 (+44616)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>AI4</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>733</td>
<td>1785</td>
<td>1.65%</td>
<td>7018</td>
<td>6</td>
</tr>
<tr>
<td>A Week ago</td>
<td>56</td>
<td>46</td>
<td>0.28%</td>
<td>197</td>
<td>7</td>
</tr>
<tr>
<td>Maximum</td>
<td>1230</td>
<td>1785</td>
<td>4.96%</td>
<td>2018</td>
<td>160</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = 9

Actual $\gamma = 2.4$

Actual CFR = 1.1%

Risk diagram (last 15 days)
Missouri 08-06-2021. Pop: 6.1M. Cumulative incidence: 10086/10^5

**Predictions for next days**

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>569088 (+49937)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>569916 (+49100)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>570498 (+48527)</td>
</tr>
</tbody>
</table>

**Current indicators**

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>186</td>
<td>365</td>
<td>5.72%</td>
<td>1173</td>
<td>43</td>
</tr>
<tr>
<td>A Week ago</td>
<td>97</td>
<td>86</td>
<td>1.75%</td>
<td>409</td>
<td>8</td>
</tr>
<tr>
<td>Maximum</td>
<td>1332</td>
<td>32560</td>
<td>4.99%</td>
<td>12883</td>
<td>100</td>
</tr>
</tbody>
</table>

**Actual ρ_7 = 2.0**

**Actual CFR = 5.7%**

**BIOCOC-Cov2 Degree = 9**

**Risk diagram (last 15 days)**
Minnesota 08-06-2021. Pop: 5.6M. Cumulative incidence: 10694/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>603825 (+727)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>605175 (+2013)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>606018 (+2920)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th>A14</th>
<th>EP5</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>73</td>
<td>66</td>
<td>1.76 %</td>
<td>292</td>
<td>19</td>
</tr>
<tr>
<td>106</td>
<td>86</td>
<td>0.61 %</td>
<td>289</td>
<td>7</td>
</tr>
<tr>
<td>1680</td>
<td>1879</td>
<td>4.82 %</td>
<td>7052</td>
<td>67</td>
</tr>
</tbody>
</table>

Actual $\rho_f = 1.2$

Actual CFR = 1.3 %

BIOCov2 Degree = 7

Risk diagram (last 15 days)
South Carolina 08-06-2021. Pop: 5.1M. Cumulative incidence: 11544/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>595,357 (+10121)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>596,323 (+1678)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>597,007 (+2662)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>-188</td>
<td>1127</td>
<td>-4.10%</td>
<td>-1623</td>
<td>-50</td>
</tr>
<tr>
<td>A Week ago</td>
<td>93</td>
<td>62</td>
<td>0.81%</td>
<td>241</td>
<td>4</td>
</tr>
<tr>
<td>Maximum</td>
<td>1354</td>
<td>1127</td>
<td>4.06%</td>
<td>5338</td>
<td>106</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = NaN

Actual $p = -60.1$

Actual CFR = -4.1%
Colorado 08-06-2021. Pop: 5.8M. Cumulative incidence: 9563/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>551688 (+9496)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>552687 (+2166)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>553699 (+2968)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>200</td>
<td>348</td>
<td>1.53 %</td>
<td>1031</td>
<td>28</td>
</tr>
<tr>
<td>A Week ago</td>
<td>182</td>
<td>158</td>
<td>0.62 %</td>
<td>917</td>
<td>9</td>
</tr>
<tr>
<td>Maximum</td>
<td>1200</td>
<td>1298</td>
<td>4.96 %</td>
<td>5064</td>
<td>102</td>
</tr>
</tbody>
</table>

Actual $R_f = 1.7$

Actual CFR = 1.5 %

Risk diagram (last 15 days)
Alabama 08-06-2021. Pop: 4.9M. Cumulative incidence: 11147/10⁵

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>547286 (+726)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>548090 (+1550)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>548665 (+2125)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>-191</td>
<td>-165</td>
<td>0.78%</td>
<td>-1547</td>
<td>8</td>
</tr>
<tr>
<td>A Week ago</td>
<td>79</td>
<td>30</td>
<td>2.42%</td>
<td>211</td>
<td>5</td>
</tr>
<tr>
<td>Maximum</td>
<td>1148</td>
<td>1887</td>
<td>4.88%</td>
<td>4281</td>
<td>154</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = NaN

Actual $\rho_2 = 0.9$

Actual CFR = 0.8 %

Risk diagram (last 15 days)
Louisiana 08-06-2021. Pop: 4.6M. Cumulative incidence: 10194/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>474305 (+521)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>475508 (+1231)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>476655 (+1776)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A16</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>104</td>
<td>120</td>
<td>1.00%</td>
<td>381</td>
<td>4</td>
</tr>
<tr>
<td>A Week ago</td>
<td>112</td>
<td>102</td>
<td>1.39%</td>
<td>311</td>
<td>6</td>
</tr>
<tr>
<td>Maximum</td>
<td>1066</td>
<td>1390</td>
<td>4.87%</td>
<td>3756</td>
<td>66</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = 8

Actual $r_f = 1.2$

Actual CFR = 1.2 %

Risk diagram (last 15 days)
Kentucky 08-06-2021. Pop: 4.5M. Cumulative incidence: 10349/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>46278L (+560)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>46351L (+1195)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>46406L (+1721)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>124</td>
<td>265</td>
<td>5.00 %</td>
<td>494</td>
<td>12</td>
</tr>
<tr>
<td>A Week ago</td>
<td>127</td>
<td>90</td>
<td>4.95 %</td>
<td>296</td>
<td>49</td>
</tr>
<tr>
<td>Maximum</td>
<td>1254</td>
<td>1860</td>
<td>4.95 %</td>
<td>4415</td>
<td>115</td>
</tr>
</tbody>
</table>

Actual ρ = 2.4

Actual CFR = 5.8 %

Risk diagram (last 15 days)
Maryland 08-06-2021. Pop: 6.0M. Cumulative incidence: 7624/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>461610 (+658)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>462278 (+1378)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>462751 (+1799)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>38</td>
<td>31</td>
<td>10.00 %</td>
<td>137</td>
<td>15</td>
</tr>
<tr>
<td>A Week ago</td>
<td>59</td>
<td>40</td>
<td>7.26 %</td>
<td>198</td>
<td>83</td>
</tr>
<tr>
<td>Maximum</td>
<td>683</td>
<td>763</td>
<td>4.37 %</td>
<td>3228</td>
<td>91</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = 5

Actual $p_f = 0.8$

Actual CFR = 10.7 %

Risk diagram (last 15 days)
Iowa 08-06-2021. Pop: 3.2M. Cumulative incidence: 11795/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>371716 (+437)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>372240 (+67)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>372011 (+458)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>70</td>
<td>122</td>
<td>1.35%</td>
<td>223</td>
<td>5</td>
</tr>
<tr>
<td>A Week ago</td>
<td>55</td>
<td>45</td>
<td>0.96%</td>
<td>92</td>
<td>3</td>
</tr>
<tr>
<td>Maximum</td>
<td>2012</td>
<td>64137</td>
<td>4.37%</td>
<td>8914</td>
<td>85</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = 7

Incident observed cases

Actual \( R_t = 1.7 \)

Actual CFR = 1.4 %

Risk diagram (last 15 days)
Arkansas 08-06-2021. Pop: 3.0M. Cumulative incidence: 11357/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>340442 (~2684)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>340458 (~2708)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>340738 (~2908)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>169</td>
<td>1245</td>
<td>-2.5 %</td>
<td>596</td>
<td>-11</td>
</tr>
<tr>
<td>A Week ago</td>
<td>74</td>
<td>62</td>
<td>1.04 %</td>
<td>123</td>
<td>1</td>
</tr>
<tr>
<td>Maximum</td>
<td>1336</td>
<td>7083</td>
<td>4.71 %</td>
<td>3086</td>
<td>46</td>
</tr>
</tbody>
</table>

Actual $R_0 = 7.4$

Actual CFR = -2.5 %

Risk diagram (last 15 days)
Mississippi 08-06-2021. Pop: 3.0M. Cumulative incidence: 10704/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>31507 (+529)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>315475 (+847)</td>
</tr>
<tr>
<td>18 06 2021</td>
<td>319721 (+1143)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>54</td>
<td>53</td>
<td>1.45%</td>
<td>110</td>
<td>4</td>
</tr>
<tr>
<td>A week ago</td>
<td>71</td>
<td>64</td>
<td>1.76%</td>
<td>120</td>
<td>2</td>
</tr>
<tr>
<td>Maximum</td>
<td>1099</td>
<td>1188</td>
<td>4.97%</td>
<td>2432</td>
<td>51</td>
</tr>
</tbody>
</table>

Actual $R_I = 1.0$

Actual CFR = 1.5%

Risk diagram (last 15 days)
Kansas 08-06-2021. Pop: 2.9M. Cumulative incidence: 10876/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>317424 (+559)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>317865 (+1000)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>318175 (+1310)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>61</td>
<td>68</td>
<td>2.33 %</td>
<td>72</td>
<td>7</td>
</tr>
<tr>
<td>A Week ago</td>
<td>61</td>
<td>68</td>
<td>1.26 %</td>
<td>81</td>
<td>3</td>
</tr>
<tr>
<td>Maximum</td>
<td>1324</td>
<td>1679</td>
<td>4.37 %</td>
<td>2767</td>
<td>58</td>
</tr>
</tbody>
</table>

Actual $R_f = 1.1$

Actual CFR = 2.8 %

Risk diagram (last 15 days)
Nebraska 08-06-2021. Pop: 1.9M. Cumulative incidence: 11563/10^5

**Predictions for next days**

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>223812 (+127)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>224438 (+653)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>224375 (+690)</td>
</tr>
</tbody>
</table>

**Current indicators**

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>126</td>
<td>235</td>
<td>7.74%</td>
<td>348</td>
<td>23</td>
</tr>
<tr>
<td>A Week ago</td>
<td>28</td>
<td>4</td>
<td>0.61%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Maximum</td>
<td>1616</td>
<td>1883</td>
<td>4.65%</td>
<td>2391</td>
<td>31</td>
</tr>
</tbody>
</table>

**BIOCov2 Degree = 9**

Actual $\rho_7 = 1.9$

Actual CFR = 7.7%
Oregon 08-06-2021. Pop: 4.2M. Cumulative incidence: 4829/10^5

**Predictions for next days**

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>204009 (+3300)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>204492 (+813)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>204808 (+1129)</td>
</tr>
</tbody>
</table>

**Current indicators**

<table>
<thead>
<tr>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>102</td>
<td>93</td>
<td>1.15%</td>
<td>290</td>
<td>8</td>
</tr>
<tr>
<td>A Week ago</td>
<td>125</td>
<td>103</td>
<td>0.77%</td>
<td>322</td>
</tr>
<tr>
<td>Maximum</td>
<td>488</td>
<td>535</td>
<td>4.84%</td>
<td>1534</td>
</tr>
</tbody>
</table>

**BIOCOM-Cov2 Degree = 7**

**Actual $\rho_Y = 0.9$**

**Actual CFR = 1.2 %**

**Risk diagram (last 15 days)**

Active cases per 10^5 inh. (last 14 days)
West Virginia 08-06-2021. Pop: 1.8M. Cumulative incidence: 9075/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>162936 (+300)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>163754 (+618)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>163467 (+832)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A16</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>112</td>
<td>166</td>
<td>-1.63 %</td>
<td>110</td>
<td>-12</td>
</tr>
<tr>
<td>A Week ago</td>
<td>285</td>
<td>119</td>
<td>0.66 %</td>
<td>177</td>
<td>2</td>
</tr>
<tr>
<td>Maximum</td>
<td>1163</td>
<td>1319</td>
<td>4.95 %</td>
<td>1524</td>
<td>33</td>
</tr>
</tbody>
</table>

BIOCOC-Cov2 Degree = 7

Actual CFR = -1.6 %
Rhode Island 08-06-2021. Pop: 1.1M. Cumulative incidence: 14358/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>14006 (+11945)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>140368 (+11738)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>140504 (+11602)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>1399</td>
<td>74360</td>
<td>8.66 %</td>
<td>1799</td>
<td>37</td>
</tr>
<tr>
<td>A Week ago</td>
<td>143</td>
<td>48</td>
<td>0.37 %</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>Maximum</td>
<td>1564</td>
<td>74360</td>
<td>4.99 %</td>
<td>1799</td>
<td>51</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = 9

Actual ρ_f = NA

Actual CFR = 8.9 %

Risk diagram (last 15 days)
South Dakota 08-06-2021. Pop: 0.9M. Cumulative incidence: 14051/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>124419 (+117)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>124532 (+230)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>124612 (+310)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>31</td>
<td>21</td>
<td>1.97%</td>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td>A week ago</td>
<td>46</td>
<td>41</td>
<td>1.66%</td>
<td>24</td>
<td>2</td>
</tr>
<tr>
<td>Maximum</td>
<td>2134</td>
<td>2494</td>
<td>3.30%</td>
<td>1458</td>
<td>26</td>
</tr>
</tbody>
</table>

Actual $\rho_j = 0.7$

Actual CFR = 2.0 %

BIOCov2 Degree = 4

Risk diagram (last 15 days)
Montana 08-06-2021. Pop: 1.1M. Cumulative incidence: 10538/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>112,763 (+138)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>112,996 (+365)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>113,145 (+520)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A16</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>115</td>
<td>167</td>
<td>1.65 %</td>
<td>108</td>
<td>3</td>
</tr>
<tr>
<td>A Week ago</td>
<td>97</td>
<td>97</td>
<td>0.61 %</td>
<td>67</td>
<td>1</td>
</tr>
<tr>
<td>Maximum</td>
<td>1558</td>
<td>1887</td>
<td>4.02 %</td>
<td>1293</td>
<td>18</td>
</tr>
</tbody>
</table>

Actual $\rho_\gamma = 1.5$

Actual CFR = 1.7%

BIOCOM-Cov2 Degree = 8

Risk diagram (last 15 days)
North Dakota  08-06-2021. Pop: 0.8M. Cumulative incidence: 14472/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>110447 (+162)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>110655 (+370)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>110801 (+516)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>75</td>
<td>95</td>
<td>2.50%</td>
<td>46</td>
<td>4</td>
</tr>
<tr>
<td>A Week ago</td>
<td>96</td>
<td>66</td>
<td>0.48%</td>
<td>36</td>
<td>1</td>
</tr>
<tr>
<td>Maximum</td>
<td>2559</td>
<td>2734</td>
<td>4.93%</td>
<td>1453</td>
<td>21</td>
</tr>
</tbody>
</table>

Actual $p_2 = 1.3$

Actual CFR = 2.5%
Delaware 08-06-2021. Pop: 1.0M. Cumulative incidence: 11213/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>109153 (+351)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>109339 (+151)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>109047 (+279)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>68</td>
<td>56</td>
<td>7.82%</td>
<td>40</td>
<td>21</td>
</tr>
<tr>
<td>A Week ago</td>
<td>202</td>
<td>76</td>
<td>0.27%</td>
<td>55</td>
<td>0</td>
</tr>
<tr>
<td>Maximum</td>
<td>1187</td>
<td>1319</td>
<td>4.88%</td>
<td>855</td>
<td>21</td>
</tr>
</tbody>
</table>

Actual $p_I = 0.8$

Actual CFR = 7.8%
New Hampshire 08-06-2021. Pop: 1.4M. Cumulative incidence: 7277/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>98752 (+192)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>98939 (+5)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>99066 (+122)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>-1.03%</td>
<td>95</td>
<td>-5</td>
</tr>
<tr>
<td>A Week ago</td>
<td>79</td>
<td>45</td>
<td>0.49%</td>
<td>60</td>
</tr>
<tr>
<td>Maximum</td>
<td>866</td>
<td>983</td>
<td>4.99%</td>
<td>884</td>
</tr>
</tbody>
</table>

Actual $R_t = 2.7$

Actual CFR = -1.1%

Risk diagram (last 15 days)
Alaska 08-06-2021. Pop: 0.7M. Cumulative incidence: 9553/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>69206 (+382)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>69681 (+270)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>69809 (+77)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>AU16</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>76</td>
<td>2607</td>
<td>-0.96%</td>
<td>334</td>
<td>-1</td>
</tr>
<tr>
<td>A Week ago</td>
<td>176</td>
<td>2607</td>
<td>-0.99%</td>
<td>33</td>
<td>0</td>
</tr>
<tr>
<td>Maximum</td>
<td>1278</td>
<td>2807</td>
<td>4.76%</td>
<td>703</td>
<td>5</td>
</tr>
</tbody>
</table>

Actual $\rho_7 = 8.0$

Actual CFR = -1.0 %

Risk diagram (last 15 days)
Maine 08-06-2021. Pop: 1.3M. Cumulative incidence: 5083/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>608447 (+1161)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>608603 (+272)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>608706 (+375)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0.40%</td>
<td>64</td>
<td>2</td>
</tr>
<tr>
<td>A Week ago</td>
<td></td>
<td>0.49%</td>
<td>84</td>
<td>0</td>
</tr>
<tr>
<td>Maximum</td>
<td>638</td>
<td>701</td>
<td>4.81%</td>
<td>92</td>
</tr>
</tbody>
</table>

Actual $p_γ = 0.8$

Actual CFR = 0.4%

Risk diagram (last 15 days)
Wyoming 08-06-2021. Pop: 0.6M. Cumulative incidence: 10513/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>60857 (+131)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>60974 (+80)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>60908 (+124)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>168</td>
<td>174</td>
<td>-0.63 %</td>
<td>67</td>
<td>-1</td>
</tr>
<tr>
<td>A Week ago</td>
<td>182</td>
<td>171</td>
<td>0.73 %</td>
<td>72</td>
<td>6</td>
</tr>
<tr>
<td>Maximum</td>
<td>1973</td>
<td>2161</td>
<td>4.00 %</td>
<td>891</td>
<td>10</td>
</tr>
</tbody>
</table>

Actual $p_I = 1.0$

Actual CFR = -0.6 %

Risk diagram (last 15 days)

Active cases per 10^5 inh. (last 14 days)
District of Columbia  08-06-2021. Pop: 0.7M. Cumulative incidence: 6960/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>49140 (+79)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>49275 (+156)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>49328 (+209)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>42</td>
<td>26</td>
<td>1.18%</td>
<td>15</td>
<td>6</td>
</tr>
<tr>
<td>A Week ago</td>
<td>53</td>
<td>-226</td>
<td>1.49%</td>
<td>27</td>
<td>1</td>
</tr>
<tr>
<td>Maximum</td>
<td>585</td>
<td>691</td>
<td>4.64%</td>
<td>322</td>
<td>12</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = 5

Actual $\rho_7 = 0.6$

Actual CFR = 1.2%

Risk diagram (last 15 days)
Vermont 08-06-2021. Pop: 0.6M. Cumulative incidence: 3893/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-06-2021</td>
<td>24316 (+21)</td>
</tr>
<tr>
<td>15-06-2021</td>
<td>24362 (+67)</td>
</tr>
<tr>
<td>18-06-2021</td>
<td>24392 (+97)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR%</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>79</td>
<td>30</td>
<td>0.13%</td>
<td>13</td>
<td>6</td>
</tr>
<tr>
<td>A Week ago</td>
<td>45</td>
<td>26</td>
<td>0.11%</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>Maximum</td>
<td>393</td>
<td>557</td>
<td>4.13%</td>
<td>190</td>
<td>3</td>
</tr>
</tbody>
</table>

Actual \( \rho_7 = 1.0 \)

Actual CFR = 0.1%

BIOCOM-Cov2 Degree = 5

Risk diagram (last 15 days)
(4) Analysis and prediction of COVID-19 for Spain and its regions

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>07-05-2021</td>
<td>722233 (+9741)</td>
</tr>
<tr>
<td>11-05-2021</td>
<td>735750 (+23701)</td>
</tr>
<tr>
<td>14-05-2021</td>
<td>724167 (+23088)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>133</td>
<td>96</td>
<td>0.52%</td>
<td>482</td>
<td>5</td>
</tr>
<tr>
<td>A week ago</td>
<td>185</td>
<td>159</td>
<td>0.51%</td>
<td>784</td>
<td>7</td>
</tr>
<tr>
<td>Maximum</td>
<td>1010</td>
<td>1131</td>
<td>4.94%</td>
<td>4996</td>
<td>287</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = 7

Actual $p_2 = 0.7$

Actual CFR = 0.5%

Risk diagram (last 15 days)
Andalucía 04-06-2021. Pop: 8.4M. Cumulative incidence: 6988/10⁵

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>07-05-2021</td>
<td>5997350 (+27251)</td>
</tr>
<tr>
<td>11-06-2021</td>
<td>5956054 (+75001)</td>
</tr>
<tr>
<td>14-06-2021</td>
<td>5986159 (+10254)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>187</td>
<td>167</td>
<td>0.37%</td>
<td>1043</td>
<td>3</td>
</tr>
<tr>
<td>A Week ago</td>
<td>187</td>
<td>195</td>
<td>0.47%</td>
<td>1150</td>
<td>5</td>
</tr>
<tr>
<td>Maximum</td>
<td>1087</td>
<td>1193</td>
<td>4.84%</td>
<td>6866</td>
<td>97</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = 8

Actual $R_f = 0.9$

Actual CFR = 0.4%

Risk diagram (last 15 days)
Galicia 04-06-2021. Pop: 2.7M. Cumulative incidence: 4714/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>07-05-2021</td>
<td>127436 (+176)</td>
</tr>
<tr>
<td>11-06-2021</td>
<td>127668 (+394)</td>
</tr>
<tr>
<td>14-05-2021</td>
<td>127777 (+112)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>52</td>
<td>41</td>
<td>0.61%</td>
<td>84</td>
<td>1</td>
</tr>
<tr>
<td>A Week ago</td>
<td>71</td>
<td>60</td>
<td>0.58%</td>
<td>118</td>
<td>1</td>
</tr>
<tr>
<td>Maximum</td>
<td>809</td>
<td>934</td>
<td>4.89%</td>
<td>1681</td>
<td>26</td>
</tr>
</tbody>
</table>
Murcia 04-06-2021. Pop: 1.5M. Cumulative incidence: 7578/10⁵

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>07-06-2021</td>
<td>113323 (+144)</td>
</tr>
<tr>
<td>11-06-2021</td>
<td>113468 (+256)</td>
</tr>
<tr>
<td>14-06-2021</td>
<td>113551 (+342)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>AI4</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>60</td>
<td>43</td>
<td>0.58%</td>
<td>49</td>
<td>6</td>
</tr>
<tr>
<td>A Week ago</td>
<td>77</td>
<td>72</td>
<td>0.67%</td>
<td>79</td>
<td>1</td>
</tr>
<tr>
<td>Maximum</td>
<td>1601</td>
<td>2104</td>
<td>4.76%</td>
<td>1851</td>
<td>22</td>
</tr>
</tbody>
</table>

BIOC0M-Cov2 Degree = 6

Actual $\rho_7 = 0.7$

Actual CFR = 0.6 %

Risk diagram (last 15 days)
Navarra 04-06-2021. Pop: 0.7M. Cumulative incidence: 9598/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>07-05-2021</td>
<td>62935 (+142)</td>
</tr>
<tr>
<td>11-05-2021</td>
<td>63119 (+326)</td>
</tr>
<tr>
<td>14-05-2021</td>
<td>63245 (+412)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>NT</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>134</td>
<td>136</td>
<td>0.60%</td>
<td>63</td>
<td>1</td>
</tr>
<tr>
<td>A Week ago</td>
<td>131</td>
<td>131</td>
<td>0.11%</td>
<td>62</td>
<td>0</td>
</tr>
<tr>
<td>Maximum</td>
<td>1179</td>
<td>1260</td>
<td>4.10%</td>
<td>582</td>
<td>17</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = 8

Actual ρ γ = 1.0

Actual CFR = 0.6%

Risk diagram (last 15 days)
Baleares 04-06-2021. Pop: 1.1M. Cumulative incidence: 5270/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>03-05-2021</td>
<td>60529 (+77)</td>
</tr>
<tr>
<td>11-06-2021</td>
<td>60768 (+199)</td>
</tr>
<tr>
<td>14-06-2021</td>
<td>60844 (+200)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th>A16</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>42</td>
<td>0.00 %</td>
<td>34</td>
<td>6</td>
</tr>
<tr>
<td>A Week ago</td>
<td>41</td>
<td>39</td>
<td>0.14 %</td>
<td>31</td>
</tr>
<tr>
<td>Maximum</td>
<td>826</td>
<td>982</td>
<td>3.92 %</td>
<td>683</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = 5

Actual $\rho_7 = 1.1$

Actual CFR = 0.0 %

Risk diagram (last 15 days)
Melilla 04-06-2021. Pop: 0.1M. Cumulative incidence: 10617/10^5

Predictions for next days

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>07-05-2021</td>
<td>9184 (+12)</td>
</tr>
<tr>
<td>11-06-2021</td>
<td>9209 (+27)</td>
</tr>
<tr>
<td>14-06-2021</td>
<td>9218 (+36)</td>
</tr>
</tbody>
</table>

Current indicators

<table>
<thead>
<tr>
<th></th>
<th>A14</th>
<th>EPG</th>
<th>CFR</th>
<th>N7</th>
<th>D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>146</td>
<td>96</td>
<td>0.00 %</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>A Week ago</td>
<td>187</td>
<td>196</td>
<td>0.44 %</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td>Maximum</td>
<td>1339</td>
<td>1486</td>
<td>4.88 %</td>
<td>86</td>
<td>2</td>
</tr>
</tbody>
</table>

BIOCOM-Cov2 Degree = 7

Actual $R_0 = 0.7$

Actual CFR = 0.0 %

Risk diagram (last 15 days)
Methods
Methods

(1) Data source

Data are daily obtained from European Centre for Disease Prevention and Control (ECDC)\(^1\) and country official sources (when indicated). Daily data comprise, among others: total confirmed cases, total confirmed new cases, total deaths, total new deaths. It must be considered that the report is always providing data from previous day. In the document we use the date at which the datapoint is assumed to belong, i.e., report from 15/03/2020 is giving data from 14/03/2020, the latter being used in the subsequent analysis.

(2) Data processing and plotting

Data are initially processed with Matlab in order to update timeseries, i.e., last datapoints are added to historical sequences. These timeseries are plotted for individual countries and for the UE+EFTA+UK as a whole:

- Number of cumulative confirmed cases
- Number of reported new cases
- Number of cumulative deaths

Then, two indicators are calculated and plotted, too:

- Case fatality rate: number of 14-day cumulative deaths divided by the number of 14-day cumulative confirmed cases of 21 days before, to account for the average 21-day delay between diagnosis and death.
- \(\rho\): this variable is related with the reproduction number, i.e., with the number of new infections caused by a single case. It is evaluated as follows for the day before last report \((t-1)\):

\[
\rho(t-1) = \frac{N_{new}(t) + N_{new}(t-1) + N_{new}(t-2)}{N_{new}(t-5) + N_{new}(t-6) + N_{new}(t-7)}
\]

where \(N_{new}(t)\) is the number of new confirmed cases at day \(t\) after applying a 7-day moving average to the new cases dataset, so that fluctuations (e.g., weekend effect) are smoothed. Updated methodology to account for weekend effect is discussed and explained in reports #152\(^2\) and #154\(^3\).

(3) Classification of countries according to their epidemic level: the scale Biocom-Cov

Countries are assigned a degree in the discrete Biocom-Cov scale, which aims to facilitate a simple way of assessing the situation of the country. It is based on the level of daily new cases per 100,000 inhabitants as follows:

<table>
<thead>
<tr>
<th>Pandemic degree</th>
<th>Daily new incident cases per 10^3 inh.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0-0.1</td>
</tr>
<tr>
<td>2</td>
<td>0.1-0.5</td>
</tr>
<tr>
<td>3</td>
<td>0.5-1.25</td>
</tr>
<tr>
<td>4</td>
<td>1.25-2</td>
</tr>
<tr>
<td>5</td>
<td>2-3</td>
</tr>
<tr>
<td>6</td>
<td>3-5</td>
</tr>
<tr>
<td>7</td>
<td>5-8</td>
</tr>
</tbody>
</table>

\(^2\) https://upcommons.upc.edu/handle/2117/331959
\(^3\) https://upcommons.upc.edu/handle/2117/332347
(4) Fitting a mathematical model to data

Previous studies have shown that Gompertz model\(^4\) correctly describes the Covid-19 epidemic in all analysed countries. It is an empirical model that starts with an exponential growth but that gradually decreases its specific growth rate. Therefore, it is adequate for describing an epidemic wave that is characterized by an initial exponential growth but a progressive decrease in spreading velocity provided that appropriate control measures are applied. Once in the tail, predictions work but the meaning of parameters is lost.

Gompertz model is described by the equation:

\[
N(t) = K e^{-\ln\left(\frac{K}{N_0}\right)} e^{-a(t-t_0)}
\]

where \(N(t)\) is the cumulated number of confirmed cases at \(t\) (in days), and \(N_0\) is the number of cumulated cases the day at day \(t_0\). The model has two parameters:

- \(a\) is the velocity at which specific spreading rate is slowing down;
- \(K\) is the expected final number of cumulated cases at the end of the epidemic.

This model is fitted to reported cumulative cases of the UE and of countries that accomplish two criteria: 4 or more consecutive days with more than 100 cumulated cases, and at least one datapoint over 200 cases. Day \(t_0\) is chosen as that one at which \(N(t)\) overpasses 100 cases. If more than 15 datapoints that accomplish the stated criteria are available, only the last 15 points are used. The fitting is done using Matlab’s Curve Fitting package with Nonlinear Least Squares method, which also provides confidence intervals of fitted parameters (\(a\) and \(K\)) and the \(R^2\) of the fitting. At the initial stages the dynamics is exponential and \(K\) cannot be correctly evaluated. In fact, at this stage the most relevant parameter is \(a\).

It is worth to mention that the simplicity of this model and the lack of previous assumptions about the Covid-19 behaviour make it appropriate for universal use, i.e., it can be fitted to any country independently of its socioeconomic context and control strategy. Then, the model is capable of quantifying the observed dynamics in an objective and standard manner and predicting short-term tendencies.

The model and its results on predictions in European countries during the first wave has been published in Plos Computational Biology\(^5\).

(5) Using the model for predicting short-term tendencies

The model is finally used for a short-term prediction of the evolution of the cumulated number of cases (3-5 days). The confidence interval of predictions is assessed with the Matlab function \texttt{predint}, with a 99\% confidence level. These predictions are shown in the plots as red dots with corresponding error bar. For series longer than 9 timepoints, last 3 points are weighted in the fitting so that changes in tendencies are well captured by the model. Updated methodology to account for weekend effect is explained in report #155\(^6\).

(6) Estimating non-diagnosed cases


\(^6\) https://upcommons.upc.edu/handle/2117/332350
Lethality of Covid-19 has been estimated at around 1% for Republic of Korea and the Diamond Princess cruise. Besides, median duration of viral shedding after Covid-19 onset has been estimated at 18.5 days for non-survivors\(^7\) in a retrospective study in Wuhan. These data allow for an estimation of total number of cases, considering that the number of deaths at certain moment should be about 1% of total cases 18.5 days before. This is valid for estimating cases of countries at stage II, since in stage I the deaths would be mostly due to the incidence at the country from which they were imported. We establish a threshold of 50 reported cases before starting this estimation.

Reported deaths are passed through a moving average filter of 5 points in order to smooth tendencies. Then, the corresponding number of cases is found assuming the 1% lethality. Finally, these cases are distributed between 18 and 19 days before each one.

**Full methodology and results have been published in Plos One\(^8\).**

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\(^8\) Català et al, PLoS ONE 16(1): e0243701, 2021. [https://doi.org/10.1371/journal.pone.0243701](https://doi.org/10.1371/journal.pone.0243701)