Supplementary File S1

Contents

Table 1 - Pearson’s correlation plot for included variables .................................................................2

Main Model Specification ..........................................................................................................................4

Table 2 - Adding COVID-19 vaccination to the model ..........................................................................5

Tables 3 – 4: Adding COVID-19 case rates to the model .....................................................................6

Table 5 – V-Dem Component Indices ..................................................................................................7

Table 6 - Excluding lower-middle-income countries ............................................................................8

Table 7 - Alternative Measure of Democratic Governance ................................................................8

Table 8 – Excluding countries with limited excess mortality data .......................................................9

Tables 9 – 12: Adding further control variables ..................................................................................10

Tables 13 – 14: Replacing control variables in main model with alternatives .....................................12

List of included countries .......................................................................................................................13
Collinearity between all included variables

Table 1. Pearson’s correlation plot for included variables

<table>
<thead>
<tr>
<th></th>
<th>V-Dem LD</th>
<th>EIU Index</th>
<th>Age ≥ 65</th>
<th>Age ≥ 80</th>
<th>Pop density</th>
<th>Female</th>
<th>GDP per cap</th>
<th>GINI index</th>
<th>COVID Cases</th>
<th>Prevalence CVD</th>
<th>Prevalence Diabetes/DM</th>
<th>Prevalence Neurological</th>
<th>Prevalence Cancer</th>
<th>Obesity</th>
<th>Smoking</th>
<th>Pollution</th>
<th>UHC</th>
<th>Health expenditure per cap</th>
<th>Out-of-pocket expenditure</th>
<th>Pop with ≥ 1 dose COVID vaccine</th>
<th>Pop fully vaccinated</th>
<th>Stringency Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-Dem LDI</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EIU Index</td>
<td>0.89</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age ≥ 65</td>
<td>0.56</td>
<td>0.58</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age ≥ 80</td>
<td>0.54</td>
<td>0.50</td>
<td>0.94</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pop density</td>
<td>-0.14</td>
<td>-0.04</td>
<td>0.03</td>
<td>0.01</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>0.26</td>
<td>0.25</td>
<td>0.45</td>
<td>0.40</td>
<td>0.01</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GDP per cap</td>
<td>0.53</td>
<td>0.59</td>
<td>0.36</td>
<td>0.36</td>
<td>0.23</td>
<td>-0.18</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GINI index</td>
<td>-0.13</td>
<td>-0.15</td>
<td>-0.50</td>
<td>-0.44</td>
<td>-0.13</td>
<td>-0.15</td>
<td>-0.27</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.25</td>
<td>0.24</td>
<td>0.26</td>
<td>0.30</td>
<td>-0.21</td>
<td>-0.004</td>
<td>0.13</td>
<td>-0.11</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>-------</td>
<td>--------</td>
<td>------</td>
<td>-------</td>
<td>------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVID cases</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prevalence CVD</td>
<td>0.14</td>
<td>0.32</td>
<td>0.86</td>
<td>0.77</td>
<td>-0.12</td>
<td>0.45</td>
<td>0.15</td>
<td>-0.55</td>
<td>0.31</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prevalence respiratory</td>
<td>0.63</td>
<td>0.66</td>
<td>0.62</td>
<td>0.62</td>
<td>-0.06</td>
<td>0.15</td>
<td>0.65</td>
<td>-0.25</td>
<td>0.25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prevalence diabetes /kidney</td>
<td>0.25</td>
<td>0.24</td>
<td>0.62</td>
<td>0.49</td>
<td>0.12</td>
<td>0.29</td>
<td>0.02</td>
<td>-0.22</td>
<td>0.22</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prevalence neurological</td>
<td>0.44</td>
<td>0.44</td>
<td>0.70</td>
<td>0.70</td>
<td>-0.09</td>
<td>0.25</td>
<td>0.50</td>
<td>-0.53</td>
<td>0.36</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prevalence Cancer</td>
<td>0.12</td>
<td>0.10</td>
<td>0.58</td>
<td>0.52</td>
<td>0.25</td>
<td>0.14</td>
<td>0.20</td>
<td>-0.53</td>
<td>0.15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obesity</td>
<td>-0.09</td>
<td>-0.22</td>
<td>-0.36</td>
<td>-0.28</td>
<td>-0.30</td>
<td>0.32</td>
<td>-0.09</td>
<td>0.16</td>
<td>0.08</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smoking</td>
<td>0.05</td>
<td>0.05</td>
<td>0.42</td>
<td>0.39</td>
<td>-0.10</td>
<td>0.34</td>
<td>-0.17</td>
<td>-0.28</td>
<td>0.32</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pollution</td>
<td>-0.62</td>
<td>-0.59</td>
<td>-0.52</td>
<td>-0.51</td>
<td>-0.07</td>
<td>0.04</td>
<td>-0.61</td>
<td>0.15</td>
<td>-0.23</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UHC</td>
<td>0.51</td>
<td>0.54</td>
<td>0.49</td>
<td>0.48</td>
<td>0.18</td>
<td>0.10</td>
<td>0.67</td>
<td>-0.25</td>
<td>0.12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health expenditure per cap</td>
<td>0.62</td>
<td>0.66</td>
<td>0.46</td>
<td>0.46</td>
<td>0.04</td>
<td>-0.01</td>
<td>0.90</td>
<td>-0.25</td>
<td>0.15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

BMJ Publishing Group Limited (BMJ) disclaims all liability and responsibility arising from any reliance placed on this supplemental material which has been supplied by the author(s).
<table>
<thead>
<tr>
<th></th>
<th>-0.41</th>
<th>-0.50</th>
<th>-0.42</th>
<th>-0.40</th>
<th>0.02</th>
<th>0.21</th>
<th>0.56</th>
<th>-0.20</th>
<th>-0.27</th>
<th>-0.25</th>
<th>-0.54</th>
<th>-0.17</th>
<th>-0.27</th>
<th>-0.18</th>
<th>0.06</th>
<th>0.15</th>
<th>0.63</th>
<th>-0.60</th>
<th>-0.53</th>
<th>1.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Out-of-pocket expenditure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pop with ≥ 1 dose COVID vaccine</td>
<td>0.57</td>
<td>0.64</td>
<td>0.39</td>
<td>0.41</td>
<td>0.14</td>
<td>-0.13</td>
<td>0.65</td>
<td>-0.16</td>
<td>0.39</td>
<td>0.10</td>
<td>0.57</td>
<td>0.14</td>
<td>0.48</td>
<td>0.10</td>
<td>-0.13</td>
<td>0.00</td>
<td>-0.61</td>
<td>0.58</td>
<td>0.59</td>
<td>-0.56</td>
</tr>
<tr>
<td>Pop fully vaccinated</td>
<td>0.50</td>
<td>0.57</td>
<td>0.44</td>
<td>0.48</td>
<td>0.13</td>
<td>-0.06</td>
<td>0.59</td>
<td>-0.27</td>
<td>0.48</td>
<td>0.21</td>
<td>0.52</td>
<td>0.20</td>
<td>0.51</td>
<td>0.17</td>
<td>-0.04</td>
<td>0.18</td>
<td>-0.50</td>
<td>0.46</td>
<td>0.51</td>
<td>-0.47</td>
</tr>
<tr>
<td>Stringency Index</td>
<td>-0.35</td>
<td>-0.29</td>
<td>-0.29</td>
<td>-0.25</td>
<td>-0.14</td>
<td>-0.12</td>
<td>-0.42</td>
<td>0.08</td>
<td>-0.03</td>
<td>-0.12</td>
<td>-0.42</td>
<td>-0.11</td>
<td>-0.30</td>
<td>-0.06</td>
<td>0.06</td>
<td>0.05</td>
<td>0.38</td>
<td>-0.55</td>
<td>-0.53</td>
<td>0.26</td>
</tr>
</tbody>
</table>

**Main model specification:** Excess mortality\(_i\) = \(\beta_0 + \beta_1VDem_i + \beta_2age_i + \beta_3female_i + \beta_4GDP_i + \beta_5UHC_i + \varepsilon_i\)

4
Adding vaccination to the main model

Table 2. Association between excess mortality per 100,000 population and democratic governance, additionally controlling for population in receipt of at least one dose of COVID-19 vaccine (n=75)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>P-Value</th>
<th>Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-Dem LDI</td>
<td>-2.05</td>
<td>0.01</td>
<td>-2.62 – 0.48</td>
</tr>
<tr>
<td>Age ≥ 65 years (%)</td>
<td>13.5</td>
<td>&lt;0.001</td>
<td>7.29 – 19.7</td>
</tr>
<tr>
<td>Population female (%)</td>
<td>2.63</td>
<td>0.58</td>
<td>-6.84 – 12.1</td>
</tr>
<tr>
<td>GDP per capita (current US$)</td>
<td>-0.001</td>
<td>0.19</td>
<td>-0.003 – 0.0006</td>
</tr>
<tr>
<td>UHC Service Coverage Index</td>
<td>-3.59</td>
<td>0.16</td>
<td>-8.59 – -1.41</td>
</tr>
<tr>
<td>Population in receipt of at least one dose of COVID-19 vaccine (%)</td>
<td>-0.41</td>
<td>0.64</td>
<td>-2.16 – 1.33</td>
</tr>
</tbody>
</table>

R² = 0.39
## Adding COVID-19 case rates to the main model

Table 3. Association between excess mortality per 100,000 population and democratic governance, additionally controlling for COVID-19 case number per 100,000 population (n=75)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>P-Value</th>
<th>Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-Dem LDI</td>
<td>-2.59</td>
<td>&lt;0.001</td>
<td>-3.92 to -1.26</td>
</tr>
<tr>
<td>Age ≥ 65 years (%)</td>
<td>10.7</td>
<td>&lt;0.001</td>
<td>5.04 to 16.3</td>
</tr>
<tr>
<td>Population female (%)</td>
<td>5.70</td>
<td>0.17</td>
<td>-2.45 to 13.9</td>
</tr>
<tr>
<td>GDP per capita (current US$)</td>
<td>-0.001</td>
<td>0.14</td>
<td>-0.003 to 0.004</td>
</tr>
<tr>
<td>UHC Service Coverage Index</td>
<td>-3.33</td>
<td>0.13</td>
<td>-7.68 to 1.03</td>
</tr>
<tr>
<td>Cumulative COVID-19 cases per 100,000 population</td>
<td>0.01</td>
<td>&lt;0.001</td>
<td>0.006 to 0.19</td>
</tr>
</tbody>
</table>

R² = 0.56

Table 4. Association between excess mortality per 100,000 population and democratic governance in high-income countries only, with and without controlling for COVID-19 case number per 100,000 population (n=44)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Without COVID-19 case rate</th>
<th>Coefficient</th>
<th>P-Value</th>
<th>Confidence Interval</th>
<th>With COVID-19 case rate</th>
<th>Coefficient</th>
<th>P-Value</th>
<th>Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-Dem LDI</td>
<td></td>
<td>-2.65</td>
<td>0.03</td>
<td>-4.98 to -0.32</td>
<td>-3.09</td>
<td>0.007</td>
<td>-5.28 to -0.90</td>
<td></td>
</tr>
<tr>
<td>Age ≥ 65 years (%)</td>
<td></td>
<td>8.91</td>
<td>0.06</td>
<td>-0.35 to 18.1</td>
<td>10.7</td>
<td>0.02</td>
<td>1.95 to 19.4</td>
<td></td>
</tr>
<tr>
<td>Population female (%)</td>
<td></td>
<td>8.19</td>
<td>0.12</td>
<td>-2.21 to 18.6</td>
<td>6.59</td>
<td>0.18</td>
<td>-3.15 to 16.3</td>
<td></td>
</tr>
<tr>
<td>GDP per capita (current US$)</td>
<td></td>
<td>-0.001</td>
<td>0.31</td>
<td>-0.003 to -0.0009</td>
<td>-0.001</td>
<td>0.29</td>
<td>-0.002 to -0.0008</td>
<td></td>
</tr>
<tr>
<td>UHC Service Coverage Index</td>
<td></td>
<td>-6.63</td>
<td>0.07</td>
<td>-13.7 to -0.49</td>
<td>-3.65</td>
<td>0.30</td>
<td>-10.6 to 3.34</td>
<td></td>
</tr>
<tr>
<td>Cumulative COVID-19 cases per 100,000 population</td>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.01</td>
<td>0.01</td>
<td>0.002 to 0.02</td>
<td></td>
</tr>
</tbody>
</table>

R² = 0.48
## V-Dem Component Indices

Table 5. V-Dem Component Indices Definitions

<table>
<thead>
<tr>
<th>Component Index</th>
<th>Definition</th>
<th>Sub-Indices</th>
</tr>
</thead>
</table>
| Electoral       | The V-Dem Electoral Democracy Index (EDI) captures not only the extent to which regimes hold clean, free and fair elections, but also their actual freedom of expression, alternative sources of information and association, as well as male and female suffrage and the degree to which government policy is vested in elected political officials. | Expanded freedom of expression index  
Freedom of association index  
Share of population with suffrage  
Clean elections index  
Elected officials index |
| Liberal         | In V-Dem’s conceptual scheme the liberal principle of democracy embodies the importance of protecting individual and minority rights against both the tyranny of the state and the tyranny of the majority. It also captures the “horizontal” methods of accountability between more or less equally standing institutions that ensure the effective checks and balances between institutions and in particular limit the exercise of executive power. This is achieved by strong rule of law and constitutionally protected civil liberties, independent judiciary and strong parliament that are able to hold the executive to account and limit its powers. | Equality before the law and individual liberty index  
Judicial constraints on the executive index  
Legislative constraints on the executive index |
| Egalitarian     | The egalitarian principle of democracy measures to what extent all social groups enjoy equal capabilities to participate in the political arena. It relies on the idea that democracy is a system of rule “by the people” where citizens participate in various ways, such as making informed voting decisions, expressing opinions, demonstrating, running for office or influencing policy-making in other ways. The egalitarian principle of democracy is fundamentally related to political participation, as systematic inequalities in the rights and resources of citizens of specific social groups limit capabilities to participate in the political and governing processes. Therefore, a more equal distribution of resources across groups results in political equality and hence democracy. | Equal protection index  
Equal access index  
Equal distribution of resources index |
| Participatory    | The participatory principle of democracy emphasizes active participation by citizens in all political processes, electoral and non-electoral. This principle prefers direct rule by citizens as practicable. The V-Dem Participatory Component Index (PCI) takes into account four important aspects of citizen participation: civil society organizations, mechanisms of direct democracy, and participation and representation through local and regional governments. Four different V-Dem indices capture these aspects and are the basis for the PCI. | Civil society participation index  
Direct popular vote index  
Local government index  
Regional government index |
| Deliberative    | The V-Dem Deliberative Component Index (DCI) captures to what extent the deliberative principle of democracy is achieved. It assesses the process by which decisions are reached in a polity. A deliberative process is one in which public reasoning, focused on the common good, motivates political decisions – as contrasted with emotional appeals, solidary attachments, parochial interests or coercion. According to this principle, democracy requires more than an aggregation of existing preferences. There should also be respectful dialogue at all levels – from preference formation to final decision – among informed and competent participants who are open to persuasion. | Reasoned justification  
Common good  
Respect counterarguments  
Range of consultation  
Engaged society |
Excluding lower-middle-income countries

Table 6. Association between excess mortality per 100,000 population and democratic governance, excluding lower-middle-income countries (n=69)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>P-Value</th>
<th>Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-Dem LDI</td>
<td>-2.38</td>
<td>0.004</td>
<td>-3.96 - -0.80</td>
</tr>
<tr>
<td>Age ≥ 65 years (%)</td>
<td>11.9</td>
<td>0.001</td>
<td>5.28 – 18.6</td>
</tr>
<tr>
<td>Population female (%)</td>
<td>4.96</td>
<td>0.30</td>
<td>-4.46 – 14.4</td>
</tr>
<tr>
<td>GDP per capita (current US$)</td>
<td>-0.001</td>
<td>0.19</td>
<td>-0.003 - 0.0006</td>
</tr>
<tr>
<td>UHC Service Coverage Index</td>
<td>-4.17</td>
<td>0.10</td>
<td>-9.21 – 0.87</td>
</tr>
</tbody>
</table>

R2 = 0.41

Alternative Measure of Democratic Governance

Table 7. Association between excess mortality per 100,000 population and democratic governance measured by EIU Democracy Index (2019) (n=74)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>P-Value</th>
<th>Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>EIU Democracy Index</td>
<td>-26.4</td>
<td>0.008</td>
<td>-45.8 - -7.07</td>
</tr>
<tr>
<td>Age ≥ 65 years (%)</td>
<td>12.5</td>
<td>&lt;0.001</td>
<td>6.41 – 18.7</td>
</tr>
<tr>
<td>Population female (%)</td>
<td>3.28</td>
<td>0.47</td>
<td>-5.65 – 12.2</td>
</tr>
<tr>
<td>GDP per capita (current US$)</td>
<td>-0.001</td>
<td>0.20</td>
<td>-0.003 – 0.0006</td>
</tr>
<tr>
<td>UHC Service Coverage Index</td>
<td>-3.87</td>
<td>0.11</td>
<td>-8.67 – 0.92</td>
</tr>
</tbody>
</table>

R2 = 0.38

BMJ Publishing Group Limited (BMJ) disclaims all liability and responsibility arising from any reliance placed on this supplemental material which has been supplied by the author(s).
### Excluding countries with limited excess mortality data

Table 8. Association between excess mortality per 100,000 population and democratic governance, excluding countries with excess mortality data not extending past April 2021 (n=65)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>P-Value</th>
<th>Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-Dem LDI</td>
<td>-2.28</td>
<td>0.01</td>
<td>-4.07 - -0.50</td>
</tr>
<tr>
<td>Age ≥ 65 years (%)</td>
<td>12.5</td>
<td>0.001</td>
<td>5.70 - 19.3</td>
</tr>
<tr>
<td>Population female (%)</td>
<td>4.20</td>
<td>0.37</td>
<td>-5.11 - 13.5</td>
</tr>
<tr>
<td>GDP per capita (current US$)</td>
<td>-0.001</td>
<td>0.12</td>
<td>-0.003 - 0.0004</td>
</tr>
<tr>
<td>UHC Service Coverage Index</td>
<td>-4.23</td>
<td>0.14</td>
<td>-9.87 - 1.42</td>
</tr>
</tbody>
</table>

R2 = 0.42
**Adding further control variables**

Table 9. Association between excess mortality per 100,000 population and democratic governance measured by V-Dem LDI, controlling for prevalence of cardiovascular disease (CVD) (n=75)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>P-Value</th>
<th>Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-Dem LDI</td>
<td>-1.79</td>
<td>0.02</td>
<td>-3.28 – -0.29</td>
</tr>
<tr>
<td>Age ≥ 65 years (%)</td>
<td>3.61</td>
<td>0.54</td>
<td>-8.18 – 15.4</td>
</tr>
<tr>
<td>Population female (%)</td>
<td>2.18</td>
<td>0.63</td>
<td>-6.70 – 11.1</td>
</tr>
<tr>
<td>GDP per capita (current US$)</td>
<td>-0.001</td>
<td>0.12</td>
<td>-0.003 – 0.0004</td>
</tr>
<tr>
<td>UHC Service Coverage Index</td>
<td>-2.27</td>
<td>0.37</td>
<td>-7.30 – 2.76</td>
</tr>
<tr>
<td>Prevalence CVD (%)</td>
<td>16.8</td>
<td>0.06</td>
<td>-0.80 – 34.5</td>
</tr>
</tbody>
</table>

R² = 0.42

Table 10. Association between excess mortality per 100,000 population and democratic governance measured by V-Dem LDI, controlling for prevalence of cancer (n=75)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>P-Value</th>
<th>Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-Dem LDI</td>
<td>-2.01</td>
<td>0.01</td>
<td>-3.55 – -0.48</td>
</tr>
<tr>
<td>Age ≥ 65 years (%)</td>
<td>11.5</td>
<td>0.004</td>
<td>3.71 – 19.3</td>
</tr>
<tr>
<td>Population female (%)</td>
<td>3.61</td>
<td>0.43</td>
<td>-5.42 – 12.6</td>
</tr>
<tr>
<td>GDP per capita (current US$)</td>
<td>-0.001</td>
<td>0.13</td>
<td>-0.003 – 0.0004</td>
</tr>
<tr>
<td>UHC Service Coverage Index</td>
<td>-3.63</td>
<td>0.14</td>
<td>-8.52 – 1.26</td>
</tr>
<tr>
<td>Prevalence Cancer (%)</td>
<td>2.47</td>
<td>0.47</td>
<td>-4.31 – 9.24</td>
</tr>
</tbody>
</table>

R² = 0.40
Table 11. Association between excess mortality per 100,000 population and democratic governance measured by V-Dem LDI, controlling for prevalence of tobacco smoking (n=71)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>P-Value</th>
<th>Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-Dem LDI</td>
<td>-2.17</td>
<td>0.004</td>
<td>-3.63 - -0.71</td>
</tr>
<tr>
<td>Age ≥ 65 years (%)</td>
<td>11.8</td>
<td>0.002</td>
<td>4.55 – 19.1</td>
</tr>
<tr>
<td>Population female (%)</td>
<td>4.58</td>
<td>0.31</td>
<td>-4.48 – 13.6</td>
</tr>
<tr>
<td>GDP per capita (current US$)</td>
<td>-0.0009</td>
<td>0.29</td>
<td>-0.003 – 0.0008</td>
</tr>
<tr>
<td>UHC Service Coverage Index</td>
<td>-4.35</td>
<td>0.12</td>
<td>-9.92 – 1.22</td>
</tr>
<tr>
<td>Prevalence Smoking (%)</td>
<td>0.43</td>
<td>0.84</td>
<td>-3.84 – 4.71</td>
</tr>
</tbody>
</table>

R2 = 0.40

Table 12. Association between excess mortality per 100,000 population and democratic governance measured by V-Dem LDI, controlling for out-of-pocket health expenditure (n=75)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>P-Value</th>
<th>Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-Dem LDI</td>
<td>-2.17</td>
<td>0.004</td>
<td>-3.58 - -0.71</td>
</tr>
<tr>
<td>Age ≥ 65 years (%)</td>
<td>14.3</td>
<td>&lt;0.001</td>
<td>7.79 – 20.8</td>
</tr>
<tr>
<td>Population female (%)</td>
<td>0.90</td>
<td>0.86</td>
<td>-9.41 – 11.2</td>
</tr>
<tr>
<td>GDP per capita (current US$)</td>
<td>-0.001</td>
<td>0.16</td>
<td>-0.003 – 0.0005</td>
</tr>
<tr>
<td>UHC Service Coverage Index</td>
<td>-2.97</td>
<td>0.26</td>
<td>-8.19 – 2.26</td>
</tr>
<tr>
<td>Out-of-pocket expenditure (%)</td>
<td>1.04</td>
<td>0.37</td>
<td>-1.25 – 3.33</td>
</tr>
</tbody>
</table>

R2 = 0.40
Replacing control variables in main model with alternatives

Table 13. Association between excess mortality per 100,000 population and democratic governance, replacing age ≥ 65 with age ≥ 80 years (n=75)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>P-Value</th>
<th>Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-Dem LDI</td>
<td>-2.19</td>
<td>0.006</td>
<td>-3.73 – 0.64</td>
</tr>
<tr>
<td>Age ≥ 80 years (%)</td>
<td>33.0</td>
<td>0.001</td>
<td>14.0 – 51.9</td>
</tr>
<tr>
<td>Population female (%)</td>
<td>5.86</td>
<td>0.20</td>
<td>-3.21 – 14.9</td>
</tr>
<tr>
<td>GDP per capita (current US$)</td>
<td>-0.001</td>
<td>0.22</td>
<td>-0.003 – 0.0007</td>
</tr>
<tr>
<td>UHC Service Coverage Index</td>
<td>-3.24</td>
<td>0.20</td>
<td>-8.24 – 1.75</td>
</tr>
</tbody>
</table>

R² = 0.34

Table 14. Association between excess mortality per 100,000 population and democratic governance, replacing GDP per capita with health expenditure per capita (n=75)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>P-Value</th>
<th>Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-Dem LDI</td>
<td>-2.28</td>
<td>0.003</td>
<td>-3.76 – 0.80</td>
</tr>
<tr>
<td>Age ≥ 65 years (%)</td>
<td>13.2</td>
<td>&lt;0.001</td>
<td>7.06 – 19.4</td>
</tr>
<tr>
<td>Population female (%)</td>
<td>5.19</td>
<td>0.21</td>
<td>-3.05 – 13.4</td>
</tr>
<tr>
<td>Health expenditure per capita (current US$)</td>
<td>-0.009</td>
<td>0.29</td>
<td>-0.03 – 0.008</td>
</tr>
<tr>
<td>UHC Service Coverage Index</td>
<td>-4.33</td>
<td>0.08</td>
<td>-9.20 – 0.55</td>
</tr>
</tbody>
</table>

R² = 0.38
List of Included Countries

<table>
<thead>
<tr>
<th>Albania</th>
<th>Estonia</th>
<th>Malaysia</th>
<th>Singapore</th>
</tr>
</thead>
<tbody>
<tr>
<td>Armenia</td>
<td>Finland</td>
<td>Malta</td>
<td>Slovakia</td>
</tr>
<tr>
<td>Australia</td>
<td>France</td>
<td>Mauritius</td>
<td>Slovenia</td>
</tr>
<tr>
<td>Austria</td>
<td>Georgia</td>
<td>Mexico</td>
<td>South Korea</td>
</tr>
<tr>
<td>Azerbaijan</td>
<td>Germany</td>
<td>Moldova</td>
<td>Spain</td>
</tr>
<tr>
<td>Belarus</td>
<td>Greece</td>
<td>Mongolia</td>
<td>Sweden</td>
</tr>
<tr>
<td>Belgium</td>
<td>Guatemala</td>
<td>Montenegro</td>
<td>Switzerland</td>
</tr>
<tr>
<td>Bosnia and Herzegovina</td>
<td>Hong Kong</td>
<td>Netherlands</td>
<td>Taiwan</td>
</tr>
<tr>
<td>Brazil</td>
<td>Hungary</td>
<td>New Zealand</td>
<td>Tajikistan</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>Iceland</td>
<td>North Macedonia</td>
<td>Thailand</td>
</tr>
<tr>
<td>Canada</td>
<td>Iran</td>
<td>Norway</td>
<td>Tunisia</td>
</tr>
<tr>
<td>Chile</td>
<td>Ireland</td>
<td>Oman</td>
<td>Ukraine</td>
</tr>
<tr>
<td>Colombia</td>
<td>Israel</td>
<td>Paraguay</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>Italy</td>
<td>Philippines</td>
<td>United States</td>
</tr>
<tr>
<td>Croatia</td>
<td>Jamaica</td>
<td>Poland</td>
<td>Uruguay</td>
</tr>
<tr>
<td>Cuba</td>
<td>Japan</td>
<td>Portugal</td>
<td>Uzbekistan</td>
</tr>
<tr>
<td>Cyprus</td>
<td>Latvia</td>
<td>Qatar</td>
<td>Kosovo</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>Lebanon</td>
<td>Romania</td>
<td>Seychelles</td>
</tr>
<tr>
<td>Denmark</td>
<td>Lithuania</td>
<td>Russia</td>
<td>Serbia</td>
</tr>
<tr>
<td>Egypt</td>
<td>Luxembourg</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>