

# BROWNSTONE

## I N S T I T U T E

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## More Than 400 Studies on the Failure of Compulsory Covid Interventions

BY PAUL ELIAS ALEXANDER NOVEMBER 30, 2021 POLICY, PUBLIC HEALTH 165 MINUTE READ

The great body of evidence (comparative research studies and high-quality pieces of evidence and reporting judged to be relevant to this analysis) shows that COVID-19 lockdowns, shelter-in-place policies, masks, school closures, and mask mandates have failed in their purpose of curbing transmission or reducing deaths. These restrictive policies were ineffective and devastating failures, causing immense harm especially to the poorer and vulnerable within societies.

Nearly all governments have attempted compulsory measures to control the virus, but no government can claim success. The research indicates that mask mandates, lockdowns, and school closures have had no discernible impact of virus trajectories.

Bendavid reported “in the framework of this analysis, there is no evidence that more restrictive nonpharmaceutical interventions (‘lockdowns’) contributed substantially to bending the curve of new cases in England, France, Germany, Iran, Italy, the Netherlands, Spain, or the United States in early 2020.” We’ve known this for a very long

time now but governments continue to double down, causing misery upon people with ramifications that will likely take decades or more to repair.

The benefits of the societal lockdowns and restrictions have been totally exaggerated and the harms to our societies and children have been severe: the harms to children, the undiagnosed illness that will result in excess mortality in years to come, depression, anxiety, suicidal ideation in our young people, drug overdoses and suicides due to the lockdown policies, the crushing isolation due to the lockdowns, psychological harms, domestic and child abuse, sexual abuse of children, loss of jobs and businesses and the devastating impact, and the massive numbers of deaths resulting from the lockdowns that will impact heavily on women and minorities.

Now we have whispers again for the new lockdowns in response to the Omicron variant that, by my estimations, will be likely infectious but not more lethal.

How did we get here? We knew that we could never eradicate this mutable virus (that has an animal reservoir) with lockdowns and that it would likely become endemic like other circulating common cold coronaviruses. When we knew an age-risk stratified approach was optimal (focused protection as outlined in the Great Barrington Declaration) and not carte blanche policies when we had evidence of a 1,000-fold differential in risk of death between a child and an elderly

person. We knew of the potency and success of early ambulatory outpatient treatment in reducing the risk of hospitalization and death in the vulnerable.

It was clear very early on that Task Forces and medical advisors and decision-makers were not reading the evidence, were not up to speed with the science or data, did not understand the evidence, did not ‘get’ the evidence, and were blinded to the science, often driven by their own prejudices, biases, arrogance, and ego. They remain ensconced in sheer academic sloppiness and laziness. It was clear that the response was not a public health one. It was a political one from day one and continues today.

A recent study (pre-print) captures the essence and catastrophe of a lockdown society and the hollowing out of our children by looking at how children learn (3 months to 3 years old) and finding across all measures that “children born during the pandemic have significantly reduced verbal, motor, and overall cognitive performance compared to children born pre-pandemic.” Researchers also reported that “males and children in lower socioeconomic families have been most affected. Results highlight that even in the absence of direct SARS-CoV-2 infection and COVID-19 illness, the environmental changes associated with the COVID-19 pandemic is significantly and negatively affecting infant and child development.”

Perhaps Donald Luskin of the Wall Street Journal best captures what we

have stably witnessed since the start of these unscientific lockdowns and school closures: “Six months into the Covid-19 pandemic, the U.S. has now carried out two large-scale experiments in public health—first, in March and April, the lockdown of the economy to arrest the spread of the virus, and second, since mid-April, the reopening of the economy. The results are in. Counterintuitive though it may be, statistical analysis shows that locking down the economy didn’t contain the disease’s spread and reopening it didn’t unleash a second wave of infections.”

The [British Columbia Center for Disease Control](#) (BCCDC) issued a full report in September 2020 on the impact of school closures on children and found para “that i) children comprise a small proportion of diagnosed COVID-19 cases, have less severe illness, and mortality is rare ii) children do not appear to be a major source of SARS-CoV-2 transmission in households or schools, a finding which has been consistent globally iii) there are important differences between how influenza and SARS-CoV-2 are transmitted. School closures may be less effective as a prevention measure for COVID-19 iv) school closures can have severe and unintended consequences for children and youth v) school closures contribute to greater family stress, especially for female caregivers, while families balance child care and home learning with employment demands vi) family violence may be on the rise during the COVID pandemic, while the closure of schools and childcare centres may create a gap in the safety net for children who are at risk of abuse

and neglect.”

Now places like Austria (November 2021) have re-entered the world of lockdown lunacy only to be outmatched by Australia. Indeed, an illustration of the spurious need for these ill-informed actions is that they are being done in the face of clear scientific evidence showing that during strict prior societal lockdowns, school lockdowns, mask mandates, and additional societal restrictions, the number of positive cases went up!

The pandemic response today remains a purely political one.

What follows is the current totality of the body of evidence (available comparative studies and high-level pieces of evidence, reporting, and discussion) on COVID-19 lockdowns, masks, school closures, and mask mandates. There is no conclusive evidence supporting claims that any of these restrictive measures worked to reduce viral transmission or deaths. Lockdowns were ineffective, school closures were ineffective, mask mandates were ineffective, and masks themselves were and are ineffective and harmful.

**Table 1:** Evidence showing that COVID-19 lockdowns, use of face masks, school closures, and mask mandates were largely ineffective and caused crushing harms

| Study/report title, author, and | Predominant study/evidence report finding |
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| year published and interactive url link                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| <b>LOCKDOWNS</b>                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>1)</b> Lockdown Effects on Sars-CoV-2 Transmission – The evidence from Northern Jutland, Kepp, 2021                                                                                          | “Analysis shows that while infection levels decreased, they did so before lockdown was effective, and infection numbers also decreased in neighbour municipalities without mandates...direct spill-over to neighbour municipalities or the simultaneous mass testing do not explain this...data suggest that efficient infection surveillance and voluntary compliance make full lockdowns unnecessary.”                                                                                          |
| <b>2)</b> A country level analysis measuring the impact of government actions, country preparedness and socioeconomic factors on COVID-19 mortality and related health outcomes, Chaudhry, 2020 | “Analysis was conducted to assess the impact of timing and type of national health policy/actions undertaken towards COVID-19 mortality and related health outcomes...low levels of national preparedness, scale of testing and population characteristics were associated with increased national case load and overall mortality....in our analysis, full lockdowns and wide-spread COVID-19 testing were not associated with reductions in the number of critical cases or overall mortality.” |
| <b>3)</b> Full lockdown policies in Western Europe countries have no evident impacts on the COVID-19 epidemic, Meunier, 2020                                                                    | “Extrapolating pre-lockdown growth rate trends, we provide estimates of the death toll in the absence of any lockdown policies, and show that these strategies might not have saved any life in western Europe. We also show that neighboring countries applying less restrictive social distancing measures (as opposed to police-enforced home containment) experience a very similar time evolution of the epidemic.”                                                                          |
| <b>4)</b> Effects of non-pharmaceutical interventions on COVID-19: A Tale of                                                                                                                    | “Inferences on effects of NPIs are non-robust and highly sensitive to model specification. Claimed benefits of                                                                                                                                                                                                                                                                                                                                                                                    |

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| Three Models, Chin, 2020                                                                                             | lockdown appear grossly exaggerated.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>5) Assessing mandatory stay-at-home and business closure effects on the spread of COVID-19,</b><br>Bendavid, 2020 | “Assessing mandatory stay-at-home and business closure effects on the spread of COVID-19...we do not find significant benefits on case growth of more restrictive NPIs. Similar reductions in case growth may be achievable with less-restrictive interventions.”“After subtracting the epidemic and lnNPI effects, we find no clear, significant beneficial effect of mrNPIs on case growth in any country.”“In the framework of this analysis, there is no evidence that more restrictive nonpharmaceutical interventions (‘lockdowns’) contributed substantially to bending the curve of new cases in England, France, Germany, Iran, Italy, the Netherlands, Spain or the United States in early 2020.”                                                                                                                                                                                                                                                                                                                                                                            |
| <b>6) Effect of school closures on mortality from coronavirus disease 2019: old and new predictions,</b> Rice, 2020  | “We therefore conclude that the somewhat counterintuitive results that school closures lead to more deaths are a consequence of the addition of some interventions that suppress the first wave and failure to prioritise protection of the most vulnerable people. When the interventions are lifted, there is still a large population who are susceptible and a substantial number of people who are infected. This then leads to a second wave of infections that can result in more deaths, but later. Further lockdowns would lead to a repeating series of waves of infection unless herd immunity is achieved by vaccination, which is not considered in the model. A similar result is obtained in some of the scenarios involving general social distancing. For example, adding general social distancing to case isolation and household quarantine was also strongly associated with suppression of the infection during the intervention period, but then a second wave occurs that actually concerns a higher peak demand for ICU beds than for the equivalent scenario |

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|                                                                                                                  | without general social distancing.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>7) Stay-at-home policy is a case of exception fallacy: an internet-based ecological study</b> , Savaris, 2021 | “To assess the association between staying at home (%) and the reduction/increase in the number of deaths due to COVID-19 in several regions in the world... With our results, we were not able to explain if COVID-19 mortality is reduced by staying at home in ~98% of the comparisons after epidemiological weeks 9 to 34.”“We were not able to explain the variation of deaths/million in different regions in the world by social isolation, herein analyzed as differences in staying at home, compared to baseline. In the <i>restrictive</i> and <i>global</i> comparisons, only 3% and 1.6% of the comparisons were significantly different, respectively.”                                                                                |
| <b>8) Was Germany’s Corona Lockdown Necessary?</b> Kuhbandner, 2020                                              | “Official data from Germany’s RKI agency suggest strongly that the spread of the corona virus in Germany receded autonomously, before any interventions become effective. Several reasons for such an autonomous decline have been suggested. One is that differences in host susceptibility and behavior can result in herd immunity at a relatively low prevalence level. Accounting for individual variation in susceptibility or exposure to the coronavirus yields a maximum of 17% to 20% of the population that needs to be infected to reach herd immunity, an estimate that is empirically supported by the cohort of the Diamond Princess cruise ship. Another reason is that seasonality may also play an important role in dissipation.” |
| <b>9) A First Literature Review: Lockdowns Only Had a Small Effect on COVID-19</b> , Herby, 2021                 | “Lockdowns Only Had a Small Effect on COVID-19...studies which differentiate between the two types of behavioral change find that, on average, mandated behavioral changes accounts for only 9% (median: 0%) of the total effect on the growth of the pandemic stemming from behavioral changes.                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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|                                                                                                                                       | The remaining 91% (median: 100%) of the effect was due to voluntary behavioral changes.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>10) Trajectory of COVID-19 epidemic in Europe</b> , Colombo, 2020                                                                  | “We show that relaxing the assumption of homogeneity to allow for individual variation in susceptibility or connectivity gives a model that has better fit to the data and more accurate 14-day forward prediction of mortality. Allowing for heterogeneity reduces the estimate of “counterfactual” deaths that would have occurred if there had been no interventions from 3.2 million to 262,000, implying that most of the slowing and reversal of COVID-19 mortality is explained by the build-up of herd immunity.”                                                                                                                                                                                                                                                                                                  |
| <b>11) Modeling social distancing strategies to prevent SARS-CoV2 spread in Israel- A Cost-effectiveness analysis</b> , Shlomei, 2020 | “A national lockdown has a moderate advantage in saving lives with tremendous costs and possible overwhelming economic effects.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>12) Lockdowns and Closures vs COVID – 19: COVID Wins</b> , Bhalla, 2020                                                            | “As we have stressed throughout, a direct test of lockdowns on cases is the most appropriate test. This direct test is a before after test i.e. a comparison of what happened post lockdown versus what would have happened. Only for 15 out of 147 economies the lockdown “worked” in making infections lower; for more than a hundred countries, post lockdown estimate of infections was more than three times higher than the counterfactual. This is not evidence of success – rather it is evidence of monumental failure of lockdown policy...“we also test, in some detail, the hypothesis that early lockdowns, and more stringent lockdowns, were effective in containing the virus. We find robust results for the opposite conclusion: later lockdowns performed better, and less stringent lockdowns achieved |

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|                                                                                                                                                             | <p>better outcomes.” “For the first time in human history, lockdowns were used as a strategy to counter the virus. While conventional wisdom, to date, has been that lockdowns were successful (ranging from mild to spectacular) we find not one piece of evidence supporting this claim.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <p><b>13) SARS-CoV-2 waves in Europe: A 2-stratum SEIRS model solution,</b> Djaparidze, 2020</p>                                                            | <p>“Found that 180-day of mandatory isolations to healthy &lt;60 (i.e. schools and workplaces closed) produces more final deaths...e mandatory isolations have caused economic damages and since these enforced isolations were sub-optimal they involuntarily increased the risk of covid-19 disease-related damages.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <p><b>14) Government mandated lockdowns do not reduce Covid-19 deaths: implications for evaluating the stringent New Zealand response,</b> Gibson, 2020</p> | <p>“Lockdowns do not reduce Covid-19 deaths. This pattern is visible on each date that key lockdown decisions were made in New Zealand. The apparent ineffectiveness of lockdowns suggests that New Zealand suffered large economic costs for little benefit in terms of lives saved.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <p><b>15) Did Lockdown Work? An Economist’s Cross-Country Comparison,</b> Bjørnskov, 2020</p>                                                               | <p>“The lockdowns in most Western countries have thrown the world into the most severe recession since World War II and the most rapidly developing recession ever seen in mature market economies. They have also caused an erosion of fundamental rights and the separation of powers in a large part of the world as both democratic and autocratic regimes have misused their emergency powers and ignored constitutional limits to policy-making (Bjørnskov and Voigt, 2020). It is therefore important to evaluate whether and to which extent the lockdowns have worked as officially intended: to suppress the spread of the SARS-CoV-2 virus and prevent deaths associated with it. Comparing weekly mortality in 24 European countries, the findings in this paper</p> |

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|                                                                                                                                                                   | suggest that more severe lockdown policies have not been associated with lower mortality. In other words, the lockdowns have not worked as intended.”                                                                                                                                                                                                                                                                                                                                                                            |
| <b>16) Inferring UK COVID-19 fatal infection trajectories from daily mortality data: were infections already in decline before the UK lockdowns ?, Wood, 2020</b> | “A Bayesian inverse problem approach applied to UK data on first wave Covid-19 deaths and the disease duration distribution suggests that fatal infections were in decline before full UK lockdown (24 March 2020), and that fatal infections in Sweden started to decline only a day or two later. An analysis of UK data using the model of Flaxman et al. (2020, Nature 584) gives the same result under relaxation of its prior assumptions on R.”                                                                           |
| <b>17) The Illusory effects of non-pharmaceutical interventions on COVID-19 in Europe, Homburg, 2020</b>                                                          | “We show that their methods involve circular reasoning. The purported effects are pure artefacts, which contradict the data. Moreover, we demonstrate that the United Kingdom’s lockdown was both superfluous and ineffective.”                                                                                                                                                                                                                                                                                                  |
| <b>18) Child malnutrition and COVID-19: the time to act is now, Fore, 2020</b>                                                                                    | “The COVID-19 pandemic is undermining nutrition across the world, particularly in low-income and middle-income countries (LMICs). The worst consequences are borne by young children. Some of the strategies to respond to COVID-19—including physical distancing, school closures, trade restrictions, and country lockdowns—are impacting food systems by disrupting the production, transportation, and sale of nutritious, fresh, and affordable foods, forcing millions of families to rely on nutrient-poor alternatives.” |
| <b>19) Covid-19 Mortality: A Matter of Vulnerability Among Nations Facing Limited Margins of Adaptation, De Laroche Lambert, 2020</b>                             | “Countries that already experienced a stagnation or regression of life expectancy, with high income and NCD rates, had the highest price to pay. This burden was not alleviated by more stringent public decisions.”                                                                                                                                                                                                                                                                                                             |

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| <b>20) Impact of non-pharmaceutical interventions against COVID-19 in Europe: A quasi-experimental study,</b> Hunter, 2020 | “Closure of education facilities, prohibiting mass gatherings and closure of some non-essential businesses were associated with reduced incidence whereas stay at home orders and closure of all non-businesses was not associated with any independent additional impact.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>21) Israel: thefatemperor,</b> 2020                                                                                     | “Given that the evidence reveals that the Corona disease declines even without a complete lockdown, it is recommendable to reverse the current policy and remove the lockdown.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>22) Smart Thinking, Lockdown and COVID-19: Implications for Public Policy,</b> Altman, 2020                             | “The response to COVID-19 has been overwhelmingly to lockdown much the world’s economies in order to minimize death rates as well as the immediate negative effects of COVID-19. I argue that such policy is too often de-contextualized as it ignores policy externalities, assumes death rate calculations are appropriately accurate and, and as well, assumes focusing on direct Covid-19 effects to maximize human welfare is appropriate. As a result of this approach current policy can be misdirected and with highly negative effects on human welfare. Moreover, such policies can inadvertently result in not minimizing death rates (incorporating externalities) at all, especially in the long run... such misdirected and sub-optimal policy is a product of policy makers using inappropriate mental models which are lacking in a number of key areas; the failure to take a more comprehensive macro perspective to address the virus, using bad heuristics or decision-making tools, relatedly not recognizing the differential effects of the virus, and adopting herding strategy (follow-the-leader) when developing policy.” |

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| <p><b>23) The Mystery of Taiwan,</b><br/>Janaskie, 2020</p>               | <p>“Another fascinating outlier – often cited as a case in which a government handled the pandemic the correct way – was Taiwan. Indeed, Taiwan presents an anomaly in the mitigation and overall handling of the Covid-19 pandemic. In terms of stringency, Taiwan ranks among the lowest in the world, with fewer controls than Sweden and far lower than the U.S....The government did test at the border and introduce some minor controls but nowhere near that of most counties. In general, Taiwan rejected lockdown in favor of maintaining social and economic functioning.” “Despite Taiwan’s closer proximity to the source of the pandemic, and its high population density, it experienced a substantially lower-case rate of 20.7 per million compared with New Zealand’s 278.0 per million. Rapid and systematic implementation of control measures, in particular effective border management (exclusion, screening, quarantine/isolation), contact tracing, systematic quarantine/isolation of potential and confirmed cases, cluster control, active promotion of mass masking, and meaningful public health communication, are likely to have been instrumental in limiting pandemic spread. Furthermore, the effectiveness of Taiwan’s public health response has meant that to date no lockdown has been implemented, placing Taiwan in a stronger economic position both during and post-COVID-19 compared with New Zealand, which had seven weeks of national lockdown (at Alert Levels 4 and 3).”</p> |
| <p><b>24) What They Said about Lockdowns before 2020,</b> Gartz, 2021</p> | <p>“While expert consensus regarding the ineffectiveness of mass quarantine of previous years has recently been challenged, <b>significant present-day evidence</b> continuously demonstrates that mass quarantine is both ineffectual at</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

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|                                                                                                                                                                                                   | preventing disease spread as well as harmful to individuals.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>25) Cost of Lockdowns: A Preliminary Report</b> , AIER, 2020                                                                                                                                   | “In the debate over coronavirus policy, there has been far too little focus on the costs of lockdowns. It’s very common for the proponents of these interventions to write articles and large studies without even mentioning the downsides...a brief look at the cost of stringencies in the United States, and around the world, including stay-at-home orders, closings of business and schools, restrictions on gatherings, shutting of arts and sports, restrictions on medical services, and interventions in the freedom of movement.” |
| <b>26) Leaked Study From Inside German Government Warns Lockdown Could Kill More People Than Coronavirus</b> , Watson, 2020<br><b>German Minister: Lockdown Will Kill More Than Covid-19 Does</b> | “The lockdown and the measures taken by the German federal and central governments to contain the coronavirus apparently cost more lives, for example of cancer patients, than of those actually killed by it.”<br>“Half a million more will die from tuberculosis.”                                                                                                                                                                                                                                                                          |
| <b>27) Evaluating the effects of shelter-in-place policies during the COVID-19 pandemic</b> , Berry, 2021                                                                                         | “Previous studies have claimed that shelter-in-place orders saved thousands of lives, but we reassess these analyses and show that they are not reliable. We find that shelter-in-place orders had no detectable health benefits, only modest effects on behavior, and small but adverse effects on the economy.”                                                                                                                                                                                                                             |
| <b>28) Study: Lockdown “Will Destroy at Least Seven Times More Years of Human Life” Than it Saves</b> , Watson, 2020                                                                              | “A study has found that the “stay at home” lockdown order in the United States will “destroy at least seven times more years of human life” than it saves and that this number is “likely” to be more than 90 times greater... Research shows that at least 16.8% of adults in the United States have suffered “major mental harm from responses to Covid-19... Extrapolating these numbers out, the figures show that                                                                                                                        |

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|                                                                                                                                 | <p>“anxiety from responses to Covid-19 has impacted 42,873,663 adults and will rob them of an average of 1.3 years of life, thus destroying 55.7 million years of life.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <p><b>29) Four Stylized Facts about COVID-19</b>, Atkeson, 2020</p>                                                             | <p>“Failing to account for these four stylized facts may result in overstating the importance of policy mandated NPIs for shaping the progression of this deadly pandemic... The existing literature has concluded that NPI policy and social distancing have been essential to reducing the spread of COVID-19 and the number of deaths due to this deadly pandemic. The stylized facts established in this paper challenge this conclusion.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <p><b>30) THE LONG-TERM IMPACT OF THE COVID-19 UNEMPLOYMENT SHOCK ON LIFE EXPECTANCY AND MORTALITY RATES</b>, Bianchi, 2021</p> | <p>“Policy-makers should therefore consider combining lockdowns with policy interventions meant to reduce economic distress, guarantee access to health care, and facilitate effective economic reopening under health care policies to limit SARS-CoV-19 spread... assess the long-run effects of the COVID-19 economic recession on mortality and life expectancy. We estimate the size of the COVID-19-related unemployment shock to be between 2 and 5 times larger than the typical unemployment shock, depending on race and gender, resulting in a significant increase in mortality rates and drop in life expectancy. We also predict that the shock will disproportionately affect African-Americans and women, over a short horizon, while the effects for white men will unfold over longer horizons. These figures translate in more than 0.8 million additional deaths over the next 15 years.”</p> |
| <p><b>31) Lockdowns Do Not Control the Coronavirus: The Evidence</b>, AIER, 2020</p>                                            | <p>“The question is whether lockdowns worked to control the virus in a way that is scientifically verifiable. Based on the following studies, the answer is no and for a variety of</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

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|                                                                                                             | <p>reasons: bad data, no correlations, no causal demonstration, anomalous exceptions, and so on. There is no relationship between lockdowns (or whatever else people want to call them to mask their true nature) and virus control.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <p><b>32)</b> Too Little of a Good Thing <i>A Paradox of Moderate Infection Control</i>, Cohen, 2020</p>    | <p>“The link between limiting pathogen exposure and improving public health is not always so straightforward. Reducing the risk that each member of a community will be exposed to a pathogen has the attendant effect of increasing the average age at which infections occur. For pathogens that inflict greater morbidity at older ages, interventions that reduce but do not eliminate exposure can paradoxically increase the number of cases of severe disease by shifting the burden of infection toward older individuals.”</p>                                                                                                                                                                                                                                                                                                                                             |
| <p><b>33)</b> Covid Lockdown Cost/Benefits: <i>A Critical Assessment of the Literature</i>, Allen, 2020</p> | <p>“Generally speaking, the ineffectiveness of lockdown stems from voluntary changes in behavior. Lockdown jurisdictions were not able to prevent noncompliance, and non-lockdown jurisdictions benefited from voluntary changes in behavior that mimicked lockdowns. The limited effectiveness of lockdowns explains why, after one year, the unconditional cumulative deaths per million, and the pattern of daily deaths per million, is not negatively correlated with the stringency of lockdown across countries. Using a cost/benefit method proposed by Professor Bryan Caplan, and using two extreme assumptions of lockdown effectiveness, the cost/benefit ratio of lockdowns in Canada, in terms of life-years saved, is between 3.6–282. That is, it is possible that lockdown will go down as one of the greatest peacetime policy failures in Canada’s history.”</p> |
| <p><b>34)</b> Covid-19: How does Belarus have one of the lowest death rates</p>                             | <p>“Belarus’s beleaguered government remains unfazed by covid-19. President Aleksander Lukashenko, who has been</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

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| <p>in Europe? Karáth, 2020</p> | <p>in power since 1994, has flatly denied the seriousness of the pandemic, refusing to impose a lockdown, close schools, or cancel mass events like the Belarusian football league or the Victory Day parade. Yet the country's death rate is among the lowest in Europe—just over 700 in a population of 9.5 million with over 73 000 confirmed cases.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <p>35) PANDA, Nell, 2020</p>   | <p>“For each country put forward as an example, usually in some pairwise comparison and with an attendant single cause explanation, there are a host of countries that fail the expectation. We set out to model the disease with every expectation of failure. In choosing variables it was obvious from the outset that there would be contradictory outcomes in the real world. But there were certain variables that appeared to be reliable markers as they had surfaced in much of the media and pre-print papers. These included age, co-morbidity prevalence and the seemingly light population mortality rates in poorer countries than that in richer countries. Even the worst among developing nations—a clutch of countries in equatorial Latin America—have seen lighter overall population mortality than the developed world. Our aim therefore was not to develop the final answer, rather to seek common cause variables that would go some way to providing an explanation and stimulating discussion. There are some very obvious outliers in this theory, not the least of these being Japan. We test and find wanting the popular notions that lockdowns with their attendant social distancing and various other NPIs confer protection.”</p> |

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| <b>36) States with the Fewest Coronavirus Restrictions</b> , McCann, 2021           | Graphics reveal no relationship in stringency level as it relates to the death rates, but finds a clear relationship between stringency and <b>unemployment</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>37) COVID-19 Lockdown Policies: An Interdisciplinary Review</b> , Robinson, 2021 | “Studies at the economic level of analysis points to the possibility that deaths associated with economic harms or underfunding of other health issues may outweigh the deaths that lockdowns save, and that the extremely high financial cost of lockdowns may have negative implications for overall population health in terms of diminished resources for treating other conditions. Research on ethics in relation to lockdowns points to the inevitability of value judgements in balancing different kinds of harms and benefits than lockdowns cause.”                                                      |
| <b>38) Comedy and Tragedy in Two Americas</b> , Tucker, 2021                        | “Covid unleashed a version of tyranny in the United States. Through a surreptitious and circuitous route, many public officials somehow managed to gain enormous power for themselves and demonstrate that all our vaunted limits on government are easily transgressed under the right conditions. Now they want to use that power to enact permanent change in this country. Right now, people, capital, and institutions are fleeing from them to safe and freer places, which only drives the people in power to madness. They are right now plotting to shut down the free states through any means possible.” |
| <b>39) Lockdowns Worsen the Health Crisis</b> , Younes, 2021                        | “We suspect that one day, the quarantining of entire societies that was carried out in response to the coronavirus pandemic, leading to vast swaths of the population becoming unhealthier overall and ironically more susceptible to severe outcomes from the virus, will be seen as the 21 <sup>st</sup> century version of bloodletting. As the                                                                                                                                                                                                                                                                  |

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|                                                                                                                             | <p>epidemiologist Martin Kulldorff <b>has observed</b>, public health is not just about one disease, but all health outcomes. Apparently, in 2020, the authorities forgot this obvious truth.”</p>                                                                                                                                                                                                                                                                                                                                           |
| <p><b>40) The Damage of Lockdowns to Young People</b>, Yang, 2021</p>                                                       | <p>“Biological and cultural reasons why young people, mostly referring to those under the age of 30, are particularly vulnerable to the isolation as well as lifestyle disruptions brought about by lockdowns... “Adults under 30 experienced the highest increase in suicidal thinking in the same period, with rates of suicidal ideation rising from <b>12.5% to 14%</b> in people aged 18-29. For many of the young adults surveyed, these mental health challenges persisted into the summer, despite a loosening of restrictions.”</p> |
| <p><b>41) Lifestyle and mental health disruptions during COVID-19</b>, Giuntella, 2021</p>                                  | <p>“COVID-19 has affected daily life in unprecedented ways. Drawing on a longitudinal dataset of college students before and during the pandemic, we document dramatic changes in physical activity, sleep, time use, and mental health. We show that biometric and time-use data are critical for understanding the mental health impacts of COVID-19, as the pandemic has tightened the link between lifestyle behaviors and depression.”</p>                                                                                              |
| <p><b>42) CDC: A Quarter of Young Adults Say They Contemplated Suicide This Summer During Pandemic</b>, Miltimore, 2020</p> | <p>“One in four young adults between the ages of 18 and 24 say they’ve considered suicide in the past month because of the pandemic, according to new CDC data that paints a bleak picture of the nation’s mental health during the crisis. The data also flags a surge of anxiety and substance abuse, with more than 40 percent of those surveyed saying they experienced a mental or behavioral health condition connected to the Covid-19 emergency. The CDC study</p>                                                                   |

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|                                                                                                                | analyzed 5,412 survey respondents between June 24 and 30.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>43) Global rise in childhood mental health issues amid pandemic,</b><br>LEICESTER, 2021                     | “For doctors who treat them, the pandemic’s impact on the mental health of children is increasingly alarming. The Paris pediatric hospital caring for Pablo has seen a doubling in the number of children and young teenagers requiring treatment after attempted suicides since September. Doctors elsewhere report similar surges, with children — some as young as 8 — deliberately running into traffic, overdosing on pills and otherwise self-harming. In Japan, child and adolescent suicides <b>hit record levels</b> in 2020, according to the Education Ministry.” |
| <b>44) Lockdowns: The Great Debate,</b><br>AIER, 2020                                                          | “The global lockdowns, on this scale with this level of stringency, have been without precedent. And yet we have examples of a handful of countries and US states that did not do this, and their record in minimizing the cost of the pandemic is better than the lockdown countries and states. The evidence that the lockdowns have done net good in terms of public health is still lacking.”                                                                                                                                                                            |
| <b>45) COVID-19 containment policies through time may cost more lives at metapopulation level,</b> Wells, 2020 | “Show that temporally restricted containment efforts, that have the potential to flatten epidemic curves, can result in wider disease spread and larger epidemic sizes in metapopulations.”                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>46) The Covid-19 Emergency Did Not Justify Lockdowns,</b> Boudreaux, 2021                                   | “Yet there was no such careful calculation for the lockdowns imposed in haste to combat Covid-19. Lockdowns were simply <i>assumed</i> not only to be effective at significantly slowing the spread of SARS-CoV-2, but also to impose only costs that are acceptable. Regrettably, given the novelty of the lockdowns, and the enormous magnitude of their likely downsides, this bizarrely sanguine attitude toward                                                                                                                                                         |

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|                                                | lockdowns was – and remains – wholly unjustified.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>47) Death and Lockdowns</b> , Tierney, 2021 | “Now that the 2020 figures have been properly tallied, there’s still no convincing evidence that strict lockdowns reduced the death toll from Covid-19. But one effect is clear: more deaths from other causes, especially among the young and middle-aged, minorities, and the less affluent. The best gauge of the pandemic’s impact is what statisticians call “excess mortality,” which compares the overall number of deaths with the total in previous years. That measure rose among older Americans because of Covid-19, but it rose at an even sharper rate among people aged 15 to 54, and most of those excess deaths were not attributed to the virus.” |

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| <p><b>48) The COVID Pandemic Could Lead to 75,000 Additional Deaths from Alcohol and Drug Misuse and Suicide,</b> Well Being Trust, 2021</p> | <p>“The brief notes that if the country fails to <b>invest in solutions</b> that can help heal the nation’s isolation, pain, and suffering, the collective impact of COVID-19 will be even more devastating. Three factors, already at work, are exacerbating deaths of despair: unprecedented economic failure paired with massive unemployment, mandated social isolation for months and possible residual isolation for years, and uncertainty caused by the sudden emergence of a novel, previously unknown microbe...the deadly impact of lockdowns will grow in future years, due to the lasting economic and educational consequences. The United States will experience more than 1 million excess deaths in the United States during the next two decades as a result of the massive “unemployment shock” last year... lockdowns are the single worst public health mistake in the last 100 years,” <b>says Dr. Jay Bhattacharya</b>, a professor at Stanford Medical School. “We will be counting the catastrophic health and psychological harms, imposed on nearly every poor person on the face of the earth, for a generation.”</p> |
| <p><b>49) Professor Explains Flaw in Many Models Used for COVID-19 Lockdown Policies,</b> Chen, 2021</p>                                     | <p>“Economics professor Doug Allen wanted to know why so many early models used to create COVID-19 lockdown policies turned out to be highly incorrect. What he found was that a great majority were based on false assumptions and “tended to over-estimate the benefits and under-estimate the costs.” He found it troubling that policies such as total lockdowns were based on those models. “They were built on a set of assumptions. Those assumptions turned out to be really important, and the models are very sensitive to them, and they turn out to be false,” said Allen, the Burnaby Mountain Professor of Economics at Simon Fraser University, in an interview.”“Furthermore, “The limited effectiveness of</p>                                                                                                                                                                                                                                                                                                                                                                                                                   |

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|                                                                                               | <p>lockdowns explains why, after one year, the unconditional cumulative deaths per million, and the pattern of daily deaths per million, is not negatively correlated with the stringency of lockdown across countries,” writes Allen. In other words, in his assessment, heavy lockdowns do not meaningfully reduce the number of deaths in the areas where they are implemented, when compared to areas where lockdowns were not implemented or as stringent.”</p>                                                                                     |
| <p><b>50) The Anti-Lockdown Movement Is Large and Growing,</b> Tucker, 2021</p>               | <p>“The lesson: lockdown policies failed to protect the vulnerable and otherwise did little to nothing actually to suppress or otherwise control the virus. AIER has assembled <b>fully 35 studies</b> revealing no connection between lockdowns and disease outcomes. In addition, the Heritage Foundation has published an <b>outstanding roundup</b> of the Covid experience, revealing that lockdowns were largely political theater distracting from what should have been good public health practice.”</p>                                        |
| <p><b>51) The Ugly Truth About The Covid-19 Lockdowns,</b> Hudson, 2021</p>                   | <p>“By following the data and official communications from global organisations, PANDA unravels what transpired that led us into deleterious lockdowns, which continue to have enormous negative impacts across the world.”</p>                                                                                                                                                                                                                                                                                                                          |
| <p><b>52) The Catastrophic Impact of Covid Forced Societal Lockdowns,</b> Alexander, 2020</p> | <p>“It is also noteworthy that these irrational and unreasonable restrictive actions are not limited to any one jurisdiction such as the US, but shockingly have occurred across the globe. It is stupefying as to why governments, whose primary roles are to protect their citizens, are taking these punitive actions despite the compelling evidence that these policies are misdirected and very harmful; causing palpable harm to human welfare on so many levels. It’s tantamount to insanity what governments have done to their populations</p> |

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|                                                                                                                                   | <p>and largely based on no scientific basis. None! In this, we have lost our civil liberties and essential rights, all based on spurious ‘science’ or worse, opinion, and this erosion of fundamental freedoms and democracy is being championed by government leaders who are disregarding the Constitutional (USA) and Charter (Canada) limits to their right to make and enact policy. These unconstitutional and unprecedented restrictions have taken a staggering toll on our health and well-being and also target the very precepts of democracy; particularly given the fact that this viral pandemic is no different in overall impact on society than any previous pandemics. There is simply no defensible rationale to treat this pandemic any differently.”</p> |
| <p><b>53)</b> Cardiovascular and immunological implications of social distancing in the context of COVID-19, D’Acquisto, 2020</p> | <p>“It is clear that social distancing measures such as lockdown during the COVID-19 pandemic will have subsequent effects on the body including the immune and cardiovascular systems, the extent of which will be dependent on the duration of such measures. The take-home message of these investigations is that social interaction is an integral part of a wide range of conditions that influence cardiovascular and immunological homeostasis.”</p>                                                                                                                                                                                                                                                                                                                  |
| <p><b>54)</b> A Statistical Analysis of COVID-19 and Government Protection Measures in the U.S., Dayaratna, 2021</p>              | <p>“Our analysis demonstrates that the time from a state’s first case to voluntary changes in residence mobility, which occurred before the imposition of shelter-in-place orders in 43 states, indeed quelled the time to reach the maximum growth in per capita cases. On the other hand, our analysis also indicates that these behavioral changes were not significantly effective in quelling mortality... our simulations find a negative effect of the time from a state’s first case to the imposition of shelter-in-place orders on the time to reach the specified per capita mortality thresholds. Our</p>                                                                                                                                                         |

analysis also finds a slightly smaller negative effect on the time from a state's first case to the imposition of prohibitions on gatherings above 500 people.... shelter-in-place orders can also have negative unforeseen health-related consequences, including the capacity to cause patients to avoid visits to doctors' offices and emergency rooms. In addition, these policies can result in people, including those with chronic illnesses, skipping routine medical appointments, not seeking routine procedures to diagnose advanced cancer, not pursuing cancer screening colonoscopies, postponing non-emergency cardiac catheterizations, being unable to seek routine care if they experience chronic pain, and suffering mental health effects, among others...drug overdose deaths, alcohol consumption, and suicidal ideation have also been noted to have increased in 2020 compared to prior years."

**55) Lockdowns in Taiwan: Myths Versus Reality**, Gartz, 2021

"Articles citing a "tightening" of rules only briefly acknowledge that Taiwan never locked down. Instead, they blame the increase in cases on a loosening of travel restrictions and on people's becoming "more relaxed or careless as time goes by." A closer look reveals that this harsh turn in restrictions consists of capping gatherings at 500 for outdoors and 100 for indoors to 10 and 5 respectively — more in line with gathering limits imposed by Western nations. The reality is that the hyperbolic 124 action items misrepresent the Taiwanese approach. Relative to other countries, Taiwan serves as a beacon of freedom: children still attended school, professionals continued to go to work, and businesspeople were able to keep their businesses open."

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| <p><b>56) Lockdowns Need to Be Intellectually Discredited Once and For All, Yang, 2021</b></p>                       | <p>“Lockdowns do not provide any meaningful benefit and they cause unnecessary collateral damage. Voluntary actions and light-handed accommodations to protect the vulnerable according to comprehensive analysis, not cherry-picked studies with overly short timelines, provide similar, if not better, virus mitigation compared to lockdown policies. Furthermore, contrary to what many keep trying to say, it is lockdowns that are the causal factor behind the unprecedented economic and social damage that has been dealt to society.”</p>                                                  |
| <p><b>57) Canada’s COVID-19 Strategy is an Assault on the Working Class, Kulldorff, 2020</b></p>                     | <p>“The Canadian COVID-19 lockdown strategy is the worst assault on the working class in many decades. Low-risk college students and young professionals are protected; such as lawyers, government employees, journalists, and scientists who can work from home; while older high-risk working-class people must work, risking their lives generating the population immunity that will eventually help protect everyone. This is backwards, leading to many unnecessary deaths from both COVID-19 and other diseases.”</p>                                                                         |
| <p><b>58) Our COVID-19 Plan would Minimize Mortality and Lockdown-induced Collateral Damage, Kulldorff, 2020</b></p> | <p>“While mortality is inevitable during a pandemic, the COVID-19 lockdown strategy has led to <b>more than 220,000 deaths</b>, with the urban working class carrying the heaviest burden. Many older workers have been forced to accept high mortality risk or increased poverty, or both. While the current lockdowns are less strict than in March, the lockdown and contact tracing strategy is the worst assault on the working class since segregation and the Vietnam War. Lockdown policies have closed schools, businesses and churches, while not enforcing strict protocols to protect</p> |

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|                                                                                                                                                                                              | high-risk nursing home residents. University closures and the economic displacement caused by lockdowns have led millions of young adults to live with older parents, increasing regular close interactions across generations.”                                                                                                                                             |
| <b>59)</b> The costs are too high; the scientist who wants lockdown lifted faster; Gupta, 2021                                                                                               | “It’s becoming clear that a lot of people have been exposed to the virus and that the death rate in people under 65 is not something you would lock down the economy for,” she says. “We can’t just think about those who are vulnerable to the disease. We have to think about those who are vulnerable to lockdown too. The costs of lockdown are too high at this point.” |
| <b>60)</b> Review of the Impact of COVID-19 First Wave Restrictions on Cancer Care, Collateral Global, Heneghan; 2021                                                                        | “Restrictive measures in the first wave of the COVID19 pandemic in 2019-20 led to wide-scale, global disruption of cancer care. Future restrictions should consider disruptions to the cancer care pathways and plan to prevent unnecessary harms.”                                                                                                                          |
| <b>61)</b> German Study Finds Lockdown ‘Had No Effect’ on Stopping Spread of Coronavirus, Watson, 2021                                                                                       | “Stanford researchers found “no clear, significant beneficial effect of [more restrictive measures] on case growth in any country.”                                                                                                                                                                                                                                          |
| <b>62)</b> Lockdown will claim the equivalent of 560,000 lives because of the health impact of the ‘deep and prolonged recession it will cause’, expert warns, Adams/Thomas/Daily Mail, 2020 | “Lockdowns will end up claiming the equivalent of more than 500,000 lives because of the health impact of the ‘deep and prolonged recession it will cause.’”                                                                                                                                                                                                                 |
| <b>63)</b> Anxiety From Reactions to Covid-19 Will Destroy At Least Seven Times More Years of Life Than Can Be Saved by Lockdowns, Glen, 2021                                                | “Likewise, a 2020 paper about quarantines published in <i>The Lancet</i> states: “Separation from loved ones, the loss of freedom, uncertainty over disease status, and boredom can, on occasion, create dramatic effects. Suicide has been                                                                                                                                  |

reported, substantial anger generated, and lawsuits brought following the imposition of quarantine in previous outbreaks. The potential benefits of mandatory mass quarantine need to be weighed carefully against the possible psychological costs.”Yet, when dealing with Covid-19 and other issues, politicians sometimes ignore this essential principle of sound decision-making. For a prime example, NJ Governor Phil Murphy recently **insisted** that he must maintain a lockdown or “there will be blood on our hands.” What that statement fails to recognize is that lockdowns also kill people via the mechanisms detailed above... In other words, the anxiety from reactions to Covid-19—such as business shutdowns, stay-at-home orders, media exaggerations, and legitimate concerns about the virus—will extinguish at least **seven times** more years of life than can possibly be saved by the lockdowns. Again, all of these figures minimize deaths from anxiety and maximize lives saved by lockdowns. Under the more moderate scenarios documented above, anxiety will destroy more than **90 times** the life saved by lockdowns.”

**64) The psychological impact of quarantine and how to reduce it: rapid review of the evidence,**  
Brooks, 2020

“Reported negative psychological effects including post-traumatic stress symptoms, confusion, and anger. Stressors included longer quarantine duration, infection fears, frustration, boredom, inadequate supplies, inadequate information, financial loss, and stigma. Some researchers have suggested long-lasting effects. In situations where quarantine is deemed necessary, officials should quarantine individuals for no longer than required, provide clear rationale for quarantine and information about protocols, and ensure sufficient supplies are provided. Appeals to altruism by reminding the public about the benefits of

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|                                                                                                                            | quarantine to wider society can be favourable.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>65) Lockdown ‘had no effect’ on coronavirus pandemic in Germany,</b><br>Huggler, 2021                                   | “A new study by German scientists claims to have found evidence that lockdowns may have had little effect on controlling the coronavirus pandemic. Statisticians at Munich University found “no direct connection” between the German lockdown and falling infection rates in the country.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>66) Swedish researchers: Anti-corona restrictions have killed as many people as the virus itself,</b><br>Peterson, 2021 | “The restrictions against the coronavirus have killed as many people as the virus itself. The restrictions have first and foremost hit the poorer parts of the world and struck young people, the researchers believe, pointing to children who died of malnutrition and various diseases. They also pointed to adults who died of diseases that could have been treated. “These deaths we see in poor countries are related to women who die in childbirth, newborns who die early, children who die of pneumonia, diarrhea, and malaria because they are malnourished or not vaccinated,” Peterson said.”                                                                                                                                                                                               |
| <b>67) Lockdowns Leave London Broken,</b><br>Burden, 2021                                                                  | “In normal times, London runs on a sprawling network of trains and buses that bring in millions of commuters to work and spend. Asking those people to work from home ripped the heart out of the economy, leaving the U.K. capital more like a <b>ghost town</b> than a thriving metropolis. The city is now emerging from a year of lockdowns <b>with deeper scars than much of the rest of the U.K.</b> Many restaurants, theaters and shops remain shuttered, and the migrant workers that staffed them fled to their birth countries in the tens of thousands. Even when <b>most of the rules expire in June</b> , new border restrictions since the U.K. left the European Union will make it harder for many to return. As a result, the city’s business model focused on population density is in |

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|                                                                                                         | upheaval, and many of London's strengths have turned to weaknesses.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>68) Lockdowns Are a Step Too Far in Combating Covid-19</b> , Nocera, 2020                            | “The truth is that using lockdowns to halt the spread of the coronavirus was never a good idea. If they have any utility at all, it is short term: to help ensure that hospitals aren't overwhelmed in the early stages of the pandemic. But the long-term shutdowns of schools and businesses, and the insistence that people stay indoors — which almost every state imposed at one point or another — were examples of terribly misguided public policy. It is likely that when the history of this pandemic is told, lockdowns will be viewed as one of the worst mistakes the world made.” |
| <b>69) Stop the Lies: Lockdowns Did Not and Do Not Protect the Vulnerable</b> , Alexander, 2021         | “Lockdowns didn't protect the <b>vulnerable</b> , but rather harmed them and shifted the morbidity and mortality burden to the underprivileged.”                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>70) Why Shutdowns and Masks Suit the Elite</b> , Swaim, 2021                                         | “The dispute over masks—like those over school closures, business shutdowns, social-distancing guidelines and all the rest—should always properly have been a discussion of acceptable versus unacceptable risk. But the preponderance of America's cultural and political leaders showed no ability to think about risk in a helpful way.”                                                                                                                                                                                                                                                     |
| <b>71) The Impact of the COVID-19 Pandemic and Policy Responses on Excess Mortality</b> , Agrawal, 2021 | “Find that following the implementation of SIP policies, excess mortality increases. The increase in excess mortality is statistically significant in the immediate weeks following SIP implementation for the international comparison only and occurs despite the fact that there was a decline in the number of excess deaths prior to the implementation of the policy... failed to find that countries or U.S. states that implemented SIP policies earlier, and in which SIP policies had longer to operate, had lower excess deaths than                                                 |

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|                                                                                                                                                                                                            | <p>countries/U.S. states that were slower to implement SIP policies. We also failed to observe differences in excess death trends before and after the implementation of SIP policies based on pre-SIP COVID-19 death rates.”</p>                                                                                                                                                                                                                                                                                                                                                                 |
| <p><b>72)</b> COVID-19 Lockdowns Over 10 Times More Deadly Than Pandemic Itself, Revolver, 2020</p>                                                                                                        | <p>“We have drawn upon existing economic studies on the health effects of unemployment to calculate an estimate of how many years of life will have been lost due to the lockdowns in the United States, and have weighed this against an estimate of how many years of life will have been saved by the lockdowns. The results are nothing short of staggering, and suggest that the lockdowns will end up costing Americans over 10 times as many years of life as they will save from the virus itself.”</p>                                                                                   |
| <p><b>73)</b> The Impact of Interruptions in Childhood Vaccination, Collateral Global, 2021</p>                                                                                                            | <p>“COVID-19 pandemic measures caused significant disruption to childhood vaccination services and uptake. In future pandemics, and for the remainder of the current one, policymakers must ensure access to vaccination services and provide catch-up programs to maintain high levels of immunisation, especially in those most vulnerable to childhood diseases in order to avoid further inequalities.”</p>                                                                                                                                                                                   |
| <p><b>74)</b> Shelter-in-place orders didn’t save lives during the pandemic, research paper concludes, Howell, 2021</p> <p>COVID-19 lockdowns caused more deaths instead of reducing them, study finds</p> | <p>“Researchers from the RAND Corporation and the University of Southern California studied excess mortality from all causes, the virus or otherwise, in 43 countries and the 50 U.S. states that imposed shelter-in-place, or “SIP,” policies. In short, the orders didn’t work. “We fail to find that SIP policies saved lives. To the contrary, we find a positive association between SIP policies and excess deaths. We find that following the implementation of SIP policies, excess mortality increases,” the researchers said in a working paper for the National Bureau of Economic</p> |

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|                                                                                                                                               | Research (NBER).”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>75) Experts Said Ending Lockdowns Would Be Worse for the Economy than the Lockdowns Themselves. They Were Wrong</b> , MisesInstitute, 2021 | “There is no indication whatsoever that states with longer periods of lockdown and forced social distancing fared better economically than states that abandoned covid restrictions much earlier. Rather, many states that ended lockdowns early—or didn’t have them at all—now show <i>less</i> unemployment and <i>more</i> economic growth than states that imposed lockdowns and social distancing rules much longer. The complete lack of any correlation between economic success and covid lockdowns illustrates yet again that the confident predictions of the experts—who insisted that states without long lockdowns would endure bloodbaths and economic destruction—were very wrong.”                                                                                                                                                                                                                                                                  |
| <b>76) The Harms of Lockdowns, The Dangers of Censorship, And A Path Forward</b> , AIER, 2020                                                 | “When you read about failures of intelligence, probably the most spectacular being the weapons of mass destruction fiasco, the lesson that they were supposed to learn from that, and maybe have learned, is that you need to encourage cognitive dissonance. You need to encourage critical thinking. You need to have people who are looking at things differently than your mainstream view, because it will help to prevent you from making catastrophic errors. It will help to keep you honest. And we’ve done exactly the opposite instead of encouraging critical thinking, different ideas, we’ve stifled it. That’s what makes the actions of the Ontario College of Physicians and Surgeons towards you so shocking because it’s absolute the opposite of what we need to do. And it’s been that absence of critical thinking of incorporating critical thinking in our decision-making that has led to one mistake after another in handling COVID-19.” |
| <b>77) UNDERSTANDING INTER-</b>                                                                                                               | “We cannot argue that the phased adoption of these                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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| REGIONAL DIFFERENCES IN<br>COVID-19 MORTALITY RATES,<br>PANDA, 2021                                                     | measures has any impact on risk mitigation. This is an important consideration for policy makers who must carefully balance the benefits of a phased lockdown strategy with the economic harm caused by such an intervention.”                                                                                                                                                                                                                                                              |
| 78) Potential lessons from the<br>Taiwan and New Zealand health<br>responses to the COVID-19<br>pandemic, Summers, 2020 | “Extensive public health infrastructure established in Taiwan pre-COVID-19 enabled a fast coordinated response, particularly in the domains of early screening, effective methods for isolation/quarantine, digital technologies for identifying potential cases and mass mask use. This timely and vigorous response allowed Taiwan to avoid the national lockdown used by New Zealand. Many of Taiwan’s pandemic control components could potentially be adopted by other jurisdictions.” |
| 79) 5 Times More Children<br>Committed Suicide Than Died of<br>COVID-19 During Lockdown: UK<br>Study, Phillips, 2021    | “Five times more children and young people committed suicide than died of COVID-19 during the first year of the pandemic in the United Kingdom, according to a study, which also concluded that lockdowns are more detrimental to children’s health than the virus itself.”                                                                                                                                                                                                                 |
| 80) Study Indicates Lockdowns<br>Have Increased Deaths of Despair,<br>Yang, 2021                                        | “Deaths of despair due in large part to social isolation. Regardless of whether they think lockdowns work, policymakers must be cognizant of the fact shutting down society also leads to excess deaths. Whether it’s from the government policies themselves or the willful compliance of society enforcing the soft despotism of popular hysteria, social isolation is taking its toll on the lives of many.”                                                                             |
| 81) DEATHS OF DESPAIR AND THE<br>INCIDENCE OF EXCESS MORTALITY<br>IN 2020, Mulligan, 2020                               | “Presumably social isolation is part of the mechanism that turns a pandemic into a wave of deaths of despair. However, the results in this paper do not say how much, if any, comes from government stay-at-home orders versus various actions individual households and private businesses have                                                                                                                                                                                            |

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|                                                                                                                                                                                       | taken to encourage social distancing.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>82) Effects of the lockdown on the mental health of the general population during the COVID-19 pandemic in Italy: Results from the COMET collaborative network,</b> Fiorillo, 2020 | “Although physical isolation and lockdown represent essential public health measures for containing the spread of the COVID-19 pandemic, they are a serious threat for mental health and well-being of the general population. As an integral part of COVID-19 response, mental health needs should be addressed.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Mental Health and the Covid-19 Pandemic,</b> Pfefferbaum, 2020                                                                                                                     | “The Covid-19 pandemic has alarming implications for individual and collective health and emotional and social functioning. In addition to providing medical care, already stretched health care providers have an important role in monitoring psychosocial needs and delivering psychosocial support to their patients, health care providers, and the public — activities that should be integrated into general pandemic health care.”                                                                                                                                                                                                                                                                                                                                        |
| <b>83) Why Government Lockdowns Mostly Harm the Poor,</b> Peterson, 2021                                                                                                              | “For developed countries, lockdowns undoubtedly imposed significant economic and health costs. Many workers in the service sector, like the food industry, for example, were left unemployed and had to rely on government stimulus checks to get them through the bumpiest stages of the pandemic. Some businesses had to shutter their doors entirely, leaving many employers without jobs as well. This is to say nothing of the <b>severe mental health consequences of government lockdown orders</b> ...These irresponsible government actions are especially acute and more harmful in developing countries and among the poor because most workers can’t afford to sacrifice weeks or perhaps months of income, only to be confined to what is effectively house arrest.” |

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| <b>84) Cost of Lockdowns: A Preliminary Report</b> , AIER, 2020                                                                                                | “In the debate over coronavirus policy, there has been far too little focus on the costs of lockdowns. It’s very common for the proponents of these interventions to write articles and large studies without even mentioning the downsides.”                                                                                                                                                                                                   |
| <b>85) In Africa, social distancing is a privilege few can afford</b> , Noko, 2020                                                                             | “Social distancing could probably work in China and in Europe – but in many African countries, it is a privilege only a minority can afford.”                                                                                                                                                                                                                                                                                                   |
| <b>86) Teargas, beatings and bleach: the most extreme Covid-19 lockdown controls around the world</b> , Ratcliff, 2020                                         | “Violence and humiliation used to police coronavirus curfews around globe, often affecting the poorest and more vulnerable.”                                                                                                                                                                                                                                                                                                                    |
| <b>87) “Shoot them dead”: Philippine President Rodrigo Duterte orders police and military to kill citizens who defy coronavirus lockdown</b> , Capatides, 2020 | “Later that night, Philippine President Rodrigo Duterte took to the airwaves with a chilling warning for his citizens: Defy the lockdown orders again and the police will shoot you dead.”                                                                                                                                                                                                                                                      |
| <b>88) Colombia’s Capital Locks Down as Cases Surge</b> , Vyas, 2021<br><b>Colombia Protests Turn Deadly Amid Covid-19 Hardships</b>                           | “Bogotá, which has logged a quarter of the nation’s cases, had already applied restrictions on mobility and alcohol sales in order to contain gatherings and the spread of the virus before expanding the measures.”“The nationwide unrest was triggered by a proposed tax-collection overhaul and <b>stringent pandemic lockdowns</b> that have been blamed for causing mass unemployment and throwing some four million people into poverty.” |
| <b>89) Argentina receives AstraZeneca jabs amid anti-lockdown protests</b> , AL JAZEERA, 2021                                                                  | “New COVID-19 restrictions have been imposed in and around Buenos Aires in effort to stem recent rise in infections...Argentines took to the streets on Saturday, however, to protest against new coronavirus-related restrictions in and around the capital, Buenos Aires, that                                                                                                                                                                |

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|                                                                                                                                                     | <p>came into effect on Friday... Horacio Rodriguez Larreta, head of the city government, said last week that Buenos Aires “totally disagree[s] with the decision of the national government to close schools.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <p><b>90) Lives vs. Livelihoods Revisited: Should Poorer Countries with Younger Populations Have Equally Strict Lockdowns?</b> Von Carnap, 2020</p> | <p>“Economists in the rich world have largely supported stringent containment measures, rejecting any trade-off between lives and livelihoods...strict lockdowns in countries where a significant share of the population is poor are likely to have more severe consequences on welfare than in richer countries. From a macro perspective, any negative economic effect of a lockdown is reducing a budget with already fewer resources in a poor country.”</p>                                                                                                                                                                                                |
| <p><b>91) Responding to the COVID-19 Pandemic in Developing Countries: Lessons from Selected Countries of the Global South,</b> Chowdhury, 2020</p> | <p>“If testing, contact tracing and other early containment measures had been adequately done in a timely manner to stem viral transmission, nationwide lockdowns would not have been necessary, and only limited areas would have had to be locked down for quarantine purposes. The effectiveness of containment measures, including lockdowns, are typically judged primarily by their ability to quickly reduce new infections, ‘flatten the curve’ and avoid subsequent waves of infections. However, lockdowns can have many effects, depending on context, and typically incur huge economic costs, unevenly distributed in economies and societies.”</p> |
| <p><b>92) Battling COVID-19 with dysfunctional federalism: Lessons from India,</b> Choutagunta, 2021</p>                                            | <p>“Find that India’s centralized lockdown was at best a partial success in a handful of states, while imposing enormous economic costs even in areas where few were affected by the pandemic.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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| <p><b>93) The 2006 Origins of the Lockdown Idea</b>, Tucker, 2020</p>               | <p>“Now begins the grand effort, on display in thousands of articles and news broadcasts daily, somehow to normalize the lockdown and all its destruction of the last two months. We didn’t lock down almost the entire country in 1968/69, 1957, or 1949-1952, or even during 1918. But in a terrifying few days in March 2020, it happened to all of us, causing an avalanche of social, cultural, and economic destruction that will ring through the ages.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <p><b>94) Young People Are Particularly Vulnerable To Lockdowns</b>, Yang, 2021</p> | <p>“The damage to society was certainly extensive, with a 3.5 percent annualized economic retraction record in 2020 and a 32.9 percent decline in Q2 of 2020, making this one of the sharpest economic declines in modern history. However, the level of suffering and trauma caused by these policies cannot be appropriately expressed by economic data alone. Lockdown policies may have caused a substantial amount of financial damage but the social damage is just as concerning, if not more so. Across the board, there have been increased reports of mental health issues, such as depression and anxiety, that are linked to social isolation, substantial life disruptions, and existential dread over the state of the world. Unlike lost dollars, mental health problems leave real and lasting damage which could lead to complications later in life, if not self-harm or suicide. For young people, a drastic increase in suicides has claimed more lives than Covid-19. That is because they are far less vulnerable to Covid than older segments of the population but far more negatively impacted by lockdowns.”</p> |
| <p><b>95) More “Covid Suicides” than Covid Deaths in Kids</b>, Gartz, 2021</p>      | <p>“Before Covid, an American youth died by suicide every six hours. Suicide is a major public health threat and a leading cause of death for those aged under 25 — one far bigger than</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

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|                                                                                                           | <p>Covid. And it is something that we have only made worse as we, led by politicians and ‘the science,’ deprived our youngest members of society — who constitute one-third of the US population — of educational, emotional and social development without their permission or consent for over a year... the biggest increase in youth deaths occurred in the 15-24 age bracket — the age group most susceptible to committing suicide, and which constitutes 91% of youth suicides... such “deaths of despair” tend to be higher among youths, particularly for those about to graduate or enter the workforce. With economic shrinkage due to lockdowns and forced <b>closures of universities</b>, youths face both less economic opportunity and limited social support — which plays an important role in reporting and preventing self-harm — through social networks.”</p> |
| <p><b>96) Comparison of COVID-19 outcomes among shielded and non-shielded populations</b>, Jani, 2021</p> | <p>“Linked family practitioner, prescribing, laboratory, hospital and death records and compared COVID-19 outcomes among shielded and non-shielded individuals in the West of Scotland. Of the 1.3 million population, 27,747 (2.03%) were advised to shield, and 353,085 (26.85%) were classified a priori as moderate risk...in spite of the shielding strategy, high risk individuals were at increased risk of death.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <p><b>97) Sweden: Despite Variants, No Lockdowns, No Daily Covid Deaths</b>, Fumento, 2021</p>            | <p>““Locking down is saving time,” <b>he said last year</b>. “It’s not solving anything.” In essence the country “front-loaded” its deaths and decreased those deaths later on...Despite Sweden inevitably feeling undertow from economies that did lock down, “Covid-19 has had a rather limited impact on its economy compared with most other European countries,” <b>according to the Nordetrade.com</b> consulting firm. “Softer preventative restrictions against Covid-19 earlier in the year and a strong recovery in the third quarter contained</p>                                                                                                                                                                                                                                                                                                                       |

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|                                                                                         | <p>the GDP contraction,” it said. Thus, the country the media loved to hate is reaping the best of all worlds: Few current cases and deaths, stronger economic growth than the lockdown countries, and its people never experienced the yoke of tyranny.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <p><b>98) Lockdown lessons</b>, Ross, 2021</p>                                          | <p>“Never take radical action without overwhelming evidence that it will work. The authorities took all manner of drastic actions and weren’t the least bit interested in offering evidence and they still aren’t. Unelected bureaucrats, who know nothing about us, dictated how we live our lives down to the tiniest details. The authorities coerced hundreds of millions of people to wear masks. They assumed that would reduce transmission. There is now evidence that masks are worse than useless. Be extremely reluctant to commit sweeping violations of the Constitution. The Constitution is our country’s greatest asset and our north star. Ignoring it or trampling on it is never a good idea. The Constitution is what makes us who we are. We ought to treat it like the treasure it is. Always consider both costs and benefits and make best-effort projections of both. The costs of virtually every aspect of the lockdown were more than the benefits, usually far more...it has increased the amount of depression and number of suicides, especially among those age 18 and younger. The postponement and cancellation of medical appointments have resulted in thousands of premature deaths.”</p> |
| <p><b>99) Prof. Sunetra Gupta — New Lockdown is a Terrible Mistake</b>, Gupta, 2020</p> | <p>“I would beg to disagree. I think there is an alternative, and that alternative involves reducing the deaths that this pandemic might cause by diverting our energies to protecting the vulnerables. Now, why would I say that? The main reason to say that is because the costs of alternative</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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|                                                                                          | <p>strategies such as lockdown are so profound that we are left with a contemplation of how to go ahead, go forwards, in this current sort of situation without inflicting harm, not just to those who are vulnerable to COVID, but to the general population in a way that meets with those standards that we set ourselves from the moment we were, maybe not born, but from the moment that we became cognizant of those responsibilities towards society.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <p><b>100)</b> The harms of lockdown will vastly outweigh the benefits, Hinton, 2021</p> | <p>“Nearly 1.2 m people waiting at least six months for vital services.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <p><b>101)</b> Lockdowns don’t work, Stone/AEI, 2020</p>                                 | <p>“Lockdowns don’t work. That simple sentence is enough to ignite a firestorm of controversy these days, whether you say it in public (to someone at least six feet away, of course) or online. As soon as the words leave your lips, they begin to be interpreted in extraordinary ways. Why do you want to kill old people? Why do you think the economy is more important than saving lives? Why do you hate science? Are you a shill for Trump? Why are you spreading misinformation about the severity of COVID? But here’s the thing: there’s no evidence of lockdowns working. If strict lockdowns actually saved lives, I would be all for them, even if they had large economic costs. But, put simply, the scientific and medical case for strict lockdowns is paper-thin... If you’re going to essentially cancel the civil liberties of the entire population for a few weeks, you should probably have evidence that the strategy will work.”</p> |
| <p><b>102)</b> Science Killed itself over COVID-19, Raleigh/Federalist/Atlas, 2021</p>   | <p>“Lockdowns destroyed people, Atlas said, by “shutting down medical care, stopping people from seeking emergency medical care, increasing drug abuse, increasing death by</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

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|                                                                                                                    | <p>suicide, more psychological damage, particularly among the younger generation. Hundreds and thousands of child abuse cases went unreported. Teenagers' self-harm cases have tripled... Mortality data showing that anywhere from a third or half of the deaths during the pandemic were not due to COVID-19," Atlas said. "They were extra deaths due to the lockdowns...we should offer targeted protections for high-risk people but no lockdowns of low-risk people."</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <p><b>103)</b> <i>Assembling Covid Jigsaw Pieces Into a Complete Pandemic Picture</i>, Brookes, 2021</p>           | <p>"Overall there is a minimal positive impact from quarantine policy, isolation requirements, Test and Trace regimes, social distancing, masking or other non-pharmaceutical interventions. Initially, these were the only tools in the toolbox of interventionist politicians and scientists. At best they slightly delayed the inevitable, but they also caused considerable collateral harms."</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <p><b>104)</b> <i>Covid Lockdowns Signal the Rise of Public Policy by Ransom</i>, O'Neill/MisesInstitute, 2021</p> | <p>"Public policy by ransom occurs when a government imposes a behavioral requirement on individuals and enforces this by punishing the general public <i>in aggregate</i> until a stipulated level of compliance is attained. The method relies on members of the public and public commentators—like Marcotte—who will attribute blame for these negative consequences to recalcitrant citizens who fail to adopt the preferred behaviors of the governing class. In the <i>weltanschauung</i> that underpins this type of governance, government reactions to public behaviors are "metaphysically given" and are treated as a mere epiphenomenon of the actions of individual members of the public who dare to behave in ways disliked by public authorities... what has emerged as an ominous mode of thinking in this atmosphere is the <i>reflexive attribution of blame</i> to recalcitrant members of the public for any</p> |

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|                                                                                                                      | <p>subsequent negative consequences imposed on the public by government policies. If the government chooses to impose a negative consequence on the public—even conditionally on the behavior of the public—that consequence is a <i>chosen policy of the government</i> and must be viewed as a policy choice.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <p><b>105)</b> Sweden Saw Lower Mortality Rate Than Most of Europe in 2020, Despite No Lockdown, Miltimore, 2021</p> | <p>“I think people will probably think very carefully about these total shutdowns, how good they really were...t hey may have had an effect in the short term, but when you look at it throughout the pandemic, you become more and more doubtful...data published by <i>Reuters</i> that show Sweden, which shunned the strict lockdowns embraced by most nations around the world, experienced a smaller increase in its mortality rate than most European countries in 2020.”</p>                                                                                                                                                                                                                                                                                                                              |
| <p><b>106)</b> Weighing the Costs of COVID Versus the Costs of Lockdowns, Leef/National Review, 2021</p>             | <p>“Yet there was no such careful calculation for the lockdowns imposed in haste to combat Covid-19. Lockdowns were simply <i>assumed</i> not only to be effective at significantly slowing the spread of SARS-CoV-2, but also to impose only costs that are acceptable. Regrettably, given the novelty of the lockdowns, and the enormous magnitude of their likely downsides, this bizarrely sanguine attitude toward lockdowns was – and remains – wholly unjustified. And the unjustness of this reaction is further highlighted by the fact that, in a free society, the burden of proof is on those who would restrict freedom and not on those who resist such restrictions... policy-makers should be just as interested in the costs of the problem as in the costs of any proposed solution to it.”</p> |
| <p><b>107)</b> Did Lockdown Work? An Economist’s Cross-Country</p>                                                   | <p>“Explore the association between the severity of lockdown policies in the first half of 2020 and mortality rates. Using</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

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| Comparison, Bjørnskov, 2020                                                                                                                                                                              | two indices from the Blavatnik Centre's Covid 19 policy measures and comparing weekly mortality rates from 24 European countries in the first halves of 2017-2020, and addressing policy endogeneity in two different ways, I find no clear association between lockdown policies and mortality development.”                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>108)</b> Increase in preterm stillbirths and reduction in iatrogenic preterm births for fetal compromise: a multi-centre cohort study of COVID-19 lockdown effects in Melbourne, Australia, Hui, 2021 | “Lockdown restrictions in a high-income setting, in the absence of high rates of COVID-19 disease, were associated with a significant increase in preterm stillbirths, and a significant reduction in iatrogenic PTB for suspected fetal compromise.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>109)</b> Impact of the COVID19 pandemic on cardiovascular mortality and catherization activity during the lockdown in central Germany: an observational study, Nef, 2021                              | “During the COVID-19-related lockdown a significant increase in cardiovascular mortality was observed in central Germany, whereas catherization activities were reduced.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>110)</b> Editor's Note – Cancer Review Issue, Collateral Global, 2021                                                                                                                                 | “Before the lockdowns, we had made so much progress in the war on cancer. Between 1999 and 2019, cancer mortality <b>dropped</b> by an astonishing 27% in the United States, down to 600,000 <b>deaths</b> in 2019. Worldwide, the age-standardized death rate from cancer has <b>decreased</b> by 15% since 1990. Cancer, like COVID-19, is by proportion an old person's disease, with 27% of cases <b>afflicting</b> people 70 and over and over 70% of cases afflicting people 50 and over. Despite progress against the disease, 18.1 million new cases were diagnosed worldwide in 2018, and 9.6 million people <b>died</b> from cancer... N\nearly eight out of ten cancer patients reported delays in care, with almost six out ten |

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|                                                                                                                                                                                     | skipping doctor visits, one in four skipping imaging, and one in six missing surgery...the toll from cancer, exacerbated by lockdown and panic, will continue into the indefinite future.”                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>111)</b> Impact of COVID-19 and partial lockdown on access to care, self-management and psychological well-being among people with diabetes: A cross-sectional study, Yeoh, 2021 | “COVID-19 and lockdown had mixed impacts on self-care and management behaviours. Greater clinical care and attention should be provided to people with diabetes with multiple comorbidities and previous mental health disorders during the pandemic and lockdown...the pandemic and quarantine measures may have led to many losses including a loss of loved ones, employment, financial security, direct social contacts, educational opportunities, recreation and social support. A review of the psychological impact of quarantine demonstrated a high prevalence of psychological symptoms and emotional disturbance.” |
| <b>112)</b> Mental Health During the COVID-19 Pandemic in the United States: Online Survey, Jewell, 2020                                                                            | “Findings suggest that many US residents are experiencing high stress, depressive, and anxiety symptomatology, especially those who are underinsured, uninsured, or unemployed.”                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>113)</b> Mental health in the UK during the COVID-19 pandemic: cross-sectional analyses from a community cohort study, Jia, 2020                                                 | “Increased psychological morbidity was evident in this UK sample and found to be more common in younger people, women and in individuals who identified as being in recognised COVID-19 risk groups. Public health and mental health interventions able to ameliorate perceptions of risk of COVID-19, worry about COVID-19 loneliness and boost positive mood may be effective.”                                                                                                                                                                                                                                              |
| <b>114)</b> The psychological impact of quarantine on coronavirus disease 2019 (COVID-19), Luo, 2020                                                                                | “Based on these studies, a great amount of psychologic symptoms or problems developed during the quarantine period, including anxiety (228/649, 35.1%), depression (110/649, 16.9%), loneliness (37/649, 5.7%) and despair (6/649, 0.9%). One study (Dong et al., 2020) reported that                                                                                                                                                                                                                                                                                                                                          |

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|                                                                                                                           | people quarantined had suicidal tendencies or ideas than those not quarantined.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>115) COVID-19 pandemic leads to major backsliding on childhood vaccinations, new WHO, UNICEF data shows, WHO, 2021</b> | “23 million children missed out on basic childhood vaccines through routine health services in 2020, the highest number since 2009 and 3.7 million more than in 2019”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>116) Virus-linked hunger tied to 10,000 child deaths each month, Hinnant, 2020</b>                                     | “All around the world, the coronavirus and its restrictions are pushing already hungry communities <b>over the edge</b> , cutting off meager farms from markets and isolating villages from food and medical aid. Virus-linked hunger is leading to the deaths of 10,000 more children a month over the first year of the pandemic, according to an urgent call to action from the United Nations shared with The Associated Press ahead of its publication in the Lancet medical journal...The parents of the children are without work,” said Annelise Mirabal, who works with a foundation that helps malnourished children in Maracaibo, the city in Venezuela thus far hardest hit by the pandemic. “How are they going to feed their kids?...in May, Nieto recalled, after two months of quarantine in Venezuela, 18-month-old twins arrived at his hospital with bodies bloated from malnutrition.” |
| <b>117) CG REPORT 3: The Impact of Pandemic Restrictions on Childhood Mental Health, Collateral Global, 2021</b>          | “The evidence shows the overall impact of COVID-19 restrictions on the mental health and well-being of children and adolescents is likely to be severe... Eight out of ten children and adolescents report worsening of behaviour or any psychological symptoms or an increase in negative feelings due to the COVID-19 pandemic. School closures contributed to increased anxiety, loneliness and stress; negative feelings due to COVID-19 increased with the duration of school closures. Deteriorating mental health was                                                                                                                                                                                                                                                                                                                                                                               |

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|                                                                                                      | found to be worse in females and older adolescents.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>118) Unintended Consequences of Lockdowns: COVID-19 and the Shadow Pandemic</b> , Ravindran, 2021 | “Using variation in the intensity of government-mandated lock-downs in India, we show that domestic violence complaints increase 0.47 SD in districts with the strictest lockdown rules. We find similarly large increases in cyber-crime complaints.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>119) Projected increases in suicide in Canada as a consequence of COVID-19</b> , McIntyre, 2020   | “A percentage point increase in unemployment was associated with a 1.0% increase in suicide between 2000 and 2018. In the first scenario, the rise in unemployment rates resulted in a projected total of 418 excess suicides in 2020-2021 (suicide rate per 100,000: 11.6 in 2020). In the second scenario, the projected suicide rates per 100,000 increased to 14.0 in 2020 and 13.6 in 2021, resulting in 2114 excess suicides in 2020-2021. These results indicate that suicide prevention in the context of COVID-19-related unemployment is a critical priority.”                                                                                                                                                                                                 |
| <b>120) COVID-19, unemployment, and suicide</b> , Kawohl, 2020                                       | “In the high scenario, the worldwide unemployment rate would increase from 4.936% to 5.644%, which would be associated with an increase in suicides of about 9570 per year. In the low scenario, the unemployment would increase to 5.088%, associated with an increase of about 2135 suicides... expect an extra burden for our mental health system, and the medical community should prepare for this challenge now. Mental health providers should also raise awareness in politics and society that rising unemployment is associated with an increased number of suicides. The downsizing of the economy and the focus of the medical system on the COVID-19 pandemic can lead to unintended long-term problems for a vulnerable group on the fringes of society.” |

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| <b>121)</b> The impact of the COVID-19 pandemic on cancer deaths due to delays in diagnosis in England, UK: a national, population-based, modelling study, Maringe, 2020                   | “Substantial increases in the number of avoidable cancer deaths in England are to be expected as a result of diagnostic delays due to the COVID-19 pandemic in the UK.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>122)</b> Economic impact of avoidable cancer deaths caused by diagnostic delay during the COVID-19 pandemic: A national population-based modelling study in England, UK, Gheorghe, 2021 | “Premature cancer deaths resulting from diagnostic delays during the first wave of the COVID-19 pandemic in the UK will result in significant economic losses. On a per-capita basis, this impact is, in fact, greater than that of deaths directly attributable to COVID-19. These results emphasise the importance of robust evaluation of the trade-offs of the wider health, welfare and economic effects of NPI to support both resource allocation and the prioritisation of time-critical health services directly impacted in a pandemic, such as cancer care.”                                                                                                                                                 |
| <b>123)</b> Cancer during the COVID-19 pandemic: did we shout loudly enough and did anyone listen? A lasting legacy for nations, Price, 2021                                               | “In just four cancer types (breast, colon, lung and oesophagus), studies during the first wave of the COVID-19 pandemic (published July 2020 [3]) predicted 60,000 lost life years. The quality-adjusted life years and the productivity losses due to these excess cancer deaths have been estimated in this new article to be 32,700 and £104 million over 5 years, respectively. This is nearly 1.5 times higher per capita than that of deaths directly related to COVID-19 in that time. The authors confirm that this is a conservative estimate for these cancer groups as it does not take into account additional productivity losses due to delays or reduction in quality of treatment and stage migration.” |
| <b>124)</b> Donation and transplantation activity in the UK during the COVID-19 lockdown, Manara, 2020                                                                                     | “Compared with 2019, the number of deceased donors decreased by 66% and the number of deceased donor transplants decreased by 68%, larger decreases than we                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

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|                                                                                                                                                                               | estimated.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>125) Rapid Systematic Review: The Impact of Social Isolation and Loneliness on the Mental Health of Children and Adolescents in the Context of COVID-19</b> , Loades, 2020 | “Children and adolescents are probably more likely to experience high rates of depression and most likely anxiety during and after enforced isolation ends. This may increase as enforced isolation continues.”                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>126) The Costs and Benefits of Covid-19 Lockdowns in New Zealand</b> , Lally, 2021                                                                                         | “Using data available up to 28 June 2021, the estimated additional deaths from a mitigation strategy are 1,750 to 4,600, implying a Cost per Quality Adjusted Life Year saved by locking down in March 2020 of at least 13 times the generally employed threshold figure of \$62,000 for health interventions in New Zealand; the lockdowns do not then seem to have been justified by reference to the standard benchmark. Using only data available to the New Zealand government in March 2020, the ratio is similar and therefore the same conclusion holds that the nation-wide lockdown strategy was not warranted.” |
| <b>127) Trends in suicidal ideation over the first three months of COVID-19 lockdowns</b> , Killgore, 2020                                                                    | “The percentage of respondents endorsing suicidal ideation was greater with each passing month for those under lockdown or shelter-in-place restrictions due to the novel coronavirus, but remained relatively stable and unchanged for those who reported no such restrictions.”                                                                                                                                                                                                                                                                                                                                          |
| <b>128) Cardiovascular Mortality during the COVID-19 Pandemics in a Large Brazilian City: a Comprehensive Analysis</b> , Brant, 2021                                          | “The greater occurrence of CVD deaths at home, in parallel with lower hospitalization rates, suggests that CVD care was disrupted during the COVID-19 pandemics, which more adversely affected older and more socially vulnerable individuals, exacerbating health inequities in BH.”                                                                                                                                                                                                                                                                                                                                      |
| <b>129) Excess Deaths in People with Cardiovascular Diseases during the</b>                                                                                                   | “Mortality data suggest indirect effects on CVD will be delayed rather than contemporaneous (peak RR 1.14). CVD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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| COVID-19 Pandemic, Banerjee, 2021                                                                  | service activity decreased by 60–100% compared with pre-pandemic levels in eight hospitals across China, Italy, and England.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>130)</b> Cardiovascular Deaths During the COVID-19 Pandemic in the United States, Wadhera, 2021 | “Hospitalizations for acute cardiovascular conditions have declined, raising concern that patients may be avoiding hospitals because of fear of contracting severe acute respiratory syndrome- coronavirus-2 (SARS-CoV-2)...there was an increase in deaths caused by ischemic heart disease and hypertensive diseases in some regions of the United States during the initial phase of the COVID-19 pandemic.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>131)</b> Lockdowns of Young People Lead to More Deaths from Covid-19, Berdine, 2020             | “On April 1, 2020 Dr Anthony Fauci <b>indicated</b> that lockdowns would have to continue until there were zero new cases. This policy indicated a strategy whose goal was eradication of the virus through lockdown. The premise that the virus could be eradicated was a false one. While individual virus particles can certainly be killed, the Covid-19 virus cannot be eradicated. If the virus could be eradicated, then Australia would have already succeeded with its brutal lockdown. All of the scientific data, as opposed to the wishful thinking coming out of Garbage In Garbage Out models, indicates that the virus is here forever – much like influenza. Given the fact that the virus will eventually spread to the entire young and economically active population, lockdowns of the young cannot possibly achieve reduced mortality compared to voluntary action.” |
| <b>132)</b> A second lockdown would break South Africans, Griffiths, 2020                          | “It is likely that soon there will be increased calls for a second hard lockdown as it gets worse, either countrywide or in particular provinces. Should such a decision be implemented it will probably take many South Africans over their breaking point as some may well lose what they so                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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|                                                                                                                                                                       | desperately attempted to save during the initial lockdown.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>133)</b> CDC, Longitudinal Trends in Body Mass Index Before and During the COVID-19 Pandemic Among Persons Aged 2–19 Years — United States, 2018–2020, Lange, 2021 | “During the COVID-19 pandemic, children and adolescents spent more time than usual away from structured school settings, and families who were already disproportionately affected by obesity risk factors might have had additional disruptions in income, food, and other social determinants of health.† As a result, children and adolescents might have experienced circumstances that accelerated weight gain, including increased stress, irregular mealtimes, less access to nutritious foods, increased screen time, and fewer opportunities for physical activity (e.g., no recreational sports) (2,3).”                                                                                                                                                                                                                                                                              |
| <b>134)</b> The Truth About Lockdowns, Rational Ground, 2021                                                                                                          | “1.4 million additional tuberculosis deaths due to lockdown disruptions, 500,000 additional deaths related to HIV, Malaria deaths could double to 770,000 total per year, 65 percent decrease in all cancer screenings, Breast cancer screenings dropped 89 percent, Colorectal screenings dropped 85 percent, At least 1/3 of excess deaths in the U.S. are already not related to COVID-19, Increase in cardiac arrests but decrease in EMS calls for them, Significant increase in stress-related cardiomyopathy during lockdowns, 132 million additional people in sub-Saharan Africa are projected to be undernourished due to lockdown disruptions, Study estimates up to 2.3 million additional child deaths in the next year from lockdowns, Millions of girls have been deprived of access to food, basic healthcare, and protection and thousands exposed to abuse and exploitation.” |
| <b>135)</b> The Backward Art of Slowing the Spread? Congregation Efficiencies during COVID-19,                                                                        | “Micro evidence contradicts the public-health ideal in which households would be places of solitary confinement and zero transmission. Instead, the evidence suggests that                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

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| Mulligan, 2021                                                                                                    | “households show the highest transmission rates” and that “households are high-risk settings for the transmission of [COVID-19].”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>136)</b> Stay-at-home policy is a case of exception fallacy: an internet-based ecological study, Savaris, 2021 | “After preprocessing the data, 87 regions around the world were included, yielding 3741 pairwise comparisons for linear regression analysis. Only 63 (1.6%) comparisons were significant. With our results, we were not able to explain if COVID-19 mortality is reduced by staying at home in ~98% of the comparisons after epidemiological weeks 9 to 34.”                                                                                                                                                                                                                                                                                                                                                                    |
| <b>137)</b> The Failed Experiment of Covid Lockdowns, Luskin, 2020                                                | “Six months into the Covid-19 pandemic, the U.S. has now carried out two large-scale experiments in public health —first, in March and April, the lockdown of the economy to arrest the spread of the virus, and second, since mid-April, the reopening of the economy. The results are in. Counterintuitive though it may be, statistical analysis shows that locking down the economy didn’t contain the disease’s spread and reopening it didn’t unleash a second wave of infections.”                                                                                                                                                                                                                                       |
| <b>138)</b> An Interview with Gigi Foster, Warrior Against Lockdowns, Brownstone, 2021                            | “Well, I mean, we thought that was necessary because we were just surrounded by people who have bought into the lockdown ideology. And they will have in their minds, a very facile sort of reason why lockdowns should work. And so, we addressed that very directly in that section as you know. We say, “Look, on the surface of it, the idea is that you prevent people from interacting with each other and therefore, transmitting the virus. That’s what people believe. That’s what they think when they think lockdown, they think, “That’s what I’m doing.” But they don’t realize how many other collateral problems are happening and also how little that particular objective is actually being serviced, because |

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|                                                                                                                                                              | <p>of the fact that we live in these interdependent societies now. And we also are trapping people often in large buildings, sharing air together, and not able to go outside as much and so we're actually potentially increasing the spread of the virus, at least within communities, our communities. So, it basically is an example of trying to engage with the people we feel are misguided on this issue in a calm way, not screaming at each other, not sort of taking the radical position on either side and just saying, "I'm going to play gotcha with you" because that's not productive."</p>                                                   |
| <b>139) The Politicisation of Science Funding in the US</b> , Carl, 2021                                                                                     | <p>Regarding Sweden: "As an aside, the report clearly states: "The best way of comparing the mortality impact of the coronavirus (COVID-19) pandemic internationally is by looking at all-cause mortality compared with the five-year average." So what do the new numbers show? Sweden has had <i>negative</i> excess mortality. In other words, the level of mortality between January 2020 and June 2021 was <i>lower</i> than the five-year average. If this isn't a vindication of Anders Tegnell's approach, I don't know what is."</p>                                                                                                                  |
| <b>140) Pandemic lockdown, healthcare policies and human rights: integrating opposed views on COVID-19 public health mitigation measures</b> , Burlacu, 2020 | <p>"Starting from the rationale of the lockdown, in this paper we explored and exposed the other consequences of the COVID-19 pandemic measures such as the use or abuse of human rights and freedom restrictions, economic issues, marginalized groups and eclipse of all other diseases. Our scientific attempt is to coagulate a stable position and integrate current opposing views by advancing the idea that rather than applying the uniform lockdown policy, one could recommend instead an improved model targeting more strict and more prolonged lockdowns to vulnerable risk/age groups while enabling less stringent measures for the lower-</p> |

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|                                                                                                                                                | <p>risk groups, minimizing both economic losses and deaths. Rigorous (and also governed by freedom) debating may be able to synchronize the opposed perspectives between those advocating an extreme lockdown (e.g., most of the epidemiologists and health experts), and those criticizing all restrictive measures (e.g., economists and human rights experts). Confronting the multiple facets of the public health mitigation measures is the only way to avoid contributing to history with yet another failure, as seen in other past epidemics.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>141)</b> Mental Health, Substance Use, and Suicidal Ideation During the COVID-19 Pandemic — United States, June 24–30, 2020, Czeisler, 2020 | <p>25.5% of persons 18 to 24 years old seriously considered suicide in the prior 30 days (Table 1).<a href="#">CDC: A Quarter of Young Adults Say They Contemplated Suicide This Summer During Pandemic – Foundation for Economic Education (fee.org)</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>142)</b> Will the Truth on COVID Restrictions Really Prevail?, Atlas, 2021                                                                  | <p>“Separate from their <b>limited</b> value in containing the virus — efficacy that has often been “<b>grossly exaggerated</b>” in published papers — lockdown policies have been extraordinarily harmful. The <b>harms</b> to children of closing in-person schooling are dramatic, including poor learning, school dropouts, social isolation, and suicidal ideation, most of which are far <b>worse</b> for lower income groups. A recent <b>study</b> confirms that up to 78% of cancers were never detected due to missed screening over three months. If one extrapolates to the entire country, where about <b>150,000</b> new cancers are diagnosed per month, three-fourths to over a million new cases over nine months will have gone undetected. That health disaster adds to missed critical surgeries, delayed presentations of pediatric illnesses, heart attack and stroke patients too afraid to call emergency services, and others all well documented... Beyond hospital</p> |

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|                                                                                                                           | <p>care, CDC reported four-fold increases in depression, three-fold increases in anxiety symptoms, and a doubling of suicidal ideation, particularly among <b>young adults</b> after the first few months of lockdowns, echoing the <b>AMA</b> reports of drug overdoses and suicides. <b>Domestic abuse</b> and <b>child abuse</b> have been <b>skyrocketing</b> due to the isolation and specifically to the <b>loss of jobs</b>, particularly in the <b>strictest</b> lockdowns.”</p>                                                                                                                                                                                                                                                                                                         |
| <p><b>143) With Low Vaccination Rates, Africa’s Covid Deaths Remain Far below Europe and the US</b>, Mises Wire, 2021</p> | <p>“Since the very beginning of the covid panic, the narrative has been this: implement severe lockdowns or your population will experience a bloodbath. Morgues will be overwhelmed, the death total toll will be astounding. On the other hand, we were assured those jurisdictions that <i>do</i> lock down would see only a fraction of the death toll... The lockdown narrative, of course, has already been thoroughly overturned. Jurisdictions that did not lock down or adopted only weak and short lockdowns <b>ended up with</b> covid death tolls that were either similar to—or even better than—death tolls in countries that adopted draconian lockdowns. Lockdown advocates said locked-down countries would be overwhelmingly better off. These people were clearly wrong.”</p> |
| <p><b>144) Rethinking lockdowns</b>, Joffe, 2020</p>                                                                      | <p>“Lockdowns have also resulted in a wide-range of unintended ramifications. Economic damage, delays in “non-urgent” surgeries, diagnoses, and treatments, and excess deaths arising from the “collateral effects” of lockdown measures should all be considered as policy-makers weigh future measures. Dr. Joffe argues that Canadians have been essentially presented with a “false dichotomy” – between a choice of either economically-damaging lockdowns or lethal inaction. However, his</p>                                                                                                                                                                                                                                                                                             |

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|                                                                                                                                                         | analysis finds that the costs of the lockdown measures compare poorly against their purported benefits when measured by Quality Adjusted Life Years, or QALY. “Various cost-benefit analyses from different countries, including some of these costs, have consistently estimated the cost in lives from lockdowns to be at least five to 10 times higher than the benefit, and likely far higher.” |
| <b>145) Non-pharmaceutical public health measures for mitigating the risk and impact of epidemic and pandemic influenza</b> , WHO, 2020                 | “Home quarantine of exposed individuals to reduce transmission is not recommended because there is no obvious rationale for this measure, and there would be considerable difficulties in implementing it.”                                                                                                                                                                                         |
| <b>146) Projected deaths of despair from COVID-19</b> , Well Being Trust, 2020                                                                          | “More Americans could lose their lives to deaths of despair, deaths due to drug, alcohol, and suicide, if we do not do something immediately. Deaths of despair have been on the rise for the last decade, and in the context of COVID-19, deaths of despair should be seen as the epidemic within the pandemic.”                                                                                   |
| <b>147) Dr Matthew Owens: Undoing the untold harms of COVID-19 on young people: a call to action</b> , 2020                                             | “A sense of proportion is now needed to help mitigate the negative impact of the ‘lockdown’ measures and encourage the healthy development and wellbeing of all young people.”                                                                                                                                                                                                                      |
| <b>148) Stay at Home, Protect the National Health Service, Save Lives”: A cost benefit analysis of the lockdown in the United Kingdom</b> , Miles, 2020 | “The costs of continuing severe restrictions are so great relative to likely benefits in lives saved that a rapid easing in restrictions is now warranted.”                                                                                                                                                                                                                                         |
| <b>149) Great Barrington Declaration</b> , Gupta, Kulldorff, Bhattacharya, 2020                                                                         | “Both COVID-19 itself and the lockdown policy reactions have had enormous adverse consequences for patients in the US and around the world. While the harm from COVID-19                                                                                                                                                                                                                            |

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|                                                                                                                                               | <p>infections are well represented in news stories every day, the harms from lockdowns themselves are less well advertised, but no less important. The patients hurt by missed medical visits and hospitalizations due to lockdowns are as worthy of attention and policy response as are patients afflicted by COVID-19 infection.”</p>                                                   |
| <p><b>150)</b> Sweden saw lower 2020 death spike than much of Europe – data, Ahlander, 2021</p>                                               | <p>“Sweden, which has shunned the strict lockdowns that have choked much of the global economy, emerged from 2020 with a smaller increase in its overall mortality rate than most European countries, an analysis of official data sources showed.”</p>                                                                                                                                    |
| <p><b>151)</b> Covid-19 Mortality: A Matter of Vulnerability Among Nations Facing Limited Margins of Adaptation, De Laroche Lambert, 2020</p> | <p>“Countries that already experienced a stagnation or regression of life expectancy, with high income and NCD rates, had the highest price to pay. This burden was not alleviated by more stringent public decisions.”</p>                                                                                                                                                                |
| <p><b>152)</b> Open Letter from Medical Doctors and Health Professionals to All Belgian Authorities and All Belgian Media, AIER, 2020</p>     | <p>“If we compare the waves of infection in countries with strict lockdown policies to countries that did not impose lockdowns (Sweden, Iceland ...), we see similar curves. So there is no link between the imposed lockdown and the course of the infection. Lockdown has not led to a lower mortality rate.”</p>                                                                        |
| <p><b>153)</b> Will Months of Remote Learning Worsen Students’ Attention Problems? Harwin, 2020</p>                                           | <p>“Robert is working from home again, along with <b>over 50 million students</b>, as schools in 48 states have shut down in-person classes to curb the spread of the novel coronavirus. How will the long absence from traditional school routines affect Robert and the millions of other students across the country who struggle with self-control, focus, or mental flexibility?”</p> |

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| <p><b>154) Covid Lockdown Cost/Benefits:</b><br/><b>A Critical Assessment of the Literature,</b> Allen, 2021</p> | <p>“An examination of over 80 Covid-19 studies reveals that many relied on assumptions that were false, and which tended to over-estimate the benefits and under-estimate the costs of lockdown. As a result, most of the early cost/benefit studies arrived at conclusions that were refuted later by data, and which rendered their cost/benefit findings incorrect. Research done over the past six months has shown that lockdowns have had, at best, a marginal effect on the number of Covid-19 deaths. Generally speaking, the ineffectiveness of lockdown stems from voluntary changes in behavior. Lockdown jurisdictions were not able to prevent non-compliance, and non-lockdown jurisdictions benefited from voluntary changes in behavior that mimicked lockdowns. The limited effectiveness of lockdowns explains why, after one year, the unconditional cumulative deaths per million, and the pattern of daily deaths per million, is not negatively correlated with the stringency of lockdown across countries. Using a cost/benefit method proposed by Professor Bryan Caplan, and using two extreme assumptions of lockdown effectiveness, the cost/benefit ratio of lockdowns in Canada, in terms of life-years saved, is between 3.6–282. That is, it is possible that lockdown will go down as one of the greatest peacetime policy failures in Canada’s history.”</p> |
| <p><b>155) COVID-19 Mandates Will Not Work for the Delta Variant,</b> Alexander, 2021</p>                        | <p>“Yet the elites are far removed from the ramifications of their nonsensical, illogical, specious policies and edicts. Dictates that do not apply to them or their families or friends. The ‘laptop’ affluent class could vacate, work remotely, walk their dogs and pets, catch up on reading their books, and do tasks they could not do had they been in the workplace daily. They could hire extra teachers for their children etc.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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|                                                                                                                                                                       | <p>Remote working was a boon. The actions of our governments however, devastated and long-term hurt the poor in societies and terribly and perversely so, and many could not hold on and committed suicide. AIER's Ethan Yang's analysis showed that <b>deaths of despair</b> skyrocketed. Poor children, especially in richer western nations such as the US and Canada, self-harmed and <b>ended their lives</b>, not due to the pandemic virus, but due to the lockdowns and school closures. Many children took their own lives out of despair, depression, and hopelessness due to the lockdowns and school closures."</p> |
| <p><b>156)</b> Open letter from medical doctors and health professionals to all Belgian authorities and all Belgian media, The American Institute of Stress, 2020</p> | <p>"If we compare the waves of infection in countries with strict lockdown policies to countries that did not impose lockdowns (Sweden, Iceland ...), we see similar curves. So there is no link between the imposed lockdown and the course of the infection. Lockdown has not led to a lower mortality rate. If we look at the date of application of the imposed lockdowns we see that the lockdowns were set after the peak was already over and the number of cases decreasing. The drop was therefore not the result of the taken measures."</p>                                                                          |
| <p><b>157)</b> Lockdown Scepticism Was Never a 'Fringe' Viewpoint, Carl, 2021</p>                                                                                     | <p>"Whether or not lockdowns are justifiable on public-health grounds, they certainly represent the greatest <b>infringement</b> on civil liberties in modern history. In the UK, lockdowns have contributed to the <b>largest</b> economic contraction in more than 300 years, as well as countless <b>bankruptcies</b>, and a dramatic <b>rise</b> in public borrowing."</p>                                                                                                                                                                                                                                                  |
| <p><b>158)</b> Actuaries warn Ramaphosa of a 'humanitarian disaster to dwarf</p>                                                                                      | <p>"The frequently voiced government mantra that lives are being prioritised and that the issue is "lives versus the</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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| <p>Covid-19' if restrictive lockdown is not lifted, Bell, 2020</p>                                                             | <p>economy” is described in the Panda report as a false dichotomy. The report notes: “Viruses kill. But the economy sustains lives, and poverty kills too.”It points out that the admitted intention of the lockdown is to “flatten the curve”, to spread expected virus deaths over time, so as not to overburden hospital systems. This “saves lives to the extent that avoidable deaths are prevented, but merely shifts the timing of the rest by some weeks.”</p>                                                                                                                                                                                                                                                                                 |
| <p><b>159)</b> THE STATE OF THE NATION: A 50-STATE COVID-19 SURVEY REPORT #23: DEPRESSION AMONG YOUNG ADULTS, Perlis, 2020</p> | <p>“In line with our May results, our survey indicates that the next administration will lead a country where unprecedented numbers of younger individuals are experiencing depression, anxiety, and, for some, thoughts of suicide. These symptoms are not concentrated among any particular subgroup or region in our survey; they are elevated in every group we examined. Our survey results also strongly suggest that those with direct economic and property losses resulting from COVID-19 appear to be at particular risk, so strategies focusing on these individuals may be critical.”</p>                                                                                                                                                  |
| <p><b>160)</b> COVID-19 to Add as Many as 150 Million Extreme Poor by 2021, The World Bank, 2020</p>                           | <p>“Global extreme poverty is expected to rise in 2020 for the first time in over 20 years as the disruption of the COVID-19 pandemic compounds the forces of conflict and climate change, which were already slowing poverty reduction progress, the World Bank said today.The COVID-19 pandemic is estimated to push an additional 88 million to 115 million people into extreme poverty this year, with the total rising to as many as 150 million by 2021, depending on the severity of the economic contraction. Extreme poverty, defined as living on less than \$1.90 a day, is likely to affect between 9.1% and 9.4% of the world’s population in 2020, according to the biennial <i>Poverty and Shared Prosperity Report</i>. This would</p> |

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|                                                                                                                                                                               | represent a regression to the rate of 9.2% in 2017. Had the pandemic not convulsed the globe, the poverty rate was expected to drop to 7.9% in 2020.”                                                                                                                                                                                                                                                                                                                                                   |
| <b>161)</b> The impact of COVID-19 on heart failure hospitalization and management: report from a Heart Failure Unit in London during the peak of the pandemic, Bromage, 2020 | “Incident AHF hospitalization significantly declined in our centre during the COVID-19 pandemic, but hospitalized patients had more severe symptoms at admission. Further studies are needed to investigate whether the incidence of AHF declined or patients did not present to hospital while the national lockdown and social distancing restrictions were in place. From a public health perspective, it is imperative to ascertain whether this will be associated with worse long-term outcomes.” |
| <b>SCHOOL CLOSURES</b>                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>1)</b> Suffering in silence: How COVID-19 school closures inhibit the reporting of child maltreatment, Baron, 2020                                                         | “While one would expect the financial, mental, and physical stress due to COVID-19 to result in additional child maltreatment cases, we find that the actual number of reported allegations was approximately 15,000 lower (27%) than expected for these two months. We leverage a detailed dataset of school district staffing and spending to show that the observed decline in allegations was largely driven by school closures.”                                                                   |
| <b>2)</b> Association of routine school closures with child maltreatment reporting and substantiation in the United States; 2010-2017, Puls, 2021                             | “Results suggest that the detection of child maltreatment may be diminished during periods of routine school closure.”                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>3)</b> Reporting of child maltreatment during the SARS-CoV-2 pandemic in New York City from March to May 2020, Rapoport, 2021                                              | “Precipitous drops in child maltreatment reporting and child welfare interventions coincided with social distancing policies designed to mitigate COVID-19 transmission.”                                                                                                                                                                                                                                                                                                                               |

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| <b>4) Calculating the impact of COVID-19 pandemic on child abuse and neglect in the U.S,</b> Nguyen, 2021           | “The COVID-19 pandemic has led to a precipitous drop in CAN investigations where almost 200,000 children are estimated to have been missed for prevention services and CAN in a 10-month period.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>5) Effect of school closures on mortality from coronavirus disease 2019: old and new predictions,</b> Rice, 2020 | “We therefore conclude that the somewhat counterintuitive results that school closures lead to more deaths are a consequence of the addition of some interventions that suppress the first wave and failure to prioritise protection of the most vulnerable people. When the interventions are lifted, there is still a large population who are susceptible and a substantial number of people who are infected. This then leads to a second wave of infections that can result in more deaths, but later. Further lockdowns would lead to a repeating series of waves of infection unless herd immunity is achieved by vaccination, which is not considered in the model. A similar result is obtained in some of the scenarios involving general social distancing. For example, adding general social distancing to case isolation and household quarantine was also strongly associated with suppression of the infection during the intervention period, but then a second wave occurs that actually concerns a higher peak demand for ICU beds than for the equivalent scenario without general social distancing.” |
| <b>6) Schools Closures during the COVID-19 Pandemic: A Catastrophic Global Situation,</b> Buonsenso, 2020           | “This extreme measure provoked a disruption of the educational system involving hundreds of million children worldwide. The return of children to school has been variable and is still an unresolved and contentious issue. Importantly the process has not been directly correlated to the severity of the pandemic s impact and has fueled the widening of disparities, disproportionately affecting the                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

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|                                                                                                                                  | <p>most vulnerable populations. Available evidence shows SC added little benefit to COVID-19 control whereas the harms related to SC severely affected children and adolescents. This unresolved issue has put children and young people at high risk of social, economic and health-related harm for years to come, triggering severe consequences during their lifespan.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <p><b>7) The Impact of COVID-19 School Closure on Child and Adolescent Health: A Rapid Systematic Review, Chaabane, 2021</b></p> | <p>“COVID-19-related school closure was associated with a significant decline in the number of hospital admissions and pediatric emergency department visits. However, a number of children and adolescents lost access to school-based healthcare services, special services for children with disabilities, and nutrition programs. A greater risk of widening educational disparities due to lack of support and resources for remote learning were also reported among poorer families and children with disabilities. School closure also contributed to increased anxiety and loneliness in young people and child stress, sadness, frustration, indiscipline, and hyperactivity. The longer the duration of school closure and reduction of daily physical activity, the higher was the predicted increase of Body Mass Index and childhood obesity prevalence.”</p> |
| <p><b>8) School Closures and Social Anxiety During the COVID-19 Pandemic, Morrisette, 2020</b></p>                               | <p>“Reported on the effects that social isolation and loneliness may have on children and adolescents during the global 2019 novel coronavirus disease (COVID-19) pandemic, with their findings suggesting associations between social anxiety and loneliness/social isolation.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <p><b>9) Parental job loss and infant health, Lindo, 2011</b></p>                                                                | <p>“Husbands’ job losses have significant negative effects on infant health. They reduce birth weights by approximately four and a half percent.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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| <b>10) Closing schools is not evidence based and harms children</b> , Lewis, 2021                                                   | <p>“For some children education is their only way out of poverty; for others school offers a safe haven away from a dangerous or chaotic home life. Learning loss, reduced social interaction, isolation, reduced physical activity, increased mental health problems, and potential for increased abuse, exploitation, and neglect have all been associated with school closures. Reduced future income<sup>6</sup> and life expectancy are associated with less education. Children with special educational needs or who are already disadvantaged are at increased risk of harm.”</p>                                                                                                 |
| <b>11) Impacts of school closures on physical and mental health of children and young people: a systematic review</b> , Viner, 2021 | <p>“School closures as part of broader social distancing measures are associated with considerable harms to CYP health and wellbeing. Available data are short-term and longer-term harms are likely to be magnified by further school closures. Data are urgently needed on longer-term impacts using strong research designs, particularly amongst vulnerable groups. These findings are important for policy-makers seeking to balance the risks of transmission through school-aged children with the harms of closing schools.”</p>                                                                                                                                                  |
| <b>12) School Closure: A Careful Review of the Evidence</b> , Alexander, 2020                                                       | <p>“Based on the existing reviewed evidence, the predominant finding is that children (particularly young children) are at very low risk of acquiring SARS-CoV-2 infection, and if they do become infected, are at very low risk of spreading it among themselves or to other children in the school setting, of spreading it to their teachers, or of spreading it to other adults or to their parents, or of taking it into the home setting; children typically become infected from the home setting/clusters and adults are typically the index case; children are at very low risk of severe illness or death from COVID-19 disease except in very rare circumstances; children</p> |

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|                                                                                                                                     | <p>do not drive SARS-CoV-2/COVID-19 as they do seasonal influenza; an age gradient as to susceptibility and transmission capacity exists whereby older children should not be treated the same as younger children in terms of ability to transmit e.g. a 6 year-old versus a 17 year-old (as such, public health measures would be different in an elementary school versus a high/secondary school); ‘very low risk’ can also be considered ‘very rare’ (not zero risk, but negligible, very rare); we argue that masking and social distancing for young children is unsound policy and not needed and if social distancing is to be used, that 3-feet is suitable over 6-feet and will address the space limitations in schools; we argue that we are well past the point where we must replace hysteria and fear with knowledge and fact. The schools must be immediately re-opened for in-person instruction as there is no reason to do otherwise.”</p> |
| <b>13) Children, school and COVID-19,</b><br>RIVM, 2021                                                                             | <p>“If we look at all hospital admissions reported by the NICE Foundation between 1 January and 16 November 2021, 0.7% were younger than 4 years old. 0.1% were aged 4-11 years and 0.2% were aged 12-17 years. The vast majority (99.0%) of all people admitted to hospital with COVID-19 were aged 18 years or older.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>14) FEW CARRIERS, FEW TRANSMITTERS”: A STUDY CONFIRMS THE MINIMAL ROLE OF CHILDREN IN THE COVID-19 EPIDEMIC,</b> Vincendon, 2020 | <p>“Children are few carriers, few transmitters, and when they are contaminated, it is almost always adults in the family who have contaminated them.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>15) Transmission of SARS-CoV-2 in children aged 0 to 19 years in childcare facilities and schools after</b>                      | <p>“Investigated data from severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infected 0-19 year olds, who attended schools/childcare facilities, to assess their role in</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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| their reopening in May 2020, Baden-Württemberg, Germany, Ehrhardt, 2020                                                                             | SARS-CoV-2 transmission after these establishments' reopening in May 2020 in Baden-Württemberg, Germany. Child-to-child transmission in schools/childcare facilities appeared very uncommon."                                                                                                                                                                                                                                                                                                                                                 |
| <b>16)</b> Australian Health Protection Principal Committee (AHPPC) coronavirus (COVID-19) statements on 24 April 2020, Australian government, 2020 | "AHPPC continues to note that there is very limited evidence of transmission between children in the school environment; population screening overseas has shown very low incidence of positive cases in school-aged children. In Australia, 2.4 per cent of confirmed cases have been in children aged between 5 and 18 years of age (as at 6am, 22 April 2020). AHPPC believes that adults in the school environment should practice room density measures (such as in staff rooms) given the greater risk of transmission between adults." |
| <b>17)</b> AN EVIDENCE SUMMARY OF PAEDIATRIC COVID-19 LITERATURE, Boast, 2021                                                                       | "Critical illness is very rare (~1%). In data from China, the USA and Europe, there is a "U shaped" risk gradient, with infants and older adolescents appear most likely to be hospitalised and to suffer from more severe disease. Deaths in children remain extremely rare from COVID-19, with only 4 deaths in the UK as of May 2020 in children <15 years, all in children with serious comorbidities."                                                                                                                                   |
| <b>18)</b> Transmission dynamics of SARS-CoV-2 within families with children in Greece: A study of 23 clusters, Maltezou, 2020                      | "While children become infected by SARS-CoV-2, they do not appear to transmit infection to others."                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>19)</b> No evidence of secondary transmission of COVID-19 from children attending school in Ireland, 2020, Heavey, 2020                          | "Children are thought to be vectors for transmission of many respiratory diseases including influenza. It was assumed that this would be true for COVID-19 also. To date however, evidence of widespread paediatric transmission has failed to emerge. School closures create childcare issues for parents.                                                                                                                                                                                                                                   |

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|                                                                                                                                             | <p>This has an impact on the workforce, including the healthcare workforce. There are also concerns about the impact of school closures on children’s mental and physical health... examination of all Irish paediatric cases of COVID-19 attending school during the pre-symptomatic and symptomatic periods of infection (n=3) identified no cases of onward transmission to other children or adults within the school and a variety of other settings. These included music lessons (woodwind instruments) and choir practice, both of which are high-risk activities for transmission. Furthermore, no onward transmission from the three identified adult cases to children was identified.”</p> |
| <p><b>20)</b> COVID-19, school closures, and child poverty: a social crisis in the making, Van Lancker, 2020</p>                            | <p>“The <b>UN Educational, Scientific and Cultural Organization</b> estimates that 138 countries have closed schools nationwide, and several other countries have implemented regional or local closures. These school closures are affecting the education of 80% of children worldwide. Although scientific debate is ongoing with regard to the effectiveness of school closures on virus transmission, the fact that schools are closed for a long period of time could have detrimental social and health consequences for children living in poverty, and are likely to exacerbate existing inequalities.”</p>                                                                                   |
| <p><b>21)</b> Impact of school closures for COVID-19 on the US health-care workforce and net mortality: a modelling study, Bayham, 2020</p> | <p>“School closures come with many trade-offs, and can create unintended child-care obligations. Our results suggest that the potential contagion prevention from school closures needs to be carefully weighted with the potential loss of health-care workers from the standpoint of reducing cumulative mortality due to COVID-19, in the absence of mitigating measures.”</p>                                                                                                                                                                                                                                                                                                                      |

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| <p><b>22) The Truth About Kids, School, and COVID-19</b>, Thompson/The Atlantic, 2021</p>                                    | <p>“The CDC’s judgment comes at a particularly fraught moment in the debate about kids, schools, and COVID-19. Parents are <b>exhausted</b>. Student suicides <b>are surging</b>. Teachers’ unions are facing <b>national opprobrium</b> for their reluctance to return to in-person instruction. And schools are <b>already making noise</b> about staying closed until 2022... Research from around the world has, since the beginning of the pandemic, indicated that people under 18, and especially younger kids, are <b>less susceptible to infection</b>, <b>less likely to experience severe symptoms</b>, and <b>far less likely to be hospitalized or die</b>...in May 2020, a <b>small Irish study</b> of young students and education workers with COVID-19 interviewed more than 1,000 contacts and found “no case of onward transmission” to any children or adults. In June 2020, a <b>Singapore study</b> of three COVID-19 clusters found that “children are not the primary drivers” of outbreaks and that “the risk of SARS-CoV-2 transmission among children in schools, especially preschools, is likely to be low.”</p> |
| <p><b>23) Feared coronavirus outbreaks in schools yet to arrive, early data shows</b>, Meckler/The Washington Post, 2020</p> | <p>“This early evidence, experts say, suggests that opening schools may not be as risky as many have feared and could guide administrators as they chart the rest of what is already an unprecedented school year. Everyone had a fear there would be explosive outbreaks of transmission in the schools. In colleges, there have been. We have to say that, to date, we have not seen those in the younger kids, and that is a really important observation.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <p><b>24) Three studies highlight low COVID risk of in-person school</b>, CIDRAP, 2021</p>                                   | <p>“A trio of new studies demonstrate low risk of COVID-19 infection and spread in schools, including limited in-school COVID-19 transmission in North Carolina, few cases of the coronavirus-associated multisystem inflammatory</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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|                                                                                                                                                  | syndrome in children (MIS-C) in Swedish schools, and minimal spread of the virus from primary school students in Norway.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>25) Incidence and Secondary Transmission of SARS-CoV-2 Infections in Schools</b> , Zimmerman, 2021                                            | “In the first 9 weeks of in-person instruction in North Carolina schools, we found extremely limited within-school secondary transmission of SARS-CoV-2, as determined by contact tracing.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>26) Open Schools, Covid-19, and Child and Teacher Morbidity in Sweden</b> , Ludvigsson, 2020                                                  | “Of the 1,951,905 children aged 1 to 16 years in Sweden as of Dec 31, 2019, 65 died in the pre-pandemic period of November 2019 to February 2020, compared with 69 in the pandemic period of March through June 2020. None of the deaths were caused by COVID-19. Fifteen children diagnosed as having COVID-19, including seven with MIS-C, were admitted to an intensive care unit (ICU) from March to June 2020 (0.77 per 100,000 children in this age-group). Four children required mechanical ventilation. Four children were 1 to 6 years old (0.54 per 100,000), and 11 were 7 to 16 (0.90 per 100,000). Four of the children had an underlying illness: 2 with cancer, 1 with chronic kidney disease, and 1 with a hematologic disease). Of the country’s 103,596 preschool teachers and 20 schoolteachers, fewer than 10 were admitted to an ICU by Jun 30, 2020 (an equivalent of 19 per 100,000).” |
| <b>27) Minimal transmission of SARS-CoV-2 from paediatric COVID-19 cases in primary schools, Norway, August to November 2020</b> , Brandal, 2021 | “This prospective study shows that transmission of SARS-CoV-2 from children under 14 years of age was minimal in primary schools in Oslo and Viken, the two Norwegian counties with the highest COVID-19 incidence and in which 35% of the Norwegian population resides. In a period of low to medium community transmission (a 14-day incidence of COVID-19 of < 150 cases per 100,000 inhabitants), when                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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|                                                                                                                                 | <p>symptomatic children were asked to stay home from school, there were &lt; 1% SARS-CoV-2-positive test results among child contacts and &lt; 2% positive results in adult contacts in 13 contract tracings in Norwegian primary schools. In addition, self-collection of saliva for SARS-CoV-2 detection was efficient and sensitive (85% (11/13); 95% confidence interval: 55–98)...use of face masks is not recommended in schools in Norway. We found that with the IPC measures implemented there is low to no transmission from SARS-CoV-2-infected children in schools.”</p> |
| <b>28)</b> Children are unlikely to be the main drivers of the COVID-19 pandemic – A systematic review, Ludvigsson, 2020        | <p>“Identified 700 scientific papers and letters and 47 full texts were studied in detail. Children accounted for a small fraction of COVID-19 cases and mostly had social contacts with peers or parents, rather than older people at risk of severe disease...Children are unlikely to be the main drivers of the pandemic. Opening up schools and kindergartens is unlikely to impact COVID-19 mortality rates in older people.”</p>                                                                                                                                              |
| <b>29)</b> Science Brief: Transmission of SARS-CoV-2 in K-12 Schools and Early Care and Education Programs – Updated, CDC, 2021 | <p>“Findings from several studies suggest that SARS-CoV-2 transmission among students is relatively rare, particularly when prevention strategies are in place...several studies have also concluded that students are not the primary sources of exposure to SARS-CoV-2 among adults in school setting.”</p>                                                                                                                                                                                                                                                                        |
| <b>30)</b> Children under 10 less likely to drive COVID-19 outbreaks, research review says, Dobbins/McMaster, 2020              | <p>“The bottom line thus far is that children under 10 years of age are unlikely to drive outbreaks of COVID-19 in daycares and schools and that, to date, adults were much more likely to be the transmitter of infection than children.”</p>                                                                                                                                                                                                                                                                                                                                       |
| <b>31)</b> Role of children in the transmission of the COVID-19 pandemic: a rapid scoping review,                               | <p>“Children are not transmitters to a greater extent than adults. There is a need to improve the validity of epidemiological surveillance to solve current uncertainties,</p>                                                                                                                                                                                                                                                                                                                                                                                                       |

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| Rajmil, 2020                                                                                                       | and to take into account social determinants and child health inequalities during and after the current pandemic.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>32) COVID-19 in schools – the experience in NSW</b> , NCIRS, 2020                                               | “SARS-CoV-2 transmission in children in schools appears considerably less than seen for other respiratory viruses, such as influenza. In contrast to influenza, data from both virus and antibody testing to date suggest that children are not the primary drivers of COVID-19 spread in schools or in the community. This is consistent with data from international studies showing low rates of disease in children and suggesting limited spread among children and from children to adults.”                                                                                                                                                                                                     |
| <b>33) Spread of SARS-CoV-2 in the Icelandic Population</b> , Gudbjartsson, 2020                                   | “In a population-based study in Iceland, children under 10 years of age and females had a lower incidence of SARS-CoV-2 infection than adolescents or adults and males.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>34) Case-Fatality Rate and Characteristics of Patients Dying in Relation to COVID-19 in Italy</b> , Onder, 2020 | Infected children and females were less likely to have severe disease.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>35) BC Center for Disease Control</b> , BC Children’s hospital, 2020                                            | “BC families reported impaired learning, increased child stress, and decreased connection during COVID-19 school closures, while global data show increased loneliness and declining mental health, including anxiety and depression... Provincial child protection reports have also declined significantly despite reported increased domestic violence globally. This suggests decreased detection of child neglect and abuse without reporting from schools... The impact of school closures is likely to be experienced disproportionately by families subject to social inequities, and those with children with health conditions or special learning needs. Interrupted access to school-based |

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|                                                                                                                                                                                                                                                 | resources, connections, and support compounds the broader societal impact of the pandemic. In particular, there are likely to be greater effects on single parent families, families in poverty, working mothers, and those with unstable employment and housing.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>36)</b> Transmission of SARS-CoV-2 in Australian educational settings: a prospective cohort study, Macartney, 2020                                                                                                                           | “SARS-CoV-2 transmission rates were low in NSW educational settings during the first COVID-19 epidemic wave, consistent with mild infrequent disease in the 1·8 million child population.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>37)</b> COVID-19 Cases and Transmission in 17 K–12 Schools — Wood County, Wisconsin, August 31–November 29, 2020, CDC/Falk, 2021 <b>38)</b> COVID-19 in children and the role of school settings in transmission – second update, ECDC, 2021 | “In a setting of widespread community SARS-CoV-2 transmission, few instances of in-school transmission were identified among students and staff members, with limited spread among children within their cohorts and no documented transmission to or from staff members.”“Children aged between 1-18 years have much lower rates of hospitalisation, severe disease requiring intensive hospital care, and death than all other age groups, according to surveillance data...the decision to close schools to control the COVID-19 pandemic should be used as a last resort. The negative physical, mental and educational impacts of proactive school closures on children, as well as the economic impact on society more broadly, would likely outweigh the benefits.”“Investigations of cases identified in school settings suggest that child to child transmission in schools is uncommon and not the primary cause of SARS-CoV-2 infection in children whose onset of infection coincides with the period during which they are attending school, particularly in preschools and primary school.” |
| <b>39)</b> COVID-19 in children and young people, Snape, 2020                                                                                                                                                                                   | “The near-global closure of schools in response to the pandemic reflected the reasonable expectation from                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

previous respiratory virus outbreaks that children would be a key component of the transmission chain. However, emerging evidence suggests that this is most likely not the case. A minority of children experience a postinfectious inflammatory syndrome, the pathology and long-term outcomes of which are poorly understood. However, relative to their risk of contracting disease, children and adolescents have been disproportionately affected by lockdown measures, and advocates of child health need to ensure that children's rights to health and social care, mental health support, and education are protected throughout subsequent pandemic waves...There are many other areas of potential indirect harm to children, including an increase in home injuries (accidental and nonaccidental) when children have been less visible to social protection systems because of lockdowns. In Italy, hospitalizations for accidents at home increased markedly during the COVID-19 lockdown and potentially posed a higher threat to children's health than COVID-19. UK pediatricians report that delay in presentations to hospital or disrupted services contributed to the deaths of equal numbers of children that were reported to have died with SARS-CoV-2 infection. Many countries are seeing evidence that mental health in young people has been adversely affected by school closures and lockdowns. For example, preliminary evidence suggests that deaths by suicide of young people under 18 years old increased during lockdown in England."

**40)** Clinical characteristics of children and young people admitted to hospital with covid-19 in United Kingdom: prospective

"Children and young people have less severe acute covid-19 than adults."

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| multicentre observational cohort study, Swann, 2020                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>41) The Dangers of Keeping the Schools Closed</b> , Yang, 2020                                                                                                                                                             | “The data from a range of countries shows that children rarely, and in many countries never, have died from this infection. Children appear to get infected at a much lower rate than those who are older... there is no evidence that children are important in transmitting the disease...What we know about social distancing policies is based largely on models of influenza, where children are a vulnerable group. However, preliminary data on COVID-19 suggests that children are a small fraction of cases and may be less vulnerable than older adults.” |
| <b>42) SARS-CoV-2 Infection in Children</b> , Lu, 2020                                                                                                                                                                        | “In contrast with infected adults, most infected children appear to have a milder clinical course. Asymptomatic infections were not uncommon.”                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>43) Characteristics of and Important Lessons From the Coronavirus Disease 2019 (COVID-19) Outbreak in China: Summary of a Report of 72 314 Cases From the Chinese Center for Disease Control and Prevention</b> , Wu, 2020 | Less than 1% of the cases were in children younger than 10 years of age.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>44) Risk for COVID-19 Infection</b> , CDC, 2021                                                                                                                                                                            | A CDC report on hospitalization and death in children, found that when compared to persons 18 to 29 years old, children 0 to 4 years had a 4x lower rate of hospitalization and a 9x lower rate of death. Children 5 to 17 years old had a 9x lower rate of hospitalization and a 16x lower rate of death.                                                                                                                                                                                                                                                          |
| <b>45) Children are unlikely to have been the primary source of</b>                                                                                                                                                           | “Whilst SARS-CoV-2 can cause mild disease in children, the data available to date suggests that children have not played                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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| household SARS-CoV-2 infections, Zhu, 2020                                                                       | a substantive role in the intra-household transmission of SARS-CoV-2.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>46) Characteristics of Household Transmission of COVID-19</b> , Li, 2020                                      | “The secondary attack rate to children was 4% compared with 17.1% for adults.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>47) Are The Risks Of Reopening Schools Exaggerated?</b> , Kamenetz/NPR, 2020                                  | “Despite widespread concerns, two new international studies show no consistent relationship between in-person K-12 schooling and the spread of the coronavirus. And a third study from the United States shows no elevated risk to childcare workers who stayed on the job...As a pediatrician, I am really seeing the <b>negative impacts</b> of these school closures on children,” Dr. Danielle Dooley, a medical director at Children’s National Hospital in Washington, D.C., told NPR. She ticked off mental health problems, <b>hunger</b> , obesity due to inactivity, missing routine medical care and the risk of child abuse — on top of the loss of education. “Going to school is really vital for children. They get their meals in school, their physical activity, their health care, their education, of course.” |
| <b>48) Child care not associated with spread of COVID-19</b> , Yale study finds, YaleNews, 2020                  | “Findings show child care programs that remained open throughout the pandemic did not contribute to the spread of the virus to providers, lending valuable insight to parents, policymakers, and providers alike.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>49) Reopening US Schools in the Era of COVID-19: Practical Guidance From Other Nations</b> , Tanmoy Das, 2020 | “There is evidence that, compared with adults, children are 3-fold less susceptible to infection, more likely to be asymptomatic, and less likely to be hospitalized and die. While rare reports of pediatric multi-inflammatory syndrome need to be monitored, its association with COVID-19 <b>is extremely low and typically treatable.</b> ”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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| <p><b>50) Low-Income Children and Coronavirus Disease 2019 (COVID-19) in the US</b>, Dooley, 2020</p> | <p>“Restrictions imposed because of the coronavirus make these challenges more formidable. While school districts are engaging in distance learning, reports indicate wide variability in access to quality educational instruction, digital technology, and internet access. Students in rural and urban school districts are faced with challenges accessing the internet. In some urban areas, as many as one-third of students are not participating in online classes. Chronic absenteeism, or missing 10% or more of the school year, affects educational outcomes, including reading levels, grade retention, graduation rates, and high school dropout rates. Chronic absenteeism already disproportionately affects children living in poverty. The consequences of missing months of school will be even more marked.”</p> |
| <p><b>51) COVID-19 and school return: The need and necessity</b>, Betz, 2020</p>                      | <p>“Of particular concern are the consequences for children who live in poverty. These children live in homes that have inadequate resources for virtual learning that will contribute to learning deficits, and thereby falling further behind with expected academic performance for grade level. Children from low-resourced homes are likely to have limited space for doing school work, inadequate temperature controls for heating and cooling and safe outdoor space for exercise (Van Lancker &amp; Parolin, 2020). Furthermore, this group of children are at high risk for food insecurity as they may not have access to school lunches/breakfasts with school closures.”</p>                                                                                                                                            |
| <p><b>52) Children are not COVID-19 super spreaders: time to go back to school</b>, Munro, 2020</p>   | <p>“Evidence is therefore emerging that children could be significantly less likely to become infected than adults...At the current time, children do not appear to be super spreaders.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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| <b>53) Cluster of Coronavirus Disease 2019 (COVID-19) in the French Alps, February 2020, Danis, 2020</b>                                  | <p>“The index case stayed 4 days in the chalet with 10 English tourists and a family of 5 French residents; SARS-CoV-2 was detected in 5 individuals in France, 6 in England (including the index case), and 1 in Spain (overall attack rate in the chalet: 75%). One pediatric case, with picornavirus and influenza A coinfection, visited 3 different schools while symptomatic. One case was asymptomatic, with similar viral load as that of a symptomatic case...The fact that an infected child did not transmit the disease despite close interactions within schools suggests potential different transmission dynamics in children.”</p> |
| <b>54) COVID-19 – research evidence summaries, RCPCH, 2020</b>                                                                            | <p>“In children, the evidence is now clear that COVID-19 is associated with a considerably lower burden of morbidity and mortality compared to that seen in the elderly. There is evidence of critical illness and death in children, but it is rare. There is also some evidence that children may be less likely to acquire the infection. The role of children in transmission, once they have acquired the infection, is unclear, although there is no clear evidence that they are any more infectious than adults. Symptoms are non-specific and most commonly cough and fever.”</p>                                                         |
| <b>56) Absence of SARS-CoV-2 Transmission from Children in Isolation to Guardians, South Korea, Lee/EID, 2021</b>                         | <p>“Did not observe SARS-CoV-2 transmission from children to guardians in isolation settings in which close proximity would seem to increase transmission risk. Recent studies have suggested that children are not the main drivers of the COVID-19 pandemic, although the reasons remain unclear.”</p>                                                                                                                                                                                                                                                                                                                                           |
| <b>57) COVID-19 National Emergency Response Center, Epidemiology and Case Management Team. Contact tracing during coronavirus disease</b> | <p>“A <b>large study</b> on contacts of COVID-19 case-patients in South Korea observed that household transmission was lowest when the index case-patient was 0–9 years of age.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

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| outbreak, South Korea, 2020,<br>Park/EID, 2020                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>58) COVID-19 in Children and the Dynamics of Infection in Families,</b><br>Posfay-Barbe, 2020 | <p>“In 79% of households, <math>\geq 1</math> adult family member was suspected or confirmed for COVID-19 before symptom onset in the study child, confirming that children are infected mainly inside familial clusters. Surprisingly, in 33% of households, symptomatic HHCs tested negative despite belonging to a familial cluster with confirmed SARS-CoV-2 cases, suggesting an underreporting of cases. In only 8% of households did a child develop symptoms before any other HHC, which is in line with previous data in which it is shown that children are index cases in <math>&lt;10\%</math> of SARS-CoV-2 familial clusters.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>59) COVID-19 Transmission and Children: The Child Is Not to Blame,</b><br>Lee, 2020           | <p>“Report on the dynamics of COVID-19 within families of children with reverse-transcription polymerase chain reaction–confirmed SARS-CoV-2 infection in Geneva, Switzerland. From March 10 to April 10, 2020, all children <math>&lt;16</math> years of age diagnosed at Geneva University Hospital (<math>N = 40</math>) underwent contact tracing to identify infected household contacts (HHCs). Of 39 evaluable households, in only 3 (8%) was a child the suspected index case, with symptom onset preceding illness in adult HHCs. In all other households, the child developed symptoms after or concurrent with adult HHCs, suggesting that the child was not the source of infection and that children most frequently acquire COVID-19 from adults, rather than transmitting it to them.”“In intriguing study from France, a 9-year-old boy with respiratory symptoms associated with picornavirus, influenza A, and SARS-CoV-2 coinfection was found to have exposed over 80 classmates at 3 schools; no secondary contacts became infected, despite numerous influenza</p> |

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|                                                                                                                                   | infections within the schools, suggesting an environment conducive to respiratory virus transmission.”“In New South Wales, Australia, 9 students and 9 staff infected with SARS-CoV-2 across 15 schools had close contact with a total of 735 students and 128 staff. Only 2 secondary infections were identified, none in adult staff; 1 student in primary school was potentially infected by a staff member, and 1 student in high school was potentially infected via exposure to 2 infected schoolmates.” |
| <b>60)</b> Role of children in household transmission of COVID-19, Kim, 2020                                                      | “A total of 107 paediatric COVID-19 index cases and 248 of their household members were identified. One pair of paediatric index-secondary household case was identified, giving a household SAR of 0.5% (95% CI 0.0% to 2.6%).”                                                                                                                                                                                                                                                                               |
| <b>61)</b> Secondary attack rate in household contacts of COVID-19 Paediatric index cases: a study from Western India, Shah, 2021 | “The household SAR from pediatric patients is low.”                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>62)</b> Household Transmission of SARS-CoV-2: A Systematic Review and Meta-analysis, Madewell, 2021                            | “Household secondary attack rates were increased from symptomatic index cases (18.0%; 95% CI, 14.2%-22.1%) than from asymptomatic index cases (0.7%; 95% CI, 0%-4.9%), to adult contacts (28.3%; 95% CI, 20.2%-37.1%) than to child contacts (16.8%; 95% CI, 12.3%-21.7%).”                                                                                                                                                                                                                                    |
| <b>63)</b> Children and Adolescents With SARS-CoV-2 Infection, Maltezou, 2020                                                     | “Child-to-adult transmission was found in one occasion only.”                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>64)</b> Severe Acute Respiratory Syndrome-Coronavirus-2 Transmission in an Urban Community: The Role of Children               | “A household sick contact was identified in fewer than half (42%) of patients and no child-to-adult transmission was identified.”                                                                                                                                                                                                                                                                                                                                                                              |

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| and Household Contacts, Pitman-Hunt, 2021                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>65) A Meta-analysis on the Role of Children in Severe Acute Respiratory Syndrome Coronavirus 2 in Household Transmission Clusters</b> , Zhu, 2020 | “The secondary attack rate in pediatric household contacts was lower than in adult household contacts (RR, 0.62; 95% CI, 0.42-0.91). These data have important implications for the ongoing management of the COVID-19 pandemic, including potential vaccine prioritization strategies.”                                                                                                                                                                                                                                                                                                      |
| <b>66) The role of children in transmission of SARS-CoV-2: A rapid review</b> , Li, 2020                                                             | “Preliminary results from population-based and school-based studies suggest that children may be less frequently infected or infect others.”                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>67) Novel Coronavirus 2019 Transmission Risk in Educational Settings</b> , Yung, 2020                                                             | “The data suggest that children are not the primary drivers of SARS-CoV-2 transmission in schools and could help inform exit strategies for lifting of lockdowns.”                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>68) INTERPOL report highlights impact of COVID-19 on child sexual abuse</b> , Interpol, 2020                                                      | “Key environmental, social and economic factor changes due to COVID-19 which have impacted child sexual exploitation and abuse (CSEA) across the world include:closure of schools and subsequent movement to virtual learning environments;increased time children spend online for entertainment, social and educational purposes;restriction of international travel and the repatriation of foreign nationals;limited access to community support services, child care and educational personnel who often play a key role in detecting and reporting cases of child sexual exploitation.” |
| <b>69) Do school closures reduce community transmission of COVID-19? A systematic review of observational studies</b> , Walsh, 2021                  | “With such varied evidence on effectiveness, and the harmful effects, policymakers should take a measured approach before implementing school closures.”                                                                                                                                                                                                                                                                                                                                                                                                                                      |

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| <b>70)</b> Association between living with children and outcomes from COVID-19: an OpenSAFELY cohort study of 12 million adults in England, Forbes, 2020      | “For adults living with children there is no evidence of an increased risk of severe COVID-19 outcomes. These findings have implications for determining the benefit-harm balance of children attending school in the COVID-19 pandemic.”                                                                                                                                                                                                                                                                                                   |
| <b>71)</b> School closure and management practices during coronavirus outbreaks including COVID-19: a rapid systematic review, Viner, 2020                    | “Data from the SARS outbreak in mainland China, Hong Kong, and Singapore suggest that school closures did not contribute to the control of the epidemic.”                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>72)</b> Non-pharmaceutical public health measures for mitigating the risk and impact of epidemic and pandemic influenza, WHO, 2020                         | “The effect of reactive school closure in reducing influenza transmission varied but was generally limited.”                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>73)</b> New research finds no evidence that schools are playing a significant role in driving spread of the Covid-19 virus in the community, Warwick, 2021 | “New research led by epidemiologists at the University of Warwick has found that there is no significant evidence that schools are playing a significant role in driving the spread of the Covid-19 disease in the community, particularly in primary schools...our analysis of recorded school absences as a result of infection with COVID-19 suggest that the risk is much lower in primary than secondary schools and we do not find evidence to suggest that school attendance is a significant driver of outbreaks in the community.” |
| <b>74)</b> When schools shut: New UNESCO study exposes failure to factor gender in COVID-19 education responses, UNESCO, 2021                                 | “As governments brought remote learning solutions to scale to respond to the pandemic, speed, rather than equity in access and outcomes, appears to have been the priority. Initial COVID-19 responses seem to have been developed with little attention to inclusiveness, raising the risk of increased marginalization... Most countries across all                                                                                                                                                                                       |

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|                                                                                                                                                                        | <p>income groups report providing teachers with different forms of support. Few programmes, however, helped teachers recognize the gender risks, disparities and inequalities that emerged during COVID-19 closures. Female teachers also have been largely expected to take on a dual role to ensure continuity of learning for their students, while facing additional childcare and unpaid domestic responsibilities in their homes during school closures.”</p>                                                                                                                                                                                                         |
| <p><b>75) School Closures Have Failed America’s Children</b>, Kristof, 2021</p>                                                                                        | <p>“Flags are flying at half-staff across the United States to commemorate the half-million American lives lost to the coronavirus. But there’s another tragedy we haven’t adequately confronted: Millions of American schoolchildren will soon have missed a year of in-person instruction, and we may have inflicted permanent damage on some of them, and on our country... But the educational losses are disproportionately the fault of Democratic governors and mayors who too often let schools stay closed even as bars opened.”</p>                                                                                                                               |
| <p><b>MASKS-INEFFECTIVENESS</b></p>                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <p><b>1) Effectiveness of Adding a Mask Recommendation to Other Public Health Measures to Prevent SARS-CoV-2 Infection in Danish Mask Wearers</b>, Bundgaard, 2021</p> | <p>“Infection with SARS-CoV-2 occurred in 42 participants recommended masks (1.8%) and 53 control participants (2.1%). The between-group difference was –0.3 percentage point (95% CI, –1.2 to 0.4 percentage point; <math>P = 0.38</math>) (odds ratio, 0.82 [CI, 0.54 to 1.23]; <math>P = 0.33</math>). Multiple imputation accounting for loss to follow-up yielded similar results...the recommendation to wear surgical masks to supplement other public health measures did not reduce the SARS-CoV-2 infection rate among wearers by more than 50% in a community with modest infection rates, some degree of social distancing, and uncommon general mask use.”</p> |

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| <b>2) SARS-CoV-2 Transmission among Marine Recruits during Quarantine,</b><br>Letizia, 2020                                                 | “Our study showed that in a group of predominantly young male military recruits, approximately 2% became positive for SARS-CoV-2, as determined by qPCR assay, during a 2-week, strictly enforced quarantine. Multiple, independent virus strain transmission clusters were identified...all recruits wore double-layered cloth masks at all times indoors and outdoors.”                                                                                                                                                                                                                                                                                                                         |
| <b>3) Physical interventions to interrupt or reduce the spread of respiratory viruses,</b> Jefferson, 2020                                  | “There is low certainty evidence from nine trials (3507 participants) that wearing a mask may make little or no difference to the outcome of influenza-like illness (ILI) compared to not wearing a mask (risk ratio (RR) 0.99, 95% confidence interval (CI) 0.82 to 1.18. There is moderate certainty evidence that wearing a mask probably makes little or no difference to the outcome of laboratory-confirmed influenza compared to not wearing a mask (RR 0.91, 95% CI 0.66 to 1.26; 6 trials; 3005 participants)...the pooled results of randomised trials did not show a clear reduction in respiratory viral infection with the use of medical/surgical masks during seasonal influenza.” |
| <b>4) The Impact of Community Masking on COVID-19: A Cluster-Randomized Trial in Bangladesh,</b><br>Abaluck, 2021<br><b>Heneghan et al.</b> | A cluster-randomized trial of community-level mask promotion in rural Bangladesh from November 2020 to April 2021 (N=600 villages, N=342,126 adults. Heneghan writes: “In a <b>Bangladesh study</b> , surgical masks reduced symptomatic COVID infections by between 0 and 22 percent, while the efficacy of cloth masks led to somewhere between an 11 percent <i>increase</i> to a 21 percent decrease. Hence, based on these randomized studies, adult masks appear to have either no or limited efficacy.”                                                                                                                                                                                    |
| <b>5) Evidence for Community Cloth Face Masking to Limit the Spread of</b>                                                                  | “The available clinical evidence of facemask efficacy is of low quality and the best available clinical evidence has mostly                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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| <p>SARS-CoV-2: A Critical Review,<br/>Liu/CATO, 2021</p>                                                                                                             | <p>failed to show efficacy, with fourteen of sixteen identified randomized controlled trials comparing face masks to no mask controls failing to find statistically significant benefit in the intent-to-treat populations. Of sixteen quantitative meta-analyses, eight were equivocal or critical as to whether evidence supports a public recommendation of masks, and the remaining eight supported a public mask intervention on limited evidence primarily on the basis of the precautionary principle.”</p>                                                                                                                                                                                                                                                                                                                           |
| <p>6) Nonpharmaceutical Measures for<br/>Pandemic Influenza in<br/>Nonhealthcare Settings—Personal<br/>Protective and Environmental<br/>Measures, CDC/Xiao, 2020</p> | <p>“Evidence from 14 randomized controlled trials of these measures did not support a substantial effect on transmission of laboratory-confirmed influenza...none of the household studies reported a significant reduction in secondary laboratory-confirmed influenza virus infections in the face mask group...the overall reduction in ILI or laboratory-confirmed influenza cases in the face mask group was not significant in either studies.”</p>                                                                                                                                                                                                                                                                                                                                                                                    |
| <p>7) CIDRAP: Masks-for-all for<br/>COVID-19 not based on sound data,<br/>Brosseau, 2020</p>                                                                         | <p>“We agree that the data supporting the effectiveness of a cloth mask or face covering are very limited. We do, however, have data from laboratory studies that indicate cloth masks or face coverings offer very low filter collection efficiency for the smaller inhalable particles we believe are largely responsible for transmission, particularly from pre- or asymptomatic individuals who are not coughing or sneezing...though we support mask wearing by the general public, we continue to conclude that cloth masks and face coverings are likely to have limited impact on lowering COVID-19 transmission, because they have minimal ability to prevent the emission of small particles, offer limited personal protection with respect to small particle inhalation, and should not be recommended as a replacement for</p> |

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|                                                                                                                                                   | physical distancing or reducing time in enclosed spaces with many potentially infectious people.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>8) Universal Masking in Hospitals in the Covid-19 Era</b> , Klompas/NEJM, 2020                                                                 | “We know that wearing a mask outside health care facilities offers little, if any, protection from infection. Public health authorities define a significant exposure to Covid-19 as face-to-face contact within 6 feet with a patient with symptomatic Covid-19 that is sustained for at least a few minutes (and some say more than 10 minutes or even 30 minutes). The chance of catching Covid-19 from a passing interaction in a public space is therefore minimal. In many cases, the desire for widespread masking is a reflexive reaction to anxiety over the pandemic...The calculus may be different, however, in health care settings. First and foremost, a mask is a core component of the personal protective equipment (PPE) clinicians need when caring for symptomatic patients with respiratory viral infections, in conjunction with gown, gloves, and eye protection...universal masking alone is not a panacea. A mask will not protect providers caring for a patient with active Covid-19 if it’s not accompanied by meticulous hand hygiene, eye protection, gloves, and a gown. A mask alone will not prevent health care workers with early Covid-19 from contaminating their hands and spreading the virus to patients and colleagues. Focusing on universal masking alone may, paradoxically, lead to more transmission of Covid-19 if it diverts attention from implementing more fundamental infection-control measures.” |
| <b>9) Masks for prevention of viral respiratory infections among health care workers and the public: PEER umbrella systematic review</b> , Dugré, | “This systematic review found limited evidence that the use of masks might reduce the risk of viral respiratory infections. In the community setting, a possible reduced risk of influenza-like illness was found among mask users. In health                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

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| 2020                                                                                                                                                                 | care workers, the results show no difference between N95 masks and surgical masks on the risk of confirmed influenza or other confirmed viral respiratory infections, although possible benefits from N95 masks were found for preventing influenza-like illness or other clinical respiratory infections. Surgical masks might be superior to cloth masks but data are limited to 1 trial.”                                                                                                                                         |
| <b>10) Effectiveness of personal protective measures in reducing pandemic influenza transmission: A systematic review and meta-analysis, Saunders-Hastings, 2017</b> | “Facemask use provided a non-significant protective effect (OR = 0.53; 95% CI 0.16–1.71; $I^2 = 48\%$ ) against 2009 pandemic influenza infection.”                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>11) Experimental investigation of indoor aerosol dispersion and accumulation in the context of COVID-19: Effects of masks and ventilation, Shah, 2021</b>         | “Nevertheless, high-efficiency masks, such as the KN95, still offer substantially higher apparent filtration efficiencies (60% and 46% for R95 and KN95 masks, respectively) than the more commonly used cloth (10%) and surgical masks (12%), and therefore are still the recommended choice in mitigating airborne disease transmission indoors.”                                                                                                                                                                                  |
| <b>12) Exercise with facemask; Are we handling a devil’s sword?- A physiological hypothesis, Chandrasekaran, 2020</b>                                                | “Exercising with facemasks may reduce available Oxygen and increase air trapping preventing substantial carbon dioxide exchange. The hypercapnic hypoxia may potentially increase acidic environment, cardiac overload, anaerobic metabolism and renal overload, which may substantially aggravate the underlying pathology of established chronic diseases. Further contrary to the earlier thought, no evidence exists to claim the facemasks during exercise offer additional protection from the droplet transfer of the virus.” |

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| <b>13) Surgical face masks in modern operating rooms—a costly and unnecessary ritual?</b> , Mitchell, 1991                                                                                    | “Following the commissioning of a new suite of operating rooms air movement studies showed a flow of air away from the operating table towards the periphery of the room. Oral microbial flora dispersed by unmasked male and female volunteers standing one metre from the table failed to contaminate exposed settle plates placed on the table. The wearing of face masks by non-scrubbed staff working in an operating room with forced ventilation seems to be unnecessary.” |
| <b>14) Facemask against viral respiratory infections among Hajj pilgrims: A challenging cluster-randomized trial</b> , Alfelali, 2020                                                         | “By intention-to-treat analysis, facemask use did not seem to be effective against laboratory-confirmed viral respiratory infections (odds ratio [OR], 1.4; 95% confidence interval [CI], 0.9 to 2.1, $p = 0.18$ ) nor against clinical respiratory infection (OR, 1.1; 95% CI, 0.9 to 1.4, $p = 0.40$ ).”                                                                                                                                                                        |
| <b>15) Simple respiratory protection—evaluation of the filtration performance of cloth masks and common fabric materials against 20-1000 nm size particles</b> , Rengasamy, 2010              | “Results obtained in the study show that common fabric materials may provide marginal protection against nanoparticles including those in the size ranges of virus-containing particles in exhaled breath.”                                                                                                                                                                                                                                                                       |
| <b>16) Respiratory performance offered by N95 respirators and surgical masks: human subject evaluation with NaCl aerosol representing bacterial and viral particle size range</b> , Lee, 2008 | “The study indicates that N95 filtering facepiece respirators may not achieve the expected protection level against bacteria and viruses. An exhalation valve on the N95 respirator does not affect the respiratory protection; it appears to be an appropriate alternative to reduce the breathing resistance.”                                                                                                                                                                  |
| <b>17) Aerosol penetration and leakage characteristics of masks used in the health care industry</b> , Weber, 1993                                                                            | “We conclude that the protection provided by surgical masks may be insufficient in environments containing potentially hazardous sub-micrometer-sized aerosols.”                                                                                                                                                                                                                                                                                                                  |

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| <b>18) Disposable surgical face masks for preventing surgical wound infection in clean surgery</b> , Vincent, 2016                                | “We included three trials, involving a total of 2106 participants. There was no statistically significant difference in infection rates between the masked and unmasked group in any of the trials...from the limited results it is unclear whether the wearing of surgical face masks by members of the surgical team has any impact on surgical wound infection rates for patients undergoing clean surgery.”                                                                       |
| <b>19) Disposable surgical face masks: a systematic review</b> , Lipp, 2005                                                                       | “From the limited results it is unclear whether wearing surgical face masks results in any harm or benefit to the patient undergoing clean surgery.”                                                                                                                                                                                                                                                                                                                                  |
| <b>20) Comparison of the Filter Efficiency of Medical Nonwoven Fabrics against Three Different Microbe Aerosols</b> , Shimasaki, 2018             | “We conclude that the filter efficiency test using the phi-X174 phage aerosol may overestimate the protective performance of nonwoven fabrics with filter structure compared to that against real pathogens such as the influenza virus.”                                                                                                                                                                                                                                             |
| <b>21) The use of masks and respirators to prevent transmission of influenza: a systematic review of the scientific evidence</b> , Bin-Reza, 2012 | “None of the studies established a conclusive relationship between mask/respirator use and protection against influenza infection. Some evidence suggests that mask use is best undertaken as part of a package of personal protection especially hand hygiene.”                                                                                                                                                                                                                      |
| <b>22) Facial protection for healthcare workers during pandemics: a scoping review</b> , Godoy, 2020                                              | “Compared with surgical masks, N95 respirators perform better in laboratory testing, may provide superior protection in inpatient settings and perform equivalently in outpatient settings. Surgical mask and N95 respirator conservation strategies include extended use, reuse or decontamination, but these strategies may result in inferior protection. Limited evidence suggests that reused and improvised masks should be used when medical-grade protection is unavailable.” |
| <b>23) Assessment of Proficiency of N95 Mask Donning Among the</b>                                                                                | “These findings support ongoing recommendations against the use of N95 masks by the general public during the                                                                                                                                                                                                                                                                                                                                                                         |

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| General Public in Singapore, Yeung, 2020                                                                                                                         | COVID-19 pandemic. <sup>5</sup> N95 mask use by the general public may not translate into effective protection but instead provide false reassurance. Beyond N95 masks, proficiency among the general public in donning surgical masks needs to be assessed.”            |
| <b>24)</b> Evaluating the efficacy of cloth facemasks in reducing particulate matter exposure, Shakya, 2017                                                      | “Standard N95 mask performance was used as a control to compare the results with cloth masks, and our results suggest that cloth masks are only marginally beneficial in protecting individuals from particles<2.5 µm.”                                                  |
| <b>25)</b> Use of surgical face masks to reduce the incidence of the common cold among health care workers in Japan: a randomized controlled trial, Jacobs, 2009 | “Face mask use in health care workers has not been demonstrated to provide benefit in terms of cold symptoms or getting colds.”                                                                                                                                          |
| <b>26)</b> N95 Respirators vs Medical Masks for Preventing Influenza Among Health Care Personnel, Radonovich, 2019                                               | “Among outpatient health care personnel, N95 respirators vs medical masks as worn by participants in this trial resulted in no significant difference in the incidence of laboratory-confirmed influenza.”                                                               |
| <b>27)</b> Does Universal Mask Wearing Decrease or Increase the Spread of COVID-19?, Watts up with that? 2020                                                    | “A survey of peer-reviewed studies shows that universal mask wearing (as opposed to wearing masks in specific settings) does not decrease the transmission of respiratory viruses from people wearing masks to people who are not wearing masks.”                        |
| <b>28)</b> Masking: A Careful Review of the Evidence, Alexander, 2021                                                                                            | “In fact, it is not unreasonable at this time to conclude that surgical and cloth masks, used as they currently are, have absolutely no impact on controlling the transmission of Covid-19 virus, and current evidence implies that face masks can be actually harmful.” |

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| <p><b>29) Community and Close Contact Exposures Associated with COVID-19 Among Symptomatic Adults <math>\geq 18</math> Years in 11 Outpatient Health Care Facilities — United States, July 2020,</b> Fisher, 2020</p> | <p>Reported characteristics of symptomatic adults <math>\geq 18</math> years who were outpatients in 11 US academic health care facilities and who received positive and negative SARS-CoV-2 test results (N = 314)* — United States, July 1–29, 2020, revealed that 80% of infected persons wore face masks almost all or <b>most of the time</b>.</p>                                                                                      |
| <p><b>30) Impact of non-pharmaceutical interventions against COVID-19 in Europe: a quasi-experimental study,</b> Hunter, 2020</p>                                                                                     | <p>Face masks in public was not associated with reduced incidence.</p>                                                                                                                                                                                                                                                                                                                                                                       |
| <p><b>31) Masking lack of evidence with politics,</b> CEBM, Heneghan, 2020</p>                                                                                                                                        | <p>“It would appear that despite two decades of pandemic preparedness, there is considerable uncertainty as to the value of wearing masks. For instance, high rates of infection with cloth masks could be due to harms caused by cloth masks, or benefits of medical masks. The numerous systematic reviews that have been recently published all include the same evidence base so unsurprisingly broadly reach the same conclusions.”</p> |
| <p><b>32) Transmission of COVID-19 in 282 clusters in Catalonia, Spain: a cohort study,</b> Marks, 2021</p>                                                                                                           | <p>“We observed no association of risk of transmission with reported mask usage by contacts, with the age or sex of the index case, or with the presence of respiratory symptoms in the index case at the initial study visit.”</p>                                                                                                                                                                                                          |
| <p><b>33) Non-pharmaceutical public health measures for mitigating the risk and impact of epidemic and pandemic influenza,</b> WHO, 2020</p>                                                                          | <p>“Ten RCTs were included in the meta-analysis, and there was no evidence that face masks are effective in reducing transmission of laboratory-confirmed influenza.”</p>                                                                                                                                                                                                                                                                    |
| <p><b>34) The Strangely Unscientific Masking of America,</b> Younes, 2020</p>                                                                                                                                         | <p>“One report reached its conclusion based on observations of a <b>“dummy head attached to a breathing simulator.”</b> Another analyzed use of surgical masks on</p>                                                                                                                                                                                                                                                                        |

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|                                                                                                                                             | <p>people experiencing at least two symptoms of acute respiratory illness. Incidentally, <b>not one of these studies</b> involved cloth masks or accounted for real-world mask usage (or misuse) among lay people, and none established efficacy of widespread mask-wearing by people not exhibiting symptoms. There was simply no evidence whatsoever that healthy people ought to wear masks when going about their lives, especially outdoors.”</p>                                                                                           |
| <p><b>35) Facemasks and similar barriers to prevent respiratory illness such as COVID-19: A rapid systematic review</b>, Brainard, 2020</p> | <p>“31 eligible studies (including 12 RCTs). Narrative synthesis and random-effects meta-analysis of attack rates for primary and secondary prevention in 28 studies were performed. Based on the RCTs we would conclude that wearing facemasks can be very slightly protective against primary infection from casual community contact, and modestly protective against household infections when both infected and uninfected members wear facemasks. However, the RCTs often suffered from poor compliance and controls using facemasks.”</p> |

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| <b>36) The Year of Disguises</b> , Koops, 2020                                                                                                                                                               | “The healthy people in our society should not be punished for being healthy, which is exactly what lockdowns, distancing, mask mandates, etc. do...Children should not be wearing face coverings. We all need constant interaction with our environments and that is especially true for children. This is how their immune system develops. They are the lowest of the low-risk groups. Let them be kids and let them develop their immune systems... The “Mask Mandate” idea is a truly ridiculous, knee-jerk reaction and needs to be withdrawn and thrown in the waste bin of disastrous policy, along with lockdowns and school closures. You can vote for a person without blindly supporting all of their proposals!” |
| <b>37) Open Schools, Covid-19, and Child and Teacher Morbidity in Sweden</b> , Ludvigsson, 2020                                                                                                              | “1,951,905 children in Sweden (as of December 31, 2019) who were 1 to 16 years of age, were examined...social distancing was encouraged in Sweden, but wearing face masks was not...No child with Covid-19 died.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>38) Double-Masking Benefits Are Limited</b> , Japan Supercomputer Finds, Reidy, 2021                                                                                                                      | “Wearing two masks offers limited benefits in preventing the spread of droplets that could carry the coronavirus compared to one well-fitted disposable mask, according to a Japanese study that modeled the dispersal of droplets on a supercomputer.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>39) Physical interventions to interrupt or reduce the spread of respiratory viruses. Part 1 – Face masks, eye protection and person distancing: systematic review and meta-analysis</b> , Jefferson, 2020 | “There was insufficient evidence to provide a recommendation on the use of facial barriers without other measures. We found insufficient evidence for a difference between surgical masks and N95 respirators and limited evidence to support effectiveness of quarantine.”                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>40) Should individuals in the</b>                                                                                                                                                                         | “Non-medical facemasks include a variety of products. There                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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| community without respiratory symptoms wear facemasks to reduce the spread of COVID-19?, NIPH, 2020                                           | is no reliable evidence of the effectiveness of non-medical facemasks in community settings. There is likely to be substantial variation in effectiveness between products. However, there is only limited evidence from laboratory studies of potential differences in effectiveness when different products are used in the community.”                                                                    |
| 41) Is a mask necessary in the operating theatre?, Orr, 1981                                                                                  | “It would appear that minimum contamination can best be achieved by not wearing a mask at all but operating in silence. Whatever its relation to contamination, bacterial counts, or the dissemination of squames, there is no direct evidence that the wearing of masks reduces wound infection.”                                                                                                           |
| 42) The surgical mask is a bad fit for risk reduction, Neilson, 2016                                                                          | “As recently as 2010, the US National Academy of Sciences declared that, in the community setting, “face masks are not designed or certified to protect the wearer from exposure to respiratory hazards.” A number of studies have shown the inefficacy of the surgical mask in household settings to prevent transmission of the influenza virus.”                                                          |
| 43) Facemask versus No Facemask in Preventing Viral Respiratory Infections During Hajj: A Cluster Randomised Open Label Trial, Alfelali, 2019 | “Facemask use does not prevent clinical or laboratory-confirmed viral respiratory infections among Hajj pilgrims.”                                                                                                                                                                                                                                                                                           |
| 44) Facemasks in the COVID-19 era: A health hypothesis, Vainshelboim, 2021                                                                    | “The existing scientific evidences challenge the safety and efficacy of wearing facemask as preventive intervention for COVID-19. The data suggest that both medical and non-medical facemasks are ineffective to block human-to-human transmission of viral and infectious disease such SARS-CoV-2 and COVID-19, supporting against the usage of facemasks. Wearing facemasks has been demonstrated to have |

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|                                                                                                                                                  | <p>substantial adverse physiological and psychological effects. These include hypoxia, hypercapnia, shortness of breath, increased acidity and toxicity, activation of fear and stress response, rise in stress hormones, immunosuppression, fatigue, headaches, decline in cognitive performance, predisposition for viral and infectious illnesses, chronic stress, anxiety and depression.”</p> |
| <b>45)</b> The use of masks and respirators to prevent transmission of influenza: a systematic review of the scientific evidence, Bin-Reza, 2011 | <p>“None of the studies established a conclusive relationship between mask/respirator use and protection against influenza infection. Some evidence suggests that mask use is best undertaken as part of a package of personal protection especially hand hygiene.”</p>                                                                                                                            |
| <b>46)</b> Are Face Masks Effective? The Evidence., Swiss Policy Research, 2021                                                                  | <p>“Most studies found little to no evidence for the effectiveness of face masks in the general population, neither as personal protective equipment nor as a source control.”</p>                                                                                                                                                                                                                 |
| <b>47)</b> Postoperative wound infections and surgical face masks: A controlled study, Tunevall, 1991                                            | <p>“These results indicate that the use of face masks might be reconsidered. Masks may be used to protect the operating team from drops of infected blood and from airborne infections, but have not been proven to protect the patient operated by a healthy operating team.”</p>                                                                                                                 |
| <b>48)</b> Mask mandate and use efficacy in state-level COVID-19 containment, Guerra, 2021                                                       | <p>“Mask mandates and use are not associated with slower state-level COVID-19 spread during COVID-19 growth surges.”</p>                                                                                                                                                                                                                                                                           |
| <b>49)</b> Twenty Reasons Mandatory Face Masks are Unsafe, Ineffective and Immoral, Manley, 2021                                                 | <p>“A CDC-funded review on masking in May 2020 came to the conclusion: “Although mechanistic studies support the potential effect of hand hygiene or face masks, evidence from 14 randomized controlled trials of these measures did not support a substantial effect on transmission of</p>                                                                                                       |

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|                                                                                                                                             | laboratory-confirmed influenza... None of the household studies reported a significant reduction in secondary laboratory-confirmed influenza virus infections in the face mask group.” If masks can’t stop the regular flu, how can they stop SAR-CoV-2?”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>50)</b> A cluster randomised trial of cloth masks compared with medical masks in healthcare workers, MacIntyre, 2015                     | “First RCT of cloth masks, and the results caution against the use of cloth masks. This is an important finding to inform occupational health and safety. Moisture retention, reuse of cloth masks and poor filtration may result in increased risk of infection...the rates of all infection outcomes were highest in the cloth mask arm, with the rate of ILI statistically significantly higher in the cloth mask arm (relative risk (RR)=13.00, 95% CI 1.69 to 100.07) compared with the medical mask arm. Cloth masks also had significantly higher rates of ILI compared with the control arm. An analysis by mask use showed ILI (RR=6.64, 95% CI 1.45 to 28.65) and laboratory-confirmed virus (RR=1.72, 95% CI 1.01 to 2.94) were significantly higher in the cloth masks group compared with the medical masks group. Penetration of cloth masks by particles was almost 97% and medical masks 44%.” |
| <b>51)</b> Horowitz: Data from India continues to blow up the ‘Delta’ fear narrative, Blazemedia, 2021                                      | “Rather than proving the need to sow more panic, fear, and control over people, the story from India — the source of the “Delta” variant — continues to refute every current premise of COVID fascism...Masks failed to stop the spread there.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>52)</b> An outbreak caused by the SARS-CoV-2 Delta variant (B.1.617.2) in a secondary care hospital in Finland, May 2021, Hetemäki, 2021 | Reporting on a <b>nosocomial hospital outbreak</b> in Finland, Hetemäli et al. observed that “both symptomatic and asymptomatic infections were found among vaccinated health care workers, and secondary transmission occurred from those with symptomatic infections despite use of personal protective equipment.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

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| <b>53)</b> Nosocomial outbreak caused by the SARS-CoV-2 Delta variant in a highly vaccinated population, Israel, July 2021, Shitrit, 2021     | In a <b>hospital outbreak</b> investigation in Israel, Shitrit et al. observed “high transmissibility of the SARS-CoV-2 Delta variant among twice vaccinated and masked individuals.” They added that “this suggests some waning of immunity, albeit still providing protection for individuals without comorbidities.” Again, despite use of personal protective equipment.                                                             |
| <b>54)</b> 47 studies confirm ineffectiveness of masks for COVID and 32 more confirm their negative health effects, Lifesite news staff, 2021 | “No studies were needed to justify this practice since most understood viruses were far too small to be stopped by the wearing of most masks, other than sophisticated ones designed for that task and which were too costly and complicated for the general public to properly wear and keep changing or cleaning. It was also understood that long mask wearing was unhealthy for wearers for common sense and basic science reasons.” |
| <b>55)</b> Are EUA Face Masks Effective in Slowing the Spread of a Viral Infection?, Dopp, 2021                                               | The vast evidence shows that masks are ineffective.                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>56)</b> CDC Study finds overwhelming majority of people getting coronavirus wore masks, Boyd/Federalist, 2021                              | “A Centers for Disease Control <b>report</b> released in September shows that masks and face coverings are not effective in preventing the spread of COVID-19, even for those people who consistently wear them.”                                                                                                                                                                                                                        |
| <b>57)</b> Most Mask Studies Are Garbage, Eugyppius, 2021                                                                                     | “The other kind of study, the proper kind, would be a randomised controlled trial. You compare the rates of infection in a masked cohort against rates of infection in an unmasked cohort. Here things have gone much, much worse for mask brigade. They spent months trying to prevent the publication of <b>the Danish randomised controlled trial</b> , which found that masks do zero. When that paper finally squeaked              |

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|                                                                                                                                            | <p>into print, they spent more months trying desperately to poke holes in it. You could feel their boundless relief when <b>the Bangladesh study</b> finally appeared to save them in early September. Every last Twitter blue-check could now proclaim that Science Shows Masks Work. Such was their hunger for any scrap of evidence to prop up their prior convictions, that none of them noticed the sad nature of the Science in question. The study found a mere 10% reduction in seroprevalence among the masked cohort, an effect so small that it fell within the confidence interval. Even the study authors couldn't exclude the possibility that masks in fact do zero."</p> |
| <b>58) Using face masks in the community: first update, ECDC, 2021</b>                                                                     | <p>"No high-quality evidence in favor of face masks and recommended their use only based on the '<b>precautionary principle.</b>'"</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>59) Do physical measures such as hand-washing or wearing masks stop or slow down the spread of respiratory viruses?, Cochrane, 2020</b> | <p>"Seven studies took place in the community, and two studies in healthcare workers. Compared with wearing no mask, wearing a mask may make little to no difference in how many people caught a flu-like illness (9 studies; 3507 people); and probably makes no difference in how many people have flu confirmed by a laboratory test (6 studies; 3005 people). Unwanted effects were rarely reported, but included discomfort."</p>                                                                                                                                                                                                                                                   |
| <b>60) Mouth-nose protection in public: No evidence of effectiveness, Thieme/ Kappstein, 2020</b>                                          | <p>"The use of masks in public spaces is questionable simply because of the lack of scientific data. If one also considers the necessary precautions, masks must even be considered a risk of infection in public spaces according to the rules known from hospitals... If masks are worn by the population, the risk of infection is potentially increased, regardless of whether they are medical masks or whether</p>                                                                                                                                                                                                                                                                 |

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|                                                                                               | <p>they are so-called community masks designed in any way. If one considers the precautionary measures that the RKI as well as the international health authorities have pronounced, all authorities would even have to inform the population that masks should not be worn in public spaces at all. Because no matter whether it is a duty for all citizens or voluntarily borne by the citizens who want it for whatever reason, it remains a fact that masks can do more harm than good in public.”</p> |
| <p><b>61)</b> US mask guidance for kids is the strictest across the world, Skelding, 2021</p> | <p>“Kids need to see faces,” Jay Bhattacharya, a professor of medicine at Stanford University, told The Post. Youngsters watch people’s mouths to learn to speak, read and understand emotions, he said. “We have this idea that this disease is so bad that we must adopt any means necessary to stop it from spreading,” he said. “It’s not that masks in schools have no costs. They actually do have substantial costs.”</p>                                                                           |
| <p><b>62)</b> Masking young children in school harms language acquisition, Walsh, 2021</p>    | <p>“This is important because children and/or students do not have the speech or language ability that adults have — they are not equally able and the ability to see the face and especially the mouth is critical to language acquisition which children and/or students are engaged in at all times. Furthermore, the ability to see the mouth is not only essential to communication but also essential to brain development.”</p>                                                                     |
| <p><b>63)</b> The Case Against Masks for Children, Makary, 2021</p>                           | <p>“It’s abusive to force kids who struggle with them to sacrifice for the sake of unvaccinated adults... Do masks reduce Covid transmission in children? Believe it or not, we could find only a single retrospective study on the question, and its results were inconclusive. Yet two weeks ago the Centers for</p>                                                                                                                                                                                     |

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|                                                                                       | <p>Disease Control and Prevention sternly decreed that 56 million U.S. children and adolescents, vaccinated or not, should cover their faces regardless of the prevalence of infection in their community. Authorities in many places took the cue to impose mandates in schools and elsewhere, on the theory that masks can't do any harm. That isn't true. Some children are fine wearing a mask, but others struggle. Those who have myopia can have difficulty seeing because the mask fogs their glasses. (This has long been a problem for medical students in the operating room.) Masks can cause severe acne and other skin problems. The discomfort of a mask distracts some children from learning. By increasing airway resistance during exhalation, masks can lead to increased levels of carbon dioxide in the blood. And masks can be <b>vectors for pathogens</b> if they become moist or are used for too long.”</p> |
| <b>64) Face Covering Mandates,</b><br>Peavey, 2021                                    | “Face Covering Mandates And Why They AREN'T Effective.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>65) Do masks work? A Review of the evidence,</b> Anderson, 2021                    | “In truth, the CDC's, U.K.'s, and WHO's earlier guidance was much more consistent with the best medical research on masks' effectiveness in preventing the spread of viruses. That research suggests that Americans' many months of mask-wearing has likely provided little to no health benefit and might even have been counterproductive in preventing the spread of the novel coronavirus.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>66) Most face masks won't stop COVID-19 indoors, study warns,</b><br>Anderer, 2021 | “New research reveals that cloth masks filter just 10% of exhaled aerosols, with many people not wearing coverings that fit their face properly.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

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| <b>67) How face masks and lockdowns failed/the face mask folly in retrospect, Swiss Policy Research, 2021</b>    | “Mask mandates and lockdowns have had no discernible impact.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>68) CDC Releases School COVID Transmission Study But Buries One of the Most Damning Parts, Davis, 2021</b>    | “The 21% lower incidence in schools that required mask use among students was not statistically significant compared with schools where mask use was optional... With tens of millions of American kids headed back to school in the fall, their parents and political leaders owe it to them to have a clear-sighted, scientifically rigorous discussion about which anti-COVID measures actually work and which might put an extra burden on vulnerable young people without meaningfully or demonstrably slowing the spread of the virus...that a masking requirement of students failed to show independent benefit is a finding of consequence and great interest.”                                                                                                                              |
| <b>69) World Health Organization internal meeting, COVID-19 – virtual press conference – 30 March 2020, 2020</b> | “This is a question on Austria. The Austrian Government has a desire to make everyone wear a mask who’s going into the shops. I understood from our previous briefings with you that the general public should not wear masks because they are in short supply. What do you say about the new Austrian measures?... I’m not specifically aware of that measure in Austria. I would assume that it’s aimed at people who potentially have the disease not passing it to others. In general WHO recommends that the wearing of a mask by a member of the public is to prevent that individual giving the disease to somebody else. We don’t generally recommend the wearing to masks in public by otherwise well individuals because it has not been up to now associated with any particular benefit.” |

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| <b>70) Face masks to prevent transmission of influenza virus: a systematic review</b> , Cowling, 2010                                                                                     | “Review highlights the limited evidence base supporting the efficacy or effectiveness of face masks to reduce influenza virus transmission.”“None of the studies reviewed showed a benefit from wearing a mask, in either HCW or community members in <b>households</b> (H).”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>71) Effectiveness of N95 respirators versus surgical masks in protecting health care workers from acute respiratory infection: a systematic review and meta-analysis</b> , Smith, 2016 | “Although N95 respirators appeared to have a protective advantage over surgical masks in laboratory settings, our meta-analysis showed that there were insufficient data to determine definitively whether N95 respirators are superior to surgical masks in protecting health care workers against transmissible acute respiratory infections in clinical settings.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>72) Effectiveness of Masks and Respirators Against Respiratory Infections in Healthcare Workers: A Systematic Review and Meta-Analysis</b> , Offeddu, 2017                             | “We found evidence to support universal medical mask use in hospital settings as part of infection control measures to reduce the risk of CRI and ILI among HCWs. Overall, N95 respirators may convey greater protection, but universal use throughout a work shift is likely to be less acceptable due to greater discomfort...Our analysis confirms the effectiveness of medical masks and respirators against SARS. Disposable, cotton, or paper masks are not recommended. The confirmed effectiveness of medical masks is crucially important for lower-resource and emergency settings lacking access to N95 respirators. In such cases, single-use medical masks are preferable to cloth masks, for which there is no evidence of protection and which might facilitate transmission of pathogens when used repeatedly without adequate sterilization...We found no clear benefit of either medical masks or N95 respirators against pH1N1...Overall, the evidence to inform policies on mask use in HCWs is poor, with a small number of studies that is prone to reporting |

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|                                                                                                                             | biases and lack of statistical power.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>73) N95 Respirators vs Medical Masks for Preventing Influenza Among Health Care Personnel,</b><br>Radonovich, 2019       | “Use of N95 respirators, compared with medical masks, in the outpatient setting resulted in no significant difference in the rates of laboratory-confirmed influenza.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>74) Masks Don’t Work: A Review of Science Relevant to COVID-19 Social Policy,</b><br>Rancourt, 2020                      | “The use of N95 respirators compared with surgical masks is not associated with a lower risk of laboratory-confirmed influenza. It suggests that N95 respirators should not be recommended for general public and non high-risk medical staff those are not in close contact with influenza patients or suspected patients. “No RCT study with verified outcome shows a benefit for HCW or community members in households to wearing a mask or respirator. There is no such study. There are no exceptions. Likewise, no study exists that shows a benefit from a broad policy to wear masks in public (more on this below). Furthermore, if there were any benefit to wearing a mask, because of the blocking power against droplets and aerosol particles, then there should be more benefit from wearing a respirator (N95) compared to a surgical mask, yet several large meta-analyses, and all the RCT, prove that there is no such relative benefit.” |
| <b>75) More Than a Dozen Credible Medical Studies Prove Face Masks Do Not Work Even In Hospitals!,</b><br>Firstenberg, 2020 | “Mandating masks has not kept death rates down anywhere. The 20 U.S. states that have never ordered people to wear face masks indoors and out have dramatically lower COVID-19 death rates than the 30 states that have mandated masks. Most of the no-mask states have COVID-19 death rates below 20 per 100,000 population, and none have a death rate higher than 55. All 13 states that have death rates higher 55 are states that have required the wearing of masks in all public places. It has not protected them.”                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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| <b>76)</b> Does evidence based medicine support the effectiveness of surgical facemasks in preventing postoperative wound infections in elective surgery?, Bahli, 2009 | “From the limited randomized trials it is still not clear that whether wearing surgical face masks harms or benefit the patients undergoing elective surgery.”                                                                                                                                                                                                                                                                                 |
| <b>77)</b> Peritonitis prevention in CAPD: to mask or not?, Figueiredo, 2000                                                                                           | “The current study suggests that routine use of face masks during CAPD bag exchanges may be unnecessary and could be discontinued.”                                                                                                                                                                                                                                                                                                            |
| <b>78)</b> The operating room environment as affected by people and the surgical face mask, Ritter, 1975                                                               | “The wearing of a surgical face mask had no effect upon the overall operating room environmental contamination and probably work only to redirect the projectile effect of talking and breathing. People are the major source of environmental contamination in the operating room.”                                                                                                                                                           |
| <b>79)</b> The efficacy of standard surgical face masks: an investigation using “tracer particles, Ha’eri, 1980                                                        | “Particle contamination of the wound was demonstrated in all experiments. Since the microspheres were not identified on the exterior of these face masks, they must have escaped around the mask edges and found their way into the wound.”                                                                                                                                                                                                    |
| <b>80)</b> Wearing of caps and masks not necessary during cardiac catheterization, Laslett, 1989                                                                       | “Prospectively evaluated the experience of 504 patients undergoing percutaneous left heart catheterization, seeking evidence of a relationship between whether caps and/or masks were worn by the operators and the incidence of infection. No infections were found in any patient, regardless of whether a cap or mask was used. Thus, we found no evidence that caps or masks need to be worn during percutaneous cardiac catheterization.” |
| <b>81)</b> Do anaesthetists need to wear surgical masks in the operating theatre? A literature review with                                                             | “A questionnaire-based survey, undertaken by Leyland’ in 1993 to assess attitudes to the use of masks, showed that 20% of surgeons discarded surgical masks for endoscopic                                                                                                                                                                                                                                                                     |

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| evidence-based recommendations,<br>Skinner, 2001                          | work. Less than 50% did not wear the mask as recommended by the Medical Research Council. Equal numbers of surgeons wore the mask in the belief they were protecting themselves and the patient, with 20% of these admitting that tradition was the only reason for wearing them.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>82) Mask mandates for children are not backed by data,</b> Faria, 2021 | “Even if you want to use the 2018-19 flu season to avoid overlap with the start of the COVID-19 pandemic, the CDC paints a similar picture: It <b>estimated</b> 480 flu deaths among children during that period, with 46,000 hospitalizations. COVID-19, mercifully, is simply not as deadly for children. According to the American Academy of Pediatrics, preliminary data from 45 states <b>show</b> that between 0.00%-0.03% of child COVID-19 cases resulted in death. When you combine these numbers with the CDC <b>study</b> that found mask mandates for students — along with hybrid models, social distancing, and classroom barriers — did not have a statistically significant benefit in preventing the spread of COVID-19 in schools, the insistence that we force students to jump through these hoops for their own protection makes no sense.” |
| <b>83) The Downsides of Masking Young Students Are Real,</b> Prasad, 2021 | “The benefits of mask requirements in schools might seem self-evident— <i>they have to help contain the coronavirus, right?</i> —but that may not be so. In Spain, masks are used in kids ages 6 and older. The authors of one study there examined the risk of viral spread at all ages. If masks provided a large benefit, then the transmission rate among 5-year-olds would be far higher than the rate among 6-year-olds. The <b>results don’t show that</b> . Instead, they show that transmission rates, which were low among the youngest kids, steadily increased with age—rather than dropping                                                                                                                                                                                                                                                          |

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|                                                                                                                                 | <p>sharply for older children subject to the face-covering requirement. This suggests that masking kids in school does not provide a major benefit and might provide none at all. And yet many officials prefer to double down on masking mandates, as if the fundamental policy were sound and only the people have failed.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <p><b>84) Masks In Schools: Scientific American Fumbles Report On Childhood COVID Transmission,</b> English/ACSH, 2021</p>      | <p>“Masking is a low-risk, inexpensive intervention. If we want to recommend it as a precautionary measure, especially in situations where vaccination isn’t an option, great. But that’s not what the public has been told. “Florida governor Ron DeSantis and politicians in Texas say research does not support mask mandates,” SciAm’s sub-headline bellowed. “Many studies show they are wrong.”If that’s the case, demonstrate that the intervention works before you mandate its use in schools. If you can’t, acknowledged what UC San Francisco hematologist-oncologist and Associate Professor of Epidemiology Vinay Prasad wrote over <a href="#">at the Atlantic</a>:<i>“No scientific consensus exists about the wisdom of mandatory-masking rules for schoolchildren ... In mid-March 2020, few could argue against erring on the side of caution. But nearly 18 months later, we owe it to children and their parents to answer the question properly: Do the benefits of masking kids in school outweigh the downsides? The honest answer in 2021 remains that we don’t know for sure.”</i></p> |
| <p><b>85) Masks ‘don’t work,’ are damaging health and are being used to control population: Doctors panel,</b> Haynes, 2021</p> | <p>“The only randomized control studies that have ever been done on masks show that they don’t work,” began Dr. Nepute. He referred to Dr. Anthony Fauci’s “noble lie,” in which Fauci “changed his tune,” from his March 2020 <a href="#">comments</a>, where he downplayed the need and efficacy of mask wearing, before urging Americans to use masks later in the year. “Well, he lied to us. So if he lied</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

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|                                                                                                                                                                             | <p>about that, what else has he lied to you about?” questioned Nepute. Masks have become commonplace in almost every setting, whether indoors or outdoors, but Dr. Popper mentioned how there have been “no studies” which actually examine the “effect of wearing a mask during all your waking hours.” “There’s no science to back any of this and particularly no science to back the fact that wearing a mask twenty four-seven or every waking minute, is health promoting,” added Popper.”</p> |
| <b>86) Aerosol penetration through surgical masks</b> , Chen, 1992                                                                                                          | <p>“The mask that has the highest collection efficiency is not necessarily the best mask from the perspective of the filter-quality factor, which considers not only the capture efficiency but also the air resistance. Although surgical mask media may be adequate to remove bacteria exhaled or expelled by health care workers, they may not be sufficient to remove the sub-micrometer-sized aerosols containing pathogens to which these health care workers are potentially exposed.”</p>    |
| <b>87) CDC: Schools With Mask Mandates Didn’t See Statistically Significant Different Rates of COVID Transmission From Schools With Optional Policies</b> , Miltimore, 2021 | <p>“The CDC did not include its finding that “required mask use among students was not statistically significant compared with schools where mask use was optional” in the summary of its report.”</p>                                                                                                                                                                                                                                                                                               |
| <b>88) Horowitz: Data from India continues to blow up the ‘Delta’ fear narrative</b> , Howorwitz, 2021                                                                      | <p>“Rather than proving the need to sow more panic, fear, and control over people, the story from India — the source of the “Delta” variant — continues to refute every current premise of COVID fascism. . . Unless we do that, we must return to the very effective lockdowns and masks. In reality, India’s experience proves the opposite true; namely: 1) Delta is largely an attenuated version, with a much lower fatality</p>                                                                |

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|                                                                                                                              | <p>rate, that for most people is akin to a cold.2) Masks failed to stop the spread there.3) The country has come close to the herd immunity threshold with just 3% vaccinated.</p>                                                                                                                                                                                                                                                                                                              |
| <p><b>89) Transmission of SARS-CoV-2 Delta Variant Among Vaccinated Healthcare Workers, Vietnam, Chau, 2021</b></p>          | <p>While not definitive in the LANCET publication, it can be inferred that the nurses were all masked up and had PPE etc. as was the case in Finland and Israel nosocomial outbreaks, indicating the failure of PPE and masks to constrain Delta spread.</p>                                                                                                                                                                                                                                    |
| <p><b>90) Aerosol penetration through surgical masks, Willeke, 1992</b></p>                                                  | <p>“The mask that has the highest collection efficiency is not necessarily the best mask from the perspective of the filter-quality factor, which considers not only the capture efficiency but also the air resistance. Although surgical mask media may be adequate to remove bacteria exhaled or expelled by health care workers, they may not be sufficient to remove the submicrometer-size aerosols containing pathogens to which these health care workers are potentially exposed.”</p> |
| <p><b>91) The efficacy of standard surgical face masks: an investigation using “tracer particles”, Wiley, 1980</b></p>       | <p>“Particle contamination of the wound was demonstrated in all experiments. Since the microspheres were not identified on the exterior of these face masks, they must have escaped around the mask edges and found their way into the wound. The wearing of the mask beneath the headgear curtails this route of contamination.”</p>                                                                                                                                                           |
| <p><b>92) An Evidence Based Scientific Analysis of Why Masks are Ineffective, Unnecessary, and Harmful, Meehan, 2020</b></p> | <p>“Decades of the highest-level scientific evidence (meta-analyses of multiple randomized controlled trials) overwhelmingly conclude that medical masks are ineffective at preventing the transmission of respiratory viruses, including SAR-CoV-2...those arguing for masks are relying on low-level evidence (observational retrospective trials and mechanistic theories), none of which are powered to counter</p>                                                                         |

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|                                                                                                                                         | the evidence, arguments, and risks of mask mandates.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>93) Open Letter from Medical Doctors and Health Professionals to All Belgian Authorities and All Belgian Media</b> , AIER, 2020      | “Oral masks in healthy individuals are ineffective against the spread of viral infections.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>94) Effectiveness of N95 respirators versus surgical masks against influenza: A systematic review and meta-analysis</b> , Long, 2020 | “The use of N95 respirators compared with surgical masks is not associated with a lower risk of laboratory-confirmed influenza. It suggests that N95 respirators should not be recommended for general public and non high-risk medical staff those are not in close contact with influenza patients or suspected patients.”                                                                                                                                                                                                                                                                                                                                 |
| <b>95) Advice on the use of masks in the context of COVID-19</b> , WHO, 2020                                                            | “However, the use of a mask alone is insufficient to provide an adequate level of protection or source control, and other personal and community level measures should also be adopted to suppress transmission of respiratory viruses.”                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>96) Farce mask: it’s safe for only 20 minutes</b> , The Sydney Morning Herald, 2020                                                  | “Health authorities have warned that surgical masks may not be an effective protection against the virus.”Those masks are only effective so long as they are dry,” said Professor Yvonne Cossart of the Department of Infectious Diseases at the University of Sydney.”As soon as they become saturated with the moisture in your breath they stop doing their job and pass on the droplets.”Professor Cossart said that could take as little as 15 or 20 minutes, after which the mask would need to be changed. But those warnings haven’t stopped people snapping up the masks, with retailers reporting they are having trouble keeping up with demand.” |
| <b>97) Study: Wearing A Used Mask Is Potentially Riskier Than No Mask At All</b> , Boyd, 2020                                           | “According to researchers from the University of Massachusetts Lowell and California Baptist University, a three-layer surgical mask is 65 percent efficient in filtering                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

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| Effects of mask-wearing on the inhalability and deposition of airborne SARS-CoV-2 aerosols in human upper airway | particles in the air. That effectiveness, however, falls to 25 percent once it is used.“It is natural to think that wearing a mask, no matter new or old, should always be better than nothing,” said author Jinxiang Xi.“Our results show that this belief is only true for particles larger than 5 micrometers, but not for fine particles smaller than 2.5 micrometers,” he continued.”                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>MASK MANDATES</b>                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 1) Mask mandate and use efficacy for COVID-19 containment in US States, Guerra, 2021                             | “Calculated total COVID-19 case growth and mask use for the continental United States with data from the Centers for Disease Control and Prevention and Institute for Health Metrics and Evaluation. We estimated post-mask mandate case growth in non-mandate states using median issuance dates of neighboring states with mandates...did not observe association between mask mandates or use and reduced COVID-19 spread in US states.”                                                                                                                                                                                                                                                                                                                                                                                                   |
| 2) These 12 Graphs Show Mask Mandates Do Nothing To Stop COVID, Weiss, 2020                                      | “Masks can work well when they’re fully sealed, properly fitted, changed often, and have a filter designed for virus-sized particles. This represents none of the common masks available on the consumer market, making universal masking much more of a confidence trick than a medical solution...Our universal use of unscientific face coverings is therefore closer to medieval superstition than it is to science, but many powerful institutions have too much political capital invested in the mask narrative at this point, so the dogma is perpetuated. The narrative says that if cases go down it’s because masks succeeded. It says that if cases go up it’s because masks succeeded in preventing more cases. The narrative simply assumes rather than proves that masks work, despite overwhelming scientific evidence to the |

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|                                                                                                                                  | contrary.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>3) Mask Mandates Seem to Make CCP Virus Infection Rates Climb, Study Says</b> , Vadum, 2020                                   | “Protective-mask mandates aimed at combating the spread of the <b>CCP virus</b> that causes the disease <b>COVID-19</b> appear to promote its spread, according to a report from RationalGround.com, a clearinghouse of COVID-19 data trends that’s run by a grassroots group of data analysts, computer scientists, and actuaries.”                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>4) Horowitz: Comprehensive analysis of 50 states shows greater spread with mask mandates</b> , Howorwitz, 2020<br>Justin Hart | “How long do our politicians get to ignore the results?... The results: When comparing states with mandates vs. those without, or periods of times within a state with a mandate vs. without, there is absolutely no evidence the mask mandate worked to slow the spread one iota. In total, in the states that had a mandate in effect, there were 9,605,256 confirmed COVID cases over 5,907 total days, an average of <b>27</b> cases per 100,000 per day. When states did not have a statewide order (which includes the states that never had them and the period of time masking states did not have the mandate in place) there were 5,781,716 cases over 5,772 total days, averaging 17 cases per 100,000 people per day.” |
| <b>5) The CDC’s Mask Mandate Study: Debunked</b> , Alexander, 2021                                                               | “Thus, it is not surprising that the CDC’s own recent conclusion on the use of <b>nonpharmaceutical measures such as face masks in pandemic influenza</b> , warned that scientific “evidence from 14 randomized controlled trials of these measures did not support a substantial effect on transmission...” Moreover, in the <b>WHO’s 2019 guidance document</b> on nonpharmaceutical public health measures in a pandemic, they reported as to face masks that “there is no evidence that this is effective in reducing transmission...” Similarly, in the fine print to a recent double-blind, double-masking simulation <b>the CDC stated</b> that “The findings of                                                            |

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|                                                                                                                                                | these simulations [supporting mask usage] should neither be generalized to the effectiveness ...nor interpreted as being representative of the effectiveness of these masks when worn in real-world settings.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>6) Phil Kerpin</b> , tweet, 2021<br><b>The Spectator</b>                                                                                    | “The first ecological study of state mask mandates and use to include winter data: “Case growth was independent of mandates at low and high rates of community spread, and mask use did not predict case growth during the Summer or Fall-Winter waves.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>7) How face masks and lockdowns failed</b> , SPR, 2021                                                                                      | “Infections have been driven primarily by seasonal and endemic factors, whereas mask mandates and lockdowns have had no discernible impact”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>8) Analysis of the Effects of COVID-19 Mask Mandates on Hospital Resource Consumption and Mortality at the County Level</b> , Schauer, 2021 | “There was no reduction in per-population daily mortality, hospital bed, ICU bed, or ventilator occupancy of COVID-19-positive patients attributable to the implementation of a mask-wearing mandate.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>9) Do we need mask mandates</b> , Harris, 2021                                                                                              | “But masks proved far less useful in the subsequent 1918 Spanish flu, a viral disease spread by pathogens smaller than bacteria. California’s Department of Health, for instance, <b>reported</b> that the cities of Stockton, which required masks, and Boston, which did not, had scarcely different death rates, and so advised against mask mandates except for a few high-risk professions such as barbers....Randomized controlled trials (RCTs) on mask use, generally more reliable than observational studies, though not infallible, typically show that cloth and surgical masks offer little protection. A few RCTs suggest that perfect adherence to an exacting mask protocol may guard against influenza, but meta-analyses find little on the whole to |

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|                                                                                                                                                                       | <p>suggest that masks offer meaningful protection. <a href="#">WHO guidelines</a> from 2019 on influenza say that despite “mechanistic plausibility for the potential effectiveness” of masks, studies showed a benefit too small to be established with any certainty. Another <a href="#">literature review</a> by researchers from the University of Hong Kong agrees. Its best estimate for the protective effect of surgical masks against influenza, based on ten RCTs published through 2018, was just 22 percent, and it could not rule out zero effect.”</p>                   |
| <b>MASK HARMS</b>                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <p><b>1)</b> <a href="#">Corona children studies: Co-Ki: First results of a German-wide registry on mouth and nose covering (mask) in children</a>, Schwarz, 2021</p> | <p>“The average wearing time of the mask was 270 minutes per day. Impairments caused by wearing the mask were reported by 68% of the parents. These included irritability (60%), headache (53%), difficulty concentrating (50%), less happiness (49%), reluctance to go to school/kindergarten (44%), malaise (42%) impaired learning (38%) and drowsiness or fatigue (37%).”</p>                                                                                                                                                                                                       |
| <p><b>2)</b> <a href="#">Dangerous pathogens found on children’s face masks</a>, Cabrera, 2021</p>                                                                    | <p>“Masks were contaminated with bacteria, parasites, and fungi, including three with dangerous pathogenic and pneumonia-causing bacteria.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <p><b>3)</b> <a href="#">Masks, false safety and real dangers, Part 2: Microbial challenges from masks</a>, Borovoy, 2020/2021</p>                                    | <p>“Laboratory testing of used masks from 20 train commuters revealed that 11 of the 20 masks tested contained over 100,000 bacterial colonies. Molds and yeasts were also found. Three of the masks contained more than one million bacterial colonies... The outside surfaces of surgical masks were found to have high levels of the following microbes, even in hospitals, more concentrated on the outside of masks than in the environment. Staphylococcus species (57%) and Pseudomonas spp (38%) were predominant among bacteria, and Penicillium spp (39%) and Aspergillus</p> |

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|                                                                                                        | spp. (31%) were the predominant fungi.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>4) Preliminary report on surgical mask induced deoxygenation during major surgery</b> , Beder, 2008 | “Considering our findings, pulse rates of the surgeon’s increase and SpO2 decrease after the first hour. This early change in SpO2 may be either due to the facial mask or the operational stress. Since a very small decrease in saturation at this level, reflects a large decrease in PaO2, our findings may have a clinical value for the health workers and the surgeons.”                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>5) Mask mandates may affect a child’s emotional, intellectual development</b> , Gillis, 2020        | “The thing is we really don’t know for sure what the effect may or may not be. But what we do know is that children, especially in early childhood, they use the mouth as part of the entire face to get a sense of what’s going on around them in terms of adults and other people in their environment as far as their emotions. It also has a role in language development as well... If you think about an infant, when you interact with them you use part of your mouth. They are interested in your facial expressions. And if you think about that part of the face being covered up, there is that possibility that it could have an effect. But we don’t know because this is really an unprecedented time. What we wonder about is if this could play a role and how can we stop it if it would affect child development.” |
| <b>6) Headaches and the N95 face-mask amongst healthcare providers</b> , Lim, 2006                     | “Healthcare providers may develop headaches following the use of the N95 face-mask.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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| <b>7) Maximizing Fit for Cloth and Medical Procedure Masks to Improve Performance and Reduce SARS-CoV-2 Transmission and Exposure, 2021, Brooks, 2021</b> | “Although use of double masking or knotting and tucking are two of many options that can optimize fit and enhance mask performance for source control and for wearer protection, double masking might impede breathing or obstruct peripheral vision for some wearers, and knotting and tucking can change the shape of the mask such that it no longer covers fully both the nose and the mouth of persons with larger faces.”              |
| <b>8) Facemasks in the COVID-19 era: A health hypothesis, Vainshelboim, 2021</b>                                                                          | “Wearing facemasks has been demonstrated to have substantial adverse physiological and psychological effects. These include hypoxia, hypercapnia, shortness of breath, increased acidity and toxicity, activation of fear and stress response, rise in stress hormones, immunosuppression, fatigue, headaches, decline in cognitive performance, predisposition for viral and infectious illnesses, chronic stress, anxiety and depression.” |
| <b>9) Wearing a mask can expose children to dangerous levels of carbon dioxide in just THREE MINUTES, study finds, Shaheen/Daily Mail, 2021</b>           | “European study found that children wearing masks for only minutes could be exposed to dangerous carbon dioxide levels...Forty-five children were exposed to carbon dioxide levels between three to twelve times healthy levels.”                                                                                                                                                                                                            |
| <b>10) How many children must die? Shilhavy, 2020</b>                                                                                                     | “How long are parents going to continue masking their children causing great harm to them, even to the point of risking their lives? <b>Dr. Eric Nepute</b> in St. Louis took time to record a video rant that he wants everyone to share, after the 4-year-old child of one of his patients almost died from a bacterial lung infection caused by prolonged mask use.”                                                                      |
| <b>11) Medical Doctor Warns that “Bacterial Pneumonias Are on the</b>                                                                                     | “I’m seeing patients that have facial rashes, fungal infections, bacterial infections. Reports coming from my                                                                                                                                                                                                                                                                                                                                |

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| <p>Rise” from Mask Wearing, Meehan, 2021</p>                                                                                             | <p>colleagues, all over the world, are suggesting that the bacterial pneumonias are on the rise...Why might that be? Because untrained members of the public are wearing medical masks, repeatedly... in a non-sterile fashion... They’re becoming contaminated. They’re pulling them off of their car seat, off the rear-view mirror, out of their pocket, from their countertop, and they’re reapplying a mask that should be worn fresh and sterile every single time.”</p>                                                                          |
| <p><b>12)</b> Open Letter from Medical Doctors and Health Professionals to All Belgian Authorities and All Belgian Media, AIER, 2020</p> | <p>“Wearing a mask is not without side effects. Oxygen deficiency (headache, nausea, fatigue, loss of concentration) occurs fairly quickly, an effect similar to altitude sickness. Every day we now see patients complaining of headaches, sinus problems, respiratory problems and hyperventilation due to wearing masks. In addition, the accumulated CO2 leads to a toxic acidification of the organism which affects our immunity. Some experts even warn of an increased transmission of the virus in case of inappropriate use of the mask.”</p> |

**13) Face coverings for covid-19: from medical intervention to social practice,** Peters, 2020

“At present, there is no direct evidence (from studies on Covid19 and in healthy people in the community) on the effectiveness of universal masking of healthy people in the community to prevent infection with respiratory viruses, including Covid19. Contamination of the upper respiratory tract by viruses and bacteria on the outside of medical face masks has been detected in several hospitals. Another research shows that a moist mask is a breeding ground for (antibiotic resistant) bacteria and fungi, which can undermine mucosal viral immunity. This research advocates the use of medical / surgical masks (instead of homemade cotton masks) that are used once and replaced after a few hours.”

**14) Face masks for the public during the covid-19 crisis,** Lazzarino, 2020

“The two potential side effects that have already been acknowledged are: (1) Wearing a face mask may give a false sense of security and make people adopt a reduction in compliance with other infection control measures, including social distancing and hands washing. (2) Inappropriate use of face mask: people must not touch their masks, must change their single-use masks frequently or wash them regularly, dispose them correctly and adopt other management measures, otherwise their risks and those of others may increase. Other potential side effects that we must consider are: (3) The quality and the volume of speech between two people wearing masks is considerably compromised and they may unconsciously come closer. While one may be trained to counteract side effect n.1, this side effect may be more difficult to tackle. (4) Wearing a face mask makes the exhaled air go into the eyes. This generates an uncomfortable feeling and an impulse to touch your eyes. If your hands are contaminated, you are infecting yourself.”

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| <b>15) Contamination by respiratory viruses on outer surface of medical masks used by hospital healthcare workers</b> , Chughtai, 2019 | “Respiratory pathogens on the outer surface of the used medical masks may result in self-contamination. The risk is higher with longer duration of mask use (>6 h) and with higher rates of clinical contact. Protocols on duration of mask use should specify a maximum time of continuous use, and should consider guidance in high contact settings.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>16) Reusability of Facemasks During an Influenza Pandemic</b> , Bailar, 2006                                                        | “After considering all the testimony and other information we received, the committee concluded that there is currently no simple, reliable way to decontaminate these devices and enable people to use them safely more than once. There is relatively little data available about how effective these devices are against flu even the first time they are used. To the extent they can help at all, they must be used correctly, and the best respirator or mask will do little to protect a person who uses it incorrectly. Substantial research must be done to increase our understanding of how flu spreads, to develop better masks and respirators, and to make it easier to decontaminate them. Finally, the use of face coverings is only one of many strategies that will be needed to slow or halt a pandemic, and people should not engage in activities that would increase their risk of exposure to flu just because they have a mask or respirator.” |
| <b>17) Exhalation of respiratory viruses by breathing, coughing, and talking</b> , Stelzer-Braid, 2009                                 | “The exhaled aerosols generated by coughing, talking, and breathing were sampled in 50 subjects using a novel mask, and analyzed using PCR for nine respiratory viruses. The exhaled samples from a subset of 10 subjects who were PCR positive for rhinovirus were also examined by cell culture for this virus. Of the 50 subjects, among the 33 with symptoms of upper respiratory tract infections, 21 had at least one virus detected by PCR, while amongst the 17 asymptomatic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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|                                                                                     | <p>subjects, 4 had a virus detected by PCR. Overall, rhinovirus was detected in 19 subjects, influenza in 4 subjects, parainfluenza in 2 subjects, and human metapneumovirus in 1 subject. Two subjects were co-infected. Of the 25 subjects who had virus-positive nasal mucus, the same virus type was detected in 12 breathing samples, 8 talking samples, and in 2 coughing samples. In the subset of exhaled samples from 10 subjects examined by culture, infective rhinovirus was detected in 2.”</p>                                                                                                                                                            |
| <b>18)</b> [Effect of a surgical mask on six minute walking distance], Person, 2018 | <p>“Wearing a surgical mask modifies significantly and clinically dyspnea without influencing walked distance.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>19)</b> Protective masks reduce resilience, Science ORF, 2020                    | <p>“The German researchers used two types of face masks for their study – surgical masks and so-called FFP2 masks, which are mainly used by medical personnel. The measurements were carried out with the help of spiroergometry, in which patients or in this case the test persons exert themselves physically on a stationary bicycle – a so-called ergometer – or a treadmill. The subjects were examined without a mask, with surgical masks and with FFP2 masks. The masks therefore impair breathing, especially the volume and the highest possible speed of the air when exhaling. The maximum possible force on the ergometer was significantly reduced.”</p> |
| <b>20)</b> Wearing masks even more unhealthy than expected, Corona transition, 2020 | <p>“They contain microplastics – and they exacerbate the waste problem...”Many of them are made of polyester and so you have a microplastic problem.” Many of the face masks would contain polyester with chlorine compounds: “If I have the mask in front of my face, then of course I breathe in the microplastic directly and these substances are much more</p>                                                                                                                                                                                                                                                                                                     |

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|                                                                                                  | <p>toxic than if you swallow them, as they get directly into the nervous system,” Braungart continues.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <p><b>21) Masking Children: Tragic, Unscientific, and Damaging,</b><br/>Alexander, 2021</p>      | <p>“Children do not readily acquire SARS-CoV-2 (very low risk), spread it to other children or teachers, or endanger parents or others at home. This is the settled science. In the rare cases where a child contracts Covid virus it is very unusual for the child to get severely ill or die. Masking can do positive harm to children – as it can to some adults. But the cost benefit analysis is entirely different for adults and children – particularly younger children. Whatever arguments there may be for consenting adults – children should not be required to wear masks to prevent the spread of Covid-19. Of course, zero risk is not attainable – with or without masks, vaccines, therapeutics, distancing or anything else medicine may develop or government agencies may impose.”</p> |
| <p><b>22) The Dangers of Masks,</b><br/>Alexander, 2021</p>                                      | <p>“With that clarion call, we pivot and refer here to another looming concern and this is the potential danger of the chlorine, polyester, and microplastic components of the face masks (surgical principally but any of the mass-produced masks) that have become part of our daily lives due to the Covid-19 pandemic. We hope those with persuasive power in the government will listen to this plea. We hope that the necessary decisions will be made to reduce the risk to our populations.”</p>                                                                                                                                                                                                                                                                                                    |
| <p><b>23) 13-year-old mask wearer dies for inexplicable reasons,</b> Corona Transition, 2020</p> | <p>“The case is not only causing speculation in Germany about possible poisoning with carbon dioxide. Because the student “was wearing a corona protective mask when she suddenly collapsed and died a little later in the hospital,” writes <i>Wochenblick</i>. Editor’s Review: The fact that no cause of death was communicated nearly three weeks after the girl’s</p>                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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|                                                                                   | <p>death is indeed unusual. The carbon dioxide content of the air is usually about 0.04 percent. From a proportion of four percent, the first symptoms of hypercapnia, i.e. carbon dioxide poisoning, appear. If the proportion of the gas rises to more than 20 percent, there is a risk of deadly carbon dioxide poisoning. However, this does not come without alarm signals from the body. According to the medical portal netdoktor, these include “sweating, accelerated breathing, accelerated heartbeat, headaches, confusion, loss of consciousness”. The unconsciousness of the girl could therefore be an indication of such poisoning.”</p>                                               |
| <b>24) Student Deaths Lead Chinese Schools to Change Mask Rules, that’s, 2020</b> | <p>“During the month of April, three cases of students suffering sudden cardiac death (SCD) while running during gym class have been reported in Zhejiang, Henan and Hunan provinces. <i>Beijing Evening News</i> noted that all three students were wearing masks at the time of their deaths, igniting a critical discussion over school rules on when students should wear masks.”</p>                                                                                                                                                                                                                                                                                                             |
| <b>25) Blaylock: Face Masks Pose Serious Risks To The Healthy, 2020</b>           | <p>“As for the scientific support for the use of face mask, a recent careful examination of the literature, in which 17 of the best studies were analyzed, concluded that, “ None of the studies established a conclusive relationship between mask/respirator use and protection against influenza infection.”<sup>1</sup> Keep in mind, no studies have been done to demonstrate that either a cloth mask or the N95 mask has any effect on transmission of the COVID-19 virus. Any recommendations, therefore, have to be based on studies of influenza virus transmission. And, as you have seen, there is no conclusive evidence of their efficiency in controlling flu virus transmission.”</p> |

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| <p><b>26) The mask requirement is responsible for severe psychological damage and the weakening of the immune system,</b> Coronaa Transition, 2020</p>                 | <p>“In fact, the mask has the potential to “trigger strong psychovegetative stress reactions via emerging aggression, which correlate significantly with the degree of stressful after-effects”.</p> <p>Prousa is not alone in her opinion. Several psychologists dealt with the mask problem — and most came to devastating results. Ignoring them would be fatal, according to Prousa.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <p><b>27) The physiological impact of wearing an N95 mask during hemodialysis as a precaution against SARS in patients with end-stage renal disease,</b> Kao, 2004</p> | <p>“Wearing an N95 mask for 4 hours during HD significantly reduced PaO<sub>2</sub> and increased respiratory adverse effects in ESRD patients.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <p><b>28) Is a Mask That Covers the Mouth and Nose Free from Undesirable Side Effects in Everyday Use and Free of Potential Hazards?,</b> Kisielinski, 2021</p>        | <p>“We objectified evaluation evidenced changes in respiratory physiology of mask wearers with significant correlation of O<sub>2</sub> drop and fatigue (<math>p &lt; 0.05</math>), a clustered co-occurrence of respiratory impairment and O<sub>2</sub> drop (67%), N95 mask and CO<sub>2</sub> rise (82%), N95 mask and O<sub>2</sub> drop (72%), N95 mask and headache (60%), respiratory impairment and temperature rise (88%), but also temperature rise and moisture (100%) under the masks. Extended mask-wearing by the general population could lead to relevant effects and consequences in many medical fields.”“Here are the pathophysiological changes and subjective complaints: 1) Increase in blood carbon dioxide 2) Increase in breathing resistance 3) Decrease in blood oxygen saturation 4) Increase in heart rate 5) Decrease in cardiopulmonary capacity 6) Feeling of exhaustion 7) Increase in respiratory rate 8) Difficulty breathing and shortness of breath 9) Headache 10) Dizziness 11) Feeling of dampness and heat 12) Drowsiness</p> |

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|                                                                                                                                | (qualitative neurological deficits) 13) Decrease in empathy perception 14) Impaired skin barrier function with acne, itching and skin lesions”                                                                                                                                                                                                                                                                                                                          |
| <b>29) Is N95 face mask linked to dizziness and headache?</b> , Ipek, 2021                                                     | “Respiratory alkalosis and hypocarbia were detected after the use of N95. Acute respiratory alkalosis can cause headache, anxiety, tremor, muscle cramps. In this study, it was quantitatively shown that the participants’ symptoms were due to respiratory alkalosis and hypocarbia.”                                                                                                                                                                                 |
| <b>30) COVID-19 prompts a team of engineers to rethink the humble face mask</b> , Myers, 2020                                  | “But in filtering those particles, the mask also makes it harder to breathe. N95 masks are estimated to reduce oxygen intake by anywhere from 5 to 20 percent. That’s significant, even for a healthy person. It can cause dizziness and lightheadedness. If you wear a mask long enough, it can damage the lungs. For a patient in respiratory distress, it can even be life threatening.”                                                                             |
| <b>31) 70 doctors in open letter to Ben Weyts: ‘Abolish mandatory mouth mask at school’ – Belgium</b> , World Today News, 2020 | “In an open letter to the Flemish Minister of Education Ben Weyts (N-VA), 70 doctors ask to abolish the mandatory mouth mask at school, both for the teachers and for the students. Weyts does not intend to change course. The doctors ask that Minister Ben Weyts immediately reverses his working method: no mouth mask obligation at school, only protect the risk group and only the advice that people with a possible risk profile should consult their doctor.” |
| <b>32) Face masks pose dangers for babies, toddlers during COVID-19 pandemic</b> , UC Davis Health, 2020                       | “Masks may present a choking hazard for young children. Also, depending on the mask and the fit, the child may have trouble breathing. If this happens, they need to be able to take it off,” said UC Davis pediatrician <b>Lena van der List</b> . “Children less than 2 years of age will not reliably be able to remove a face mask and could suffocate. Therefore, masks should not routinely be used for young children...” “The                                   |

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|                                                                                                                                     | <p>younger the child, the more likely they will be to not wear the mask properly, reach under the mask and touch potentially contaminated masks,” said <b>Dean Blumberg</b>, chief of pediatric infectious diseases at <b>UC Davis Children’s Hospital</b>. “Of course, this depends on the developmental level of the individual child. But I think masks are not likely to provide much potential benefit over risk until the teen years.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <p><b>33) Covid-19: Important potential side effects of wearing face masks that we should bear in mind,</b><br/>Lazzarino, 2020</p> | <p>“Other potential side effects that we must consider, however, are 1) The quality and volume of speech between people wearing masks is considerably compromised and they may unconsciously come closer 2) Wearing a mask makes the exhaled air go into the eyes. This generates an impulse to touch the eyes. 3) If your hands are contaminated, you are infecting yourself, 4) Face masks make breathing more difficult. Moreover, a fraction of carbon dioxide previously exhaled is inhaled at each respiratory cycle. Those phenomena increase breathing frequency and deepness, and they may worsen the burden of covid-19 if infected people wearing masks spread more contaminated air. This may also worsen the clinical condition of infected people if the enhanced breathing pushes the viral load down into their lungs, 5) The innate immunity’s efficacy is highly dependent on the viral load. If masks determine a humid habitat where SARS-CoV-2 can remain active because of the water vapour continuously provided by breathing and captured by the mask fabric, they determine an increase in viral load (by re-inhaling exhaled viruses) and therefore they can cause a defeat of the innate immunity and an increase in infections.”</p> |

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| <b>34) Risks of N95 Face Mask Use in Subjects With COPD</b> , Kyung, 2020                                  | <p>“Of the 97 subjects, 7 with COPD did not wear the N95 for the entire test duration. This mask-failure group showed higher British modified Medical Research Council dyspnea scale scores and lower FEV<sub>1</sub> percent of predicted values than did the successful mask use group. A modified Medical Research Council dyspnea scale score <math>\geq 3</math> (odds ratio 167, 95% CI 8.4 to &gt;999.9; <math>P = .008</math>) or a FEV<sub>1</sub> &lt; 30% predicted (odds ratio 163, 95% CI 7.4 to &gt;999.9; <math>P = .001</math>) was associated with a risk of failure to wear the N95. Breathing frequency, blood oxygen saturation, and exhaled carbon dioxide levels also showed significant differences before and after N95 use.”</p> |
| <b>35) Masks too dangerous for children under 2, medical group warns</b> , The Japan Times, 2020           | <p>“Children under the age of 2 shouldn’t wear masks because they can make breathing difficult and increase the risk of choking, a medical group has said, launching an urgent appeal to parents as the nation reopens from the coronavirus crisis...Masks can make breathing difficult because infants have narrow air passages,” which increases the burden on their hearts, the association said, adding that masks also raise the risk of heat stroke for them.”</p>                                                                                                                                                                                                                                                                                  |
| <b>36) Face masks can be problematic, dangerous to health of some Canadians: advocates</b> , Spenser, 2020 | <p>“Face masks are dangerous to the health of some Canadians and problematic for some others...Asthma Canada president and CEO Vanessa Foran said simply wearing a mask could create risk of an asthma attack.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>37) COVID-19 Masks Are a Crime Against Humanity and Child Abuse</b> , Griesz-Brisson, 2020              | <p>“The rebreathing of our exhaled air will without a doubt create oxygen deficiency and a flooding of carbon dioxide. We know that the human brain is very sensitive to oxygen depravation. There are nerve cells for example in the hippocampus, that can’t be longer than 3 minutes without oxygen – they cannot survive. The acute warning symptoms are headaches, drowsiness, dizziness, issues in</p>                                                                                                                                                                                                                                                                                                                                               |

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|                                                                                                                                                                                                       | <p>concentration, slowing down of the reaction time – reactions of the cognitive system. However, when you have chronic oxygen depravation, all of those symptoms disappear, because you get used to it. But your efficiency will remain impaired and the undersupply of oxygen in your brain continues to progress. We know that <b>neurodegenerative diseases take years to decades to develop</b>. If today you forget your phone number, the breakdown in your brain would have already started 20 or 30 years ago...The child needs the brain to learn, and the brain needs oxygen to function. We don't need a clinical study for that. This is simple, indisputable physiology. Conscious and purposely induced oxygen deficiency is an absolutely deliberate health hazard, and an absolute medical contraindication.”</p> |
| <p><b>38) Study shows how masks are harming children</b>, Mercola, 2021</p>                                                                                                                           | <p>“Data from the first registry to record children’s experiences with masks show physical, psychological and behavioral issues including irritability, difficulty concentrating and impaired learning.Since school shutdowns in spring 2020, an increasing number of parents are seeking drug treatment for attention deficit hyperactivity disorder (ADHD) for their children.Evidence from the U.K. shows schools are not the super spreaders health officials said they were; measured rates of infection in schools were the same as the community, not higher.A large randomized controlled trial showed wearing masks does not reduce the spread of SARS-CoV-2.”</p>                                                                                                                                                        |
| <p><b>39) New Study Finds Masks Hurt Schoolchildren Physically, Psychologically, and Behaviorally</b>, Hall, 2021<br/><a href="https://www.researchsquare.com">https://www.researchsquare.com</a></p> | <p>“A new <b>study</b>, involving over 25,000 school-aged children, shows that masks are harming schoolchildren physically, psychologically, and behaviorally, revealing 24 distinct health issues associated with wearing masks...Though these results are concerning, the study also found that 29.7% of</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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| <a href="#">/article/rs-124394/v2</a>                                                                                                                         | children experienced shortness of breath, 26.4% experienced dizziness, and hundreds of the participants experiencing accelerated respiration, tightness in chest, weakness, and short-term impairment of consciousness.”                                                                                                                                                                                                                                                                                                                                   |
| <b>40)</b> Protective Face Masks: Effect on the Oxygenation and Heart Rate Status of Oral Surgeons during Surgery, Scarano, 2021                              | “In all 20 surgeons wearing FFP2 covered by surgical masks, a reduction in arterial O <sub>2</sub> saturation from around 97.5% before surgery to 94% after surgery was recorded with increase of heart rates. A shortness of breath and light-headedness/headaches were also noted.”                                                                                                                                                                                                                                                                      |
| <b>41)</b> Effects of surgical and FFP2/N95 face masks on cardiopulmonary exercise capacity, Fikenzer, 2020                                                   | “Ventilation, cardiopulmonary exercise capacity and comfort are reduced by surgical masks and highly impaired by FFP2/N95 face masks in healthy individuals. These data are important for recommendations on wearing face masks at work or during physical exercise.”                                                                                                                                                                                                                                                                                      |
| <b>42)</b> Headaches Associated With Personal Protective Equipment – A Cross-Sectional Study Among Frontline Healthcare Workers During COVID-19, Ong, 2020    | “Most healthcare workers develop de novo PPE-associated headaches or exacerbation of their pre-existing headache disorders.”                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>43)</b> Open letter from medical doctors and health professionals to all Belgian authorities and all Belgian media, The American Institute of Stress, 2020 | “Wearing a mask is not without side effects. Oxygen deficiency (headache, nausea, fatigue, loss of concentration) occurs fairly quickly, an effect similar to altitude sickness. Every day we now see patients complaining of headaches, sinus problems, respiratory problems, and hyperventilation due to wearing masks. In addition, the accumulated CO <sub>2</sub> leads to a toxic acidification of the organism which affects our immunity. Some experts even warn of increased transmission of the virus in case of inappropriate use of the mask.” |

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| <b>44) Reusing masks may increase your risk of coronavirus infection, expert says,</b> Laguipo, 2020                                                                | <p>“For the public, they should not wear facemasks unless they are sick, and if a healthcare worker advised them.”For the average member of the public walking down a street, it is not a good idea,” Dr. Harries said.”What tends to happen is people will have one mask. They won’t wear it all the time, they will take it off when they get home, they will put it down on a surface they haven’t cleaned,” she added.Further, she added that behavioral issues could adversely put themselves at more risk of getting the infection. For instance, people go out and don’t wash their hands, they touch parts of the mask or their face, and they get infected.”</p> |
| <b>45) What’s Going On Under the Masks?,</b> Wright, 2021                                                                                                           | <p>“Americans today have pretty good chompers on average, at least relative to most other people, past and present. Nevertheless, we do not think enough about oral health as evidenced by the almost complete lack of discussion regarding the effect of lockdowns and mandatory masking on our mouths.”</p>                                                                                                                                                                                                                                                                                                                                                             |
| <b>46) Experimental Assessment of Carbon Dioxide Content in Inhaled Air With or Without Face Masks in Healthy ChildrenA Randomized Clinical Trial,</b> Walach, 2021 | <p>“A large-scale survey in Germany of adverse effects in parents and children using data of 25 930 children has shown that 68% of the participating children had problems when wearing nose and mouth coverings.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>47) NM Kids forced to wear masks while running in 100-degree heat; Parents are striking back,</b> Smith, 2021                                                    | <p>“Nationally, children have a 99.997% survival rate from COVID-19. In New Mexico, only 0.7% of child COVID-19 cases have resulted in <b>hospitalization</b>. It is clear that children have an extremely <b>low risk of severe illness or death</b> from COVID-19, and mask mandates are placing a burden upon kids which is detrimental to their own health and well-being.”</p>                                                                                                                                                                                                                                                                                       |

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| <p><b>48)</b> Health Canada issues advisory for disposable masks with graphene, CBC, 2021</p>                                                | <p>“Health Canada is advising Canadians not to use disposable face masks that contain graphene. Health Canada issued the notice on Friday and said wearers could inhale graphene, a single layer of carbon atoms. Masks containing the toxic particles may have been distributed in some health-care facilities.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <p><b>49)</b> COVID-19: Performance study of microplastic inhalation risk posed by wearing masks, Li, 2021</p> <p>Is graphene safe?</p>      | <p>“Wearing masks considerably reduces the inhalation risk of particles (e.g., granular microplastics and unknown particles) even when they are worn continuously for 720 h. Surgical, cotton, fashion, and activated carbon masks wearing pose higher fiber-like microplastic inhalation risk, while all masks generally reduced exposure when used under their supposed time (&lt;4 h). N95 poses less fiber-like microplastic inhalation risk. Reusing masks after they underwent different disinfection pre-treatment processes can increase the risk of particle (e.g., granular microplastics) and fiber-like microplastic inhalation. Ultraviolet disinfection exerts a relatively weak effect on fiber-like microplastic inhalation, and thus, it can be recommended as a treatment process for reusing masks if proven effective from microbiological standpoint. Wearing an N95 mask reduces the inhalation risk of spherical-type microplastics by 25.5 times compared with not wearing a mask.”</p> |
| <p><b>50)</b> Manufacturers have been using nanotechnology-derived graphene in face masks — now there are safety concerns, Maynard, 2021</p> | <p>“Early concerns around graphene were sparked by previous research on another form of carbon — carbon nanotubes. It turns out that some forms of these fiber-like materials can cause serious harm if inhaled. And following on from research here, a natural next-question to ask is whether carbon nanotubes’ close cousin graphene comes with similar concerns. Because graphene lacks many of the</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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|                                                                                             | <p>physical and chemical aspects of carbon nanotubes that <b>make them harmful</b> (such as being long, thin, and hard for the body to get rid of), the indications are that the material is safer than its nanotube cousins. But safer doesn't mean safe. And current research indicates that this is not a material that should be used where it could potentially be inhaled, without a good amount of safety testing first...As a general rule of thumb, engineered nanomaterials <b>should not be used in products where they might inadvertently be inhaled and reach the sensitive lower regions of the lungs.</b>"</p>                                                                                                                                                                                         |
| <p><b>51) Masking young children in school harms language acquisition,</b> Walsh, 2021</p>  | <p>"This is important because children and/or students do not have the speech or language ability that adults have — they are not equally able and the ability to see the face and especially the mouth is critical to language acquisition which children and/or students are engaged in at all times. Furthermore, the ability to see the mouth is not only essential to communication but also essential to brain development." "Studies show that by age four, kids from low-income households will hear 30 million less words than their more affluent counterparts, who get more quality face-time with caretakers." (<a href="https://news.stanford.edu/news/2014/november/language-toddlers-fernald-110514.html">https://news.stanford.edu/news/2014/november/language-toddlers-fernald-110514.html</a>)."</p> |
| <p><b>52) Dangerous pathogens found on children's face masks,</b> Rational Ground, 2021</p> | <p>"A group of parents in Gainesville, FL, sent 6 face masks to a lab at the University of Florida, requesting an analysis of contaminants found on the masks after they had been worn. The resulting report found that five masks were contaminated with bacteria, parasites, and fungi, including three with dangerous pathogenic and pneumonia-causing bacteria. Although the test is capable of detecting viruses, including SARS-CoV-2, only one virus was found on one</p>                                                                                                                                                                                                                                                                                                                                       |

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|                                                                                                                                                                                        | <p>mask (<i>alcelaphine herpesvirus 1</i>)...Half of the masks were contaminated with one or more strains of pneumonia-causing bacteria. One-third were contaminated with one or more strains of meningitis-causing bacteria. One-third were contaminated with dangerous, antibiotic-resistant bacterial pathogens. In addition, less dangerous pathogens were identified, including pathogens that can cause fever, ulcers, acne, yeast infections, strep throat, periodontal disease, Rocky Mountain Spotted Fever, and more.”</p>                                                              |
| <p><b>53)</b> Face mask dermatitis” due to compulsory facial masks during the SARS-CoV-2 pandemic: data from 550 health care and non-health care workers in Germany, Niesert, 2021</p> | <p>“The duration of wearing masks showed a significant impact on the prevalence of symptoms (<math>p &lt; 0.001</math>). Type IV hypersensitivity was significantly more likely in participants with symptoms compared to those without symptoms (<math>p = 0.001</math>), whereas no increase in symptoms was observed in participants with atopic diathesis. HCWs used facial skin care products significantly more often than non-HCWs (<math>p = 0.001</math>).”</p>                                                                                                                          |
| <p><b>54)</b> Effect of Wearing Face Masks on the Carbon Dioxide Concentration in the Breathing Zone, AAQR/Geiss, 2020</p>                                                             | <p>“Detected carbon dioxide concentrations ranged from <math>2150 \pm 192</math> to <math>2875 \pm 323</math> ppm. The concentrations of carbon dioxide while not wearing a face mask varied from 500–900 ppm. Doing office work and standing still on the treadmill each resulted in carbon dioxide concentrations of around 2200 ppm. A small increase could be observed when walking at a speed of <math>3 \text{ km h}^{-1}</math> (leisurely walking pace)...concentrations in the detected range can cause undesirable symptoms, such as fatigue, headache, and loss of concentration.”</p> |
| <p><b>55)</b> Surgical masks as source of bacterial contamination during operative procedures, Zhiqing, 2018</p>                                                                       | <p>“The source of bacterial contamination in SMs was the body surface of the surgeons rather than the OR environment. Moreover, we recommend that surgeons should change the mask after each operation, especially those beyond 2 hours.”</p>                                                                                                                                                                                                                                                                                                                                                     |

**56) The Damage of Masking  
Children Could be Irreparable,**  
Hussey, 2021

“When we surround children with mask-wearers for a year at a time, are we impairing their face barcode recognition during a period of hot neural development, thus putting full development of the FFA at risk? Does the demand for separation from others, reducing social interaction, add to the potential consequences as it might in autism? When can we be sure that we won’t interfere with visual input to the face recognition visual neurology so we don’t interfere with brain development? How much time with stimulus interference can we allow without consequences? Those are all questions currently without answers; we don’t know. Unfortunately, the science implies that if we mess up brain development for faces, we may not currently have therapies to undo everything we’ve done.”

**57) Masks can be Murder,**  
Grossman, 2021

“Wearing masks can create a sense of anonymity for an aggressor, while also dehumanizing the victim. This prevents empathy, empowering violence, and murder.” Masking helps remove empathy and compassion, allowing others to commit unspeakable acts on the masked person.”

**58) London high school teacher  
calls face masks an ‘egregious and  
unforgivable form of child abuse,**  
Butler, 2020

“In his email, Farquharson called the campaign to legislate mask wearing a “shameful farce, a charade, an act of political theatre” that’s more about enforcing “obedience and compliance” than it is about public health. He also likened children wearing masks to “involuntary self-torture,” calling it “an egregious and unforgivable form of child abuse and physical assault.”

**59) UK Government Advisor Admits  
Masks Are Just “Comfort Blankets”  
That Do Virtually Nothing,**  
ZeroHedge, 2021

“As the UK Government heralds “freedom day” today, which is **anything but**, a prominent government scientific advisor has admitted that face masks do very little to protect from coronavirus and are basically just “comfort blankets...the

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|                                                                                                                                | <p>professor noted that “those aerosols escape masks and will render the mask ineffective,” adding “The public were demanding something must be done, they got masks, it is just a comfort blanket. But now it is entrenched, and we are entrenching bad behaviour...all around the world you can look at mask mandates and superimpose on infection rates, you cannot see that mask mandates made any effect whatsoever,” Axon further noted, adding that “The best thing you can say about any mask is that any positive effect they do have is too small to be measured.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <p><b>60) Masks, false safety and real dangers, Part 1: Friable mask particulate and lung vulnerability, Borovoy, 2020</b></p> | <p>“Surgical personnel are trained to never touch any part of a mask, except the loops and the nose bridge. Otherwise, the mask is considered useless and is to be replaced. Surgical personnel are strictly trained not to touch their masks otherwise. However, the general public may be seen touching various parts of their masks. Even the masks just removed from manufacturer packaging have been shown in the above photos to contain particulate and fiber that would not be optimal to inhale... Further concerns of macrophage response and other immune and inflammatory and fibroblast response to such inhaled particles specifically from facemasks should be the subject of more research. If widespread masking continues, then the potential for inhaling mask fibers and environmental and biological debris continues on a daily basis for hundreds of millions of people. This should be alarming for physicians and epidemiologists knowledgeable in occupational hazards.”</p> |
| <p><b>61) Medical Masks, Desai, 2020</b></p>                                                                                   | <p>“Face masks should be used only by individuals who have symptoms of respiratory infection such as coughing, sneezing, or, in some cases, fever. Face masks should also be worn by health care workers, by individuals who are taking</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

care of or are in close contact with people who have respiratory infections, or otherwise as directed by a doctor. Face masks should not be worn by healthy individuals to protect themselves from acquiring respiratory infection because there is no evidence to suggest that face masks worn by healthy individuals are effective in preventing people from becoming ill.”

## Brownstone Authors and Contributors



### Paul Elias Alexander

Dr Alexander holds a PhD. He has experience in epidemiology and in the teaching clinical epidemiology, evidence-based medicine, and research methodology. Dr Alexander is a former Assistant Professor at McMaster University in evidence-based medicine and research methods; former COVID Pandemic evidence-synthesis consultant advisor to WHO-PAHO Washington, DC (2020) and former senior advisor to COVID Pandemic policy in Health and Human Services (HHS) Washington, DC (A Secretary), US government; worked/appointed in 2008 at WHO as a regional specialist/epidemiologist in Europe's Regional office Denmark,

worked for the government of Canada as an epidemiologist for 12 years, appointed as the Canadian in-field epidemiologist (2002-2004) as part of an international CIDA funded, Health Canada executed project on TB/HIV co-infection and MDR-TB control (involving India, Pakistan, Nepal, Sri Lanka, Bangladesh, Bhutan, Maldives, Afghanistan, posted to Kathmandu); employed from 2017 to 2019 at Infectious Diseases Society of America (IDSA) Virginia USA as the evidence synthesis meta-analysis systematic review guideline development trainer; currently a COVID-19 consultant researcher in the US-C19 research group

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