COVID-19 and All-Cause Mortality Data by Age Group Reveals Risk of COVID Vaccine-Induced Fatality is Equal to or Greater than the Risk of a COVID death for all Age Groups Under 80 Years Old as of 6 February 2022.

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Abstract

As of 6 February 2022, based on publicly available official UK and US data, all age groups under 50 years old are at greater risk of fatality after receiving a COVID-19 inoculation than an unvaccinated person is at risk of a COVID-19 death. All age groups under 80 years old have virtually no benefit from receiving a COVID-19 inoculation, and the younger ages incur significant risk. This analysis is conservative because it ignores the fact that inoculation-induced adverse events such as thrombosis, myocarditis, Bell's palsy, and other vaccine-induced injuries can lead to shortened life span. When one takes into consideration the fact that there is approximately a 90% decrease in risk of COVID-19 death if early treatment is provided to all symptomatic high-risk persons, one can only conclude that mandates of COVID-19 inoculations are ill-advised. Considering the emergence of antibody-resistant variants like Delta and Omicron, for most age groups COVID-19 vaccine inoculations result in higher death rates than COVID-19 does for the unvaccinated.

1. Introduction

To rationally determine COVID vaccination policy, it is essential to determine whether the COVID-19 vaccines are beneficial or harmful. COVID vaccine manufacturers' studies claimed benefit based on the relative risk reduction of testing positive and having symptoms of a SARS-CoV-2 viral infection in their vaccinated versus unvaccinated study participants. However, vaccine manufacturers neglected to calculate absolute risk reductions based on the prevalence or likelihood of a person developing symptomatic COVID illness, which varies by age; and they failed to take into consideration the potential costs of COVID vaccine-induced serious illness and death outcomes [1]. Furthermore, vaccine manufacturers quickly allowed the control groups to be vaccinated, thus eliminating the opportunity for long-term safety analysis. In other words, the COVID vaccine manufacturers failed to provide any cost/benefit analyses for their products.

To conduct a risk-benefit analysis of COVID vaccine inoculations by age cohort from publicly available official sources requires comparing vaccine fatality rates to COVID-19 fatality rates for unvaccinated and vaccinated populations, by age group.

A helpful starting point is provided by the clever analyses of Pantazatos and Seligmann [2]. who computed vaccine fatality rates by age cohort (aVFR) using official age-stratified all-cause mortality data, vaccination doses, and other pertinent data from US Census and Center for Disease Control (CDC) sources for the 50 US states for monthly time periods from 1 January through 31 August in 2020 and 2021. They used linear regression models to calculate aVFRs for months where the log-transformed number of vaccination doses significantly predicted the number of all-cause deaths for an age cohort from 1 February through 31 August 2021. Pantazatos and Seligmann's methods are explained in more detail in Appendix A.

For comparison, we needed to compute COVID-19 mortality and all-cause mortality risks for vaccinated and unvaccinated populations. Since the United Kingdom keeps more detailed records of COVID-19 mortality by vaccination status and age cohort than the US does and provides weekly updates of its prior month's data, we use UK COVID-19 data to compute this term. This strategy assumes that death rate from COVID-19 in the US and the UK are approximately the same. We used data for a single month's time spanning between week 2 2022 (week ending 16 January 2022) and week 5 2022 (week ending 6 February 2022). Recent UK COVID-19 fatality rates by vaccination status and age cohort were chosen to best reflect COVID-19 death rates due to the current mix of prevalent SARS-CoV-2 variants Omicron and Delta. Calculations were performed in a spreadsheet using data from UK Health Security Agency reports containing the same one month's data ending as of 6 February 2022 [3,4].

Note that our analysis considers only vaccine fatality rates within one month of the injection and COVID-19 fatality rates within 28 days of a positive COVID-19 test. There is some non-zero probability that either the disease or the injection could cause death beyond the one-month interval, but the likelihood of this is much lower than the impact within the first month, and the precise numbers are much more difficult to determine.

2. Methods Tables 1, 2, and 3 below provide the data we have used in our calculations. Relevant entries in the tables are color-coded to reflect the source from which they were retrieved, as explained below. The risk/benefit analysis was calculated from data from the following three (3) sources:

- **Source 1**: UK COVID-19 Health Security Agency. Vaccine Surveillance Report - Week 6, Table 12b, [4,p.43] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1050721/vaccine-surveillance-report-week-6.pdf Data from this source is highlighted in green in Table 1, and covers week 2 2022 through the end of week 5 2022, as shown in Appendix B.
- **Source 2**: UK COVID-19 Health Security Agency. Weekly national Influenza and COVID-19 surveillance report Week 6 (up to week 5 data), 6 February 2022, Table 9 [3, p.81] Data from this source is highlighted in pale gray in Table 1 herein, and is obtained directly from official UK weekly national influenza and COVID-19 surveillance report for the same weeks as the data from source 1, shown and is shown in Appendix B. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1050508/Weekly_Flu_and_COVID-19_report__w6.pdf
- **Source 3:** ***COVID vaccination and age-stratified all-cause mortality risk***. By Spiro Pantazatos, Columbia University and Herve Seligmann, Israel. Data from this source, highlighted in blue in Table 2 and Table 3, is estimated from a study of excess all-cause mortality from official US CDC and census data during or subsequent to the month of vaccinations [2,p.20]. https://www.researchgate.net/profile/Spiro-Pantazatos/publication/355581860_COVID_vaccination_and_age-stratified_all-cause_mortality_risk/

The formulas for calculating relative risk reduction (RRR_D) and absolute risk reduction (ARR_D) for deaths due to COVID-19 are:

D_V = number of vaccinated deaths due to COVID-19
D_U = number of unvaccinated deaths due to COVID-19
P_V = number of vaccinated persons in the population
P_U = number of unvaccinated persons in the population

$$RRR_D = 1 - \frac{\frac{D_V}{P_V}}{\frac{D_U}{P_U}} = 1 - \frac{D_V P_U}{D_U P_V}$$

$$ARR_D = \frac{D_U}{P_U} - \frac{D_V}{P_v}$$

Notice, the formula for RRR_D is 1 minus the relative ratio of COVID-19 death rates of the vaccinated to the unvaccinated and fails to reflect actual risk due to real-life prevalence of COVID-19 death among vaccinated and unvaccinated populations. The ARR_D is the actual real-life risk reduction from vaccination, the difference in risk of COVID-19 death in the unvaccinated minus the same risk in the vaccinated. The number needed to treat or vaccinate (NNT) to prevent one COVID-19 death times the absolute risk reduction per person equals one (1), i.e., $NNT * ARR = 1$, so the NNT is $=\frac{1}{ARR_D}$.

The vaccine inoculation fatality rate (VFR) for each age cohort is the number of vaccine-induced deaths within one month per (divided by) the number of persons vaccinated in that age cohort. Thus, the number of expected vaccine-induced fatalities to prevent one COVID-19 death in each age cohort $= NNT * VFR$. The relative rate of vaccine-induced deaths compared to COVID-19 deaths in the unvaccinated for each age cohort is the VFR divided by the COVID-19 death rate in the unvaccinated $= \frac{VFR}{\frac{D_U}{P_U}}$

Table 1: UK Data: COVID Deaths by Age Group & COVID Vaccination Status in weeks between Week 51, 2021 and Week 2, 2022.

col A	col B	col C	col D	col E	col F	col G	col H	col I	col J	col K
Death within 60 days of positive COVID-19 test between week 2 (w/e 16 January 2022) and week 5 2022 (w/e 6 February 2022)	Total COVID-19 Deaths Source 1	Unlinked to Vaccine Status Source 1	Total People in NIMS cohort as of w/e 6 February 2022 Source 2	COVID-19 Deaths NOT Vaccinated Source 1	% Vaccine Uptake with at least 1 dose in NIMS cohort as of w/e 6 February 2022 Source 2	COVID-19 Deaths: Vaccinated Received 1 dose (1 to 20 days before specimen date) Source 1	COVID-19 Deaths: Vaccinated Received 1 dose >= 21 days before specimen date Source 1	COVID-19 Deaths: Vaccinated Received 2nd dose >= 14 days before specimen date Source 1	COVID-19 Deaths: Vaccinated Received 3rd dose >= 14 days before specimen date Source 1	Total COVID-19 Deaths in Vaccinated = sum of cols G to J
under 18	12	0	12,768,871	8	20.4649%	0	2	2	0	4
18 to 29	42	1	9953670	19	69.7434%	0	1	15	6	22
30 to 39	86	1	9447435	36	71.4319%	0	6	32	11	49
40 to 49	167	2	8216782	56	80.2679%	0	15	54	40	109
50 to 59	408	9	8371225	121	88.2180%	1	30	138	109	278
60 to 69	780	6	6423465	197	91.7953%	1	25	258	293	577
70 to 79	1,563	7	4994515	249	95.2238%	5	50	454	798	1307
80 or older	4,181	15	2763730	391	95.6539%	2	107	1083	2583	3775
Source 1: UK COVID-19 Vaccine Surveillance Report - Week 6, Table 12b, p. 43 COVID-19 deaths between weeks 2 and week 5 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1054071/vaccine-surveillance-report-week-6.pdf										
Source 2: Weekly national Influenza and COVID-19 surveillance report Week 6 (up to Week 5 data), report 10 February 2022, table 9, p. 81 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1054000/Weekly_Flu_and_COVID-19_report__w6.pdf										
Source 3: https://www.researchgate.net/profile/Spiro-Pantazatos/publication/355581860_COVID_vaccination_and_age-stratified_all-cause_mortality_risk/ p. 20, table 3										

2.1 Calculation of Age-Stratified COVID-19 Fatality Rates by Vaccination Status in one month: UK Data

Table 1 data sources are the UK COVID-19 Vaccine Surveillance Report and the UK Weekly National Influenza and COVID-19 Surveillance Report. The data includes: Total COVID-19 Deaths by Age Group (column B) and total COVID-19 Deaths in the Unvaccinated (column E) and in the Vaccinated (column K) by Age Groups; The number of total people in the study (column D) and the percentage of the people in the study group who were vaccinated (column F). The two columns highlighted in light gray were combined from more detailed age groups in the Weekly national Influenza and COVID-19 surveillance report Week 4 (containing

data through Week 3, 2022) using simple arithmetic sums and weighted averages. The rightmost column K is the sum of vaccinated deaths from columns G through J for persons who received one or two COVID inoculation doses.

2.2 Calculation of Age-Stratified COVID vaccine Fatality Rates from US Data

Vaccine fatality rates by age cohort (aVFRs) were estimated from official US data by Pantazatos and Seligmann in ***COVID vaccination and age-stratified all-cause mortality risk*** **[2]** using age-stratified all-cause mortality data, vaccination doses, and other pertinent data from US census and Center for Disease Control (CDC) data for the 50 US states for high vaccination rate monthly periods from 1 January through 31 August for 2020 and 2021 to predict the number of monthly all-cause deaths from 1 February through 31 August 2021. Please see APPENDIX A for a more detailed summary description of their methods. aVFRs are expected to remain constant over time unless the vaccine itself is modified.

3. Results and Discussion

Absolute real-life risk reductions (ARRs) of a COVID death obtained from the COVID vaccine inoculation are shown below in Table 2, column P. Risk reductions from COVID inoculations vary from a low of negative 0.00007% (an increased risk of a COVID death from inoculation) for children under age 18 to a positive 0.183% (0.00183) risk reduction of a COVID death for persons over age 80. However, column R in Table 2 shows the vaccine fatality rate (VFR) for each age cohort, derived by Pantazatos and Seligmann from US Census and CDC data, as described in Appendix A. COVID vaccine inoculations increase risk of death and produce a net negative benefit, aka increased risk of death (shown by the negative numbers in column S = ARR-VFR) for all age groups younger than 60 years old. In other words, the COVID inoculations cause a net increase, rather than decrease, in the likelihood of death for all persons under 60 years old. For those over 60 years old, the benefit of COVID inoculations is negligible, ranging from a 0.0016% (16/1,000,000th) reduction in likelihood of death for 60- to 69-year-

old persons to a 0.125% (125/100,000th) reduction in likelihood of death for those over 80 years old. Because preventative treatments are often given to well persons, a vaccine is supposed to provide very small risk compared to benefit. Thus, such high fatality risks (VFRs) versus low benefit of risk reduction (ARRs) from the COVID inoculations are *not* acceptable, especially considering that low-cost, effective treatments are available that would additionally reduce COVID-19 death rates by as much as 90% or more if provided as soon as symptoms appear in high-risk persons [5,9]. Pantazatos and Seligmann's estimates of overall US vaccine fatality rates (VFRs) agree with credible analyses of the US CDC's vaccine adverse events reporting system (VAERS) showing US death reports to VAERs are under-reported by a factor of 20 [6].

Table 2: Calculations for **Absolute Risk Reduction, Risk/Benefit, Number Needed to Treat/Vaccinate, Number of Vaccine-Induced Fatalities to Prevent One (1) Covid Death, Relative Risk of Death by Vaccination Status.**

col L	col M	col N	col O	col P	col Q	col R	col S	col T	col U
UK: Death within 60 days of positive COVID-19 test between week 51 2021 and week 02 2022 (16 Jan 2022)	**% COVID-19 Deaths out of Total NIMS Population NOT Vaccinated = col E/ (colD*(1-colF))**	**% COVID-19 Deaths out of Total NIMs Vaccinated = col K / (col D*col F)**	**RRR Vaccine Relative Risk Reduction of COVID Death = 1 - col N/col M**	**ARR Absolute Risk Reduction of COVID Death by Vaccination = col M -col N**	**NNT Number needed to Treat/Vaccinate to Prevent 1 COVID death = 1 / col P**	**VFR Vaccine Fatality Rate from "*COVID vaccination and age-stratified all-cause mortality risk*" Source 3**	**Risk (negative) of Death or Benefit (positive) against Death from "vaccine" = col P - col R**	**Expected vaccine fatalities to prevent 1 COVID death = col R * col Q**	**Relative rate of vaccine fatalities to COVID fatalities when unvaccinated = col R/ col M**
under 18	0.00008%	0.00015%	-94.32%	-0.00007%	vaccine causes higher COVID death rate	0.0040%	-0.0041%	vaccine causes higher COVID death rate	**51**
18 to 29	0.0006%	0.0003%	49.77%	0.0003%	**318,497**	0.0050%	-0.0047%	**16**	**8**
30 to 39	0.0013%	0.0007%	45.56%	0.0006%	**164,538**	0.0090%	-0.0084%	**15**	**7**
40 to 49	0.0035%	0.0017%	52.15%	0.0018%	**55,516**	0.0170%	-0.0152%	**9**	**5**
50 to 59	0.0123%	0.0038%	69.32%	0.0085%	**11,760**	0.0160%	-0.0075%	**2**	**1**
60 to 69	0.0374%	0.0098%	73.82%	0.0276%	**3,624**	0.0260%	0.0016%	**1**	**1**
70 to 79	0.1044%	0.0275%	73.67%	0.0769%	**1,300**	0.0480%	0.0289%	**1**	**0**
80 or older	0.3255%	0.1428%	56.13%	0.1827%	**547**	0.0575%	0.1252%	**0**	**0**

Calculations in Table 2 are calculated from the data columns in Table 1 columns. Formulas are shown at the bottom of column headings. Results include: Percentages of COVID Deaths in the Surveilled UK NIMS population by vaccination status and age cohort, in columns M and N; Relative and Absolute Risk Reduction benefits of the COVID vaccine, in columns O and P; Number needed to treat or vaccinate to prevent one COVID death, 1/ARR in column Q; Vaccine Fatality Rates in column R (See Appendix A for calculations); Cost/benefit in column S are the result of subtracting vaccine-induced fatality rate (VFR) from absolute risk reduction (ARR). If negative, risks exceed benefits; if positive, benefit exceeds risk of the COVID inoculations; Column T is the number of expected vaccine-induced deaths to prevent one COVID-19 death; column U is the relative risk of death by vaccine status.

Table 3. Number of Expected Vaccine Fatalities to Prevent One COVID Death and Number of Expected Vaccine Fatalities for each One COVID Fatality

Death within 60 days of positive COVID-19 test between week 2 (w/e 16 January 2022) and week 5 2022 (w/e 6 February 2022)	Vaccine Risk US: Vaccine Fatality Rate	COVID-19 Risk %COVID-19 Deaths out of Total NIMS Population NOT Vaccinated	Vaccine Absolute Risk Reduction (ARR)	NNT Number needed to Treat or Vaccinate to Prevent 1 COVID death	Number expected to die from from the vaccine to prevent one COVID-19 death	Epected number of vaccine fatalities compared to COVID fatalities	Increased Risk (negative) of Death or Benefit (positive) against Death from "vaccine"
under 18	0.0040%	0.00008%	-0.00007%	increases #COVID deaths	increases #COVID deaths	51	-0.00407%
18 to 29	0.0050%	0.00063%	0.00031%	318,497	16	8	-0.00469%
30 to 39	0.0090%	0.00133%	0.00061%	164,538	15	7	-0.00839%
40 to 49	0.0170%	0.00345%	0.00180%	55,516	9	5	-0.01520%
50 to 59	0.0160%	0.01227%	0.00850%	11,760	2	1	-0.00750%
60 to 69	0.0260%	0.03738%	0.02759%	3,624	1	1	0.00159%
70 to 79	0.0480%	0.10438%	0.07690%	1,300	1	0	0.02890%
80 or older	0.0575%	0.32552%	0.18273%	547	0	0	0.12523%

Data in Table 3, from the columns of Table 2, summarize the cost of vaccine fatality derived from US Census and CDC data in 2021 vaccination rollouts, compared to vaccination benefit or risk reduction in COVID fatality rates, derived from UK data on COVID death rates from weeks ending 16 January to 6 February 2022. Altogether, the data show a COVID inoculated person is more likely to die within 30 to 60 days of "vaccination" than an unvaccinated person is to die of COVID-19 within 60 days of a positive COVID test, in all age cohorts under 60 years old. The results by age cohort are that within the same or subsequent month of receiving a COVID "vaccine" inoculation:

- For those under age 18, vaccination increases their COVID death rate, and those under 18 are 51 times more likely to die from the inoculation than to die from COVID if not vaccinated.
- Those aged 18 to 29, are 16 times more likely to die from COVID vaccination than to prevent one COVID death and are 8 times more likely to die from vaccination than to die from COVID if not vaccinated.

- Those aged 30 to 39, are 15 times more likely to die from COVID inoculation than to prevent one COVID death, and 7 times more likely to die from the inoculation than to die from COVID COVID if not vaccinated.
- Those aged 40 to 49, are 9 times more likely to die from the COVID inoculation than likely to prevent one COVID death in this age group, and 5 times more likely to die from the inoculation than to die from COVID if not vaccinated.
- Those aged 50 to 59, are twice (2 times) more likely to die from the COVID inoculation than to prevent one COVID death and are slightly more likely to die from the inoculation than to die from COVID if not vaccinated.
- Those aged 60 to 79, are virtually equally likely to die from the COVID inoculation as to prevent one COVID death or die from COVID if not vaccinated.
- Those aged 80+ are 0.13% less likely to die from the COVID inoculation than to die from COVID if not vaccinated.

5. Conclusion

The benefits of vaccination against COVID-19 have not lived up to expectations. There has been a rapid drop in vaccine-induced antibody levels over time [7] and the rapid emergence of SARS-CoV-2 variants that are resistant to the vaccinal antibodies to the spike protein [8]. When COVID-19 death data by vaccination status from early 2022 are analyzed to estimate the degree of protection from mortality afforded to the vaccinated population, the protection from COVID-19 death falls far short of the risk of dying from the vaccine, for anyone below 50 years old.

With Omicron now the dominant strain, the vaccinated population are still catching the disease in large numbers and spreading it. The mRNA vaccines were designed to target the original SARS-CoV-2 strain, and the arrival of variants like Delta and Omicron have changed the risk/benefit ratio. With such a large percentage of the population catching omicron and recovering, we now have a much larger base of

a naturally resistant population, whose immunity is much longer lasting and robust than that achieved with the vaccine [10]. With Omicron being both less deadly and more resistant to vaccine antibodies, the benefits of vaccination are further weakened, while the risks of dying from the vaccine remain unaltered. Even if we roll out new versions of the vaccines, the virus will continue to mutate in a futile cat-and-mouse game.

According to the data analysis presented in this paper, all age cohorts under 50 years old are at greater risk (from 5 to 51 times higher) of vaccine-induced fatality within the same or subsequent month of receiving a COVID-19 inoculation than they are at risk of a COVID-19 death within 60 days of a positive test if unvaccinated. All age cohorts have less than ¼ of 1% benefit of absolute risk reduction of a COVID-19 death from receiving a COVID-19 inoculation. Children under age 18 years have 51 times higher chance of fatality after a COVID inoculation than risk of dying from COVID if unvaccinated. Vaccinations in the under 18 age group are more likely to increase the number of COVID deaths in this age group rather than prevent any. Young adults age 18 to 29 have an 8 times higher risk of fatality from the inoculation than from COVID if not inoculated. This analysis is conservative because it ignores the inoculation-induced risk increases of later fatalities and shortened life spans from thrombosis, myocarditis, Bell's palsy, and other known vaccine-induced injuries and ignores the 90% or more decreases in risk of COVID-19 death if early, effective treatments were provided to all symptomatic high-risk persons [5,9]. Mandates of COVID inoculations are ill-advised because the alleged vaccines result in higher death rates than COVID itself.

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APPENDIX A: Method Used to Calculate Age-Stratified Vaccine Fatality Rates

COVID vaccination and age-stratified all-cause mortality risk. By Pantazatos and Seligmann

2.2 This section explains the derivation of age-stratified Vaccine Fatality Rates (aVFRs) that were calculated by Pantazatos and Seligmann shown in the table to the left. Pantazatos and Seligmann's goal was to use publicly available data sources to test whether variation in vaccination dosage rates in the same or previous month predicts or correlates with regional variation in age-stratified mortality. US Census and CDC data allows for such estimates at a monthly temporal resolution. Data from January 1, 2021 through August 31, 2021 was used to predict the total # deaths in the months of February through August 2021.

Death within 28 days of positive COVID-19 test between week 51 2021 and week 02 2022 (16 Jan 2022)	**Vaccine Fatality Rate from "*COVID vaccination and age-stratified all-cause mortality risk*" Source 3**
under 18	0.0040%
18 to 29	0.0050%
30 to 39	0.0090%
40 to 49	0.0170%
50 to 59	0.0160%
60 to 69	0.0260%
70 to 79	0.0480%
80 or older	0.0575%

Data Sources: All data were obtained from the US CDC or US Census Bureau. The authors have made the preprocessed tables of data available on https://github.com/spiropan/CoVFR .

Vaccination rates across time in US states were obtained from COVID-19 Vaccinations in the United States, Jurisdiction | Data | Centers for Disease Control and Prevention [Internet]. [cited 2021 Oct 1]. Available from: https://data.cdc.gov/Vaccinations/COVID-19-Vaccinations-in-the-United-States-Jurisdi/unskb7fc

Total deaths per month by age group for each US state were extracted from Provisional COVID-19 Deaths by Sex and Age | Data | Centers for Disease Control and Prevention [Internet]. [cited 2021 Oct 1]. Available from: https://data.cdc.gov/NCHS/Provisional-COVID-19-Deaths-by-Sex-and-Age/9bhg-hcku

Age stratified total populations per US state in 2019 were obtained from Bureau UC. 2019 Population Estimates by Age, Sex, Race and Hispanic Origin [Internet]. The United States Census Bureau. [cited 2021 Oct 1]. Available from: https://www.census.gov/newsroom/press-kits/2020/population-estimates-detailed.html

2.3 Estimation of Models by Pantazatos and Seligmann

For 7 months (February through August) and 8 age groups (0-17, 18-29, 30-39, 40-49, 50-64, 65-74, 75-84, >85 years) 56 models were estimated using data as available from all US states.

$$log(Y21\_deaths) = \beta_0 + \beta_1 \log(\text{Y20\_deaths}) + \beta_2 \log(\text{Vax}) + \varepsilon \qquad (1)$$

Where *Y21_deaths* and *Y20_deaths* are the number of total deaths for that month in year 2021 and 2020, respectively, and *Vax* is the number of vaccine doses administered in the previous or current month. The model is an ANCOVA model that adjusts for baseline outcomes using Y20 monthly deaths and predicting post-vaccination Y21 monthly deaths using robust regression corrected for multiple comparisons using the Benjamini-Hochberg False Discovery Rate (FDR) correction. For the 56 regressions and resulting p-values in 15 of the models the beta coefficient (β_2) for the vaccine term for that month and age group was positive and significant at $p < 0.05$, FDR corrected. Two (2) of these significant regressions predicted deaths in the 75-84 and 85+ age categories using vaccination dosages for >65 year old; seven (7) of these significant regressions predicted deaths in the same months as vaccinations for younger groups age 18 to 49. There were no significant coefficients with negative (β_2) beta coefficients. Thus, all significant results showed a positive relationship of prior or same month vaccine doses with predicted monthly all-cause deaths. In older age groups, the correlations were strongest in the beginning of the year when the vaccination campaign first targeted nursing homes and older age groups. In younger ages correlations were stronger later in the year when the younger age groups became eligible for vaccination. The image shown to the left shows the table of significant FDR corrected beta coefficient (β_2) highlighted in yellow. By adjusting for the number of deaths in the same month during the previous year, age-stratified population size differences, seasonal effects on mortality and state-to-state variability in mortality due to other factors were controlled for. Standard least-squares linear regression using MATLAB's tool, glmfit, was also applied for cases where results from robust regression could not be determined. To control for deaths due to COVID, regressions were also run to predict non-COVID deaths and an additional set of analyses that include COVID case numbers in previous month as a nuisance regressor yielded largely similar results (Supplementary Table S5).

Table 2. Summary of results of robust regression using monthly increases in vaccination to predict subsequent month deaths in US CDC Data. For each month in 2021, beta weights and uncorrected p-values are listed for the vaccination (b2) term in the GLM equation: log(Total Deaths Y21) ~ b0+b1*log(Total Deaths Y20) + b2*log(vaccine doses administered previous month) across all US states with available data for that month and age group (~42-52 states for each regression). Yellow indicates positive slopes with p-values < 0.05 FDR corrected.

Ages	February		March		April		May		June		July		August	
	beta	*pval*	*beta*	*pval*	*beta*	*pval*	*beta*	*pval*	*beta*	*pval*	*beta*	*pval*	*beta*	*pval*
0-17	**0.12**	0.2145	**0.01**	0.9192	**-0.03**	0.7727	**0.08**	0.164	**0.04**	0.4979	**0.25**	0.0004	**0.72**	0.0015
18-29	**0.12**	0.282	**0.07**	0.4607	**0.00**	0.9828	**0.24**	0.0006	**0.17**	0.0017	**0.42**	0.0007	**0.47**	0.0187
30-39	**0.11**	0.1956	**0.12**	0.2716	**0.06**	0.5532	**0.13**	0.0613	**0.15**	0.0027	**0.34**	0.006	**0.41**	0
40-49	**0.16**	0.0832	**0.09**	0.146	**0.10**	0.2631	**0.03**	0.6951	**0.05**	0.2599	**0.28**	0.0004	**0.40**	0
50-64	**0.07**	0.2946	**-0.03**	0.5487	**0.03**	0.6703	**-0.03**	0.6104	**0.03**	0.5088	**0.02**	0.6669	**0.06**	0.726
65-74	**0.05**	0.5296	**0.00**	0.9752	**0.03**	0.7672	**0.03**	0.628	**-0.03**	0.4472	**0.03**	0.5518	**0.13**	0.3314
75-84	**0.08**	0.1995	**0.04**	0.3463	**0.66**	0	**0.05**	0.4973	**-0.02**	0.6506	**0.08**	0.2925	**0.07**	0.5904
85-plus	**0.15**	0.0001	**0.18**	0.0004	**0.70**	0	**0.20**	0.0037	**-0.01**	0.7658	**0.06**	0.4708	**-0.04**	0.7079

Supplementary Table S5. Same as main text Table 2, except models adjust for previous month COVID cases. For each month in 2021, beta weights and uncorrected p-values are listed for the vaccination (b3) term in the GLM equation: log(Total Deaths Y21) ~ b0+b1*log(Total Deaths Y20) + b2*log(previous month COVID cases)+b3*log(vaccine doses administered previous month) across all US states with available data for that month and age group (~42-52 states for each regression). Yellow indicates positive slopes with p-values < 0.05 FDR corrected.

Ages	February		March		April		May		June		July		August	
	beta	*pval*	*beta*	*pval*	*beta*	*pval*	*beta*	*pval*	*beta*	*pval*	*beta*	*pval*	*beta*	*pval*
0-17	**0.20**	0.0804	**-0.04**	0.788	**-0.06**	0.7097	**0.08**	0.3919	**0.15**	0.0781	**0.25**	0.0006	**0.85**	0.0002
18-29	**0.05**	0.67	**0.02**	0.8675	**0.08**	0.5718	**0.35**	0.0022	**0.17**	0.0087	**0.43**	0.001	**0.48**	0.0245
30-39	**0.10**	0.236	**0.11**	0.3307	**0.12**	0.3057	**0.22**	0.0246	**0.06**	0.2361	**0.18**	0.0338	**0.43**	0.0001
40-49	**0.04**	0.5992	**0.10**	0.1467	**0.31**	0.0066	**0.04**	0.6619	**-0.01**	0.8911	**0.25**	0.0011	**0.33**	0
50-64	**0.01**	0.8772	**-0.05**	0.3089	**0.07**	0.4449	**-0.03**	0.7569	**-0.01**	0.8857	**0.00**	0.9619	**0.06**	0.7524
65-74	**-0.03**	0.6456	**-0.01**	0.7956	**0.55**	0	**0.06**	0.5136	**-0.06**	0.2174	**0.04**	0.4281	**0.14**	0.3689
75-84	**0.00**	0.9792	**0.03**	0.5138	**0.74**	0	**0.09**	0.313	**-0.04**	0.4667	**0.08**	0.3745	**0.10**	0.4944
85-plus	**0.08**	0.0421	**0.18**	0.0011	**0.80**	0	**0.20**	0.0065	**-0.02**	0.6827	**0.06**	0.5826	**0.09**	0.5876

2.4 Method: Estimate the Number of Deaths Attributed to COVID Vaccination from Regression:

The estimated models having beta (β_2) weights that were significant at $p < 0.05$, FDR corrected, were used to estimate death counts for months and age groups. For each state, model predictions for increases in deaths due to a 10% increase in vaccination doses was estimated using each state's Y20 death data and vaccine doses administered in the same state. The predicted increases in deaths were summed across all states and then divided by $1/10^{th}$ or 10% of the sum of the vaccine doses administered across those states to estimate an age-specific vaccine-attributed fatality rate (aVFR). The formulas are shown here:

$$log(\hat{Y}_1) = \beta_0 + \beta_1 \log(\text{Y20\_deaths}_1) + \beta_2 \log(\text{Vax}_1) + \varepsilon \quad (2)$$

$$log(\hat{Y}_2) = \beta_0 + \beta_1 \log(\text{Y20\_deaths}_1) + \beta_2 \log(\text{Vax}_1 \cdot 1.1) + \varepsilon \quad (3)$$

Solving for $\hat{Y}_2$ yields:

$$\hat{Y}_2 = \hat{Y}_1 * e^{\beta_2 log(1.1)} \quad (4)$$

$$aVFR \approx \left(\frac{\sum_{k=1}^{N} \hat{Y}_2^k - \hat{Y}_1^k}{\sum_{k=1}^{N} 0.1 \cdot Vax_1^k} \right) \quad (5)$$

The aVFR was multiplied by the total number of vaccinations used in each regression model that survived the applied significance threshold in the US during the month to arrive at an estimated death count attributed to vaccines for each month and age group. The values are then used to populate the cells in Table 3.

Table 3. Model-estimated deaths attributed to COVID vaccination for each age group and month using US CDC data. Significant beta weight coefficients (β_2) in Table 2 surviving p<0.05 FDR corrected were used to estimate VFR and total deaths for each age group and month. If a model using same (not previous) month vaccinations was significant and the equivalent models using previous month was not, then death estimates from those models were used instead (light gray boxes). Similarly, if a model using age-specific vaccination (i.e. doses administered to people >65 yrs) was significant and the equivalent model using all vaccine doses administered was not, then death estimates from those models were used instead (dark gray boxes). See methods for VFR and aVFR definitions and calculations. ns=not significant at p<0.05 FDR corrected. NA=Not available.

Model-estimated deaths										
Ages	**Jan**	**Feb**	**March**	**April**	**May**	**June**	**July**	**Aug**	**Totals**	**aVFR (%)**
0-17	NA	ns	ns	ns	ns	ns	648	1,227	1,875	0.004
18-29	NA	ns	ns	ns	1,355	861	2,139	ns	4,355	0.005
30-39	NA	ns	ns	ns	ns	1,101	2,422	2,567	6,090	0.009
40-49	NA	ns	ns	ns	ns	ns	3,067	3,979	7,046	0.017
50-64	NA	ns	ns	ns	ns	ns	ns	ns	0	0.016*
65-74	NA	ns	ns	ns	ns	ns	ns	ns	0	0.036*
75-84	NA	ns	ns	41,316	ns	ns	ns	ns	41,316	0.060
85-plus	NA	11,613	13,181	48,186	13,326	ns	ns	ns	86,306	0.055
								Total	**146,988**	
# Vaccine dose administered										
Vax all ages	2.65E+07	4.60E+07	7.63E+07	8.94E+07	5.25E+07	3.15E+07	1.82E+07	2.46E+07	**364,881,402**	
Vax >65 yrs	NA	NA	NA	1.40E+07	4.83E+06	3.05E+06	1.90E+06	2.83E+06	**26,584,086**	
Vax <65 yrs	NA	NA	NA	7.54E+07	4.77E+07	2.84E+07	1.63E+07	2.17E+07	**189,500,231**	
								VFR	0.04%	
Light gray indicates models estimated using same, not previous, month vaccinations										
Dark gray indicates models estimated using vaccines administered > ages 65										
Light blue indicates significant results when predicting deaths in ages <1 years. Model estimated 667 infant deaths (see Supplementary Results).										
*Robust regression did not yield significant results in these age groups. Thus these estimates were derived from results of standard least-squares regression.										

COVID vaccination and age-stratified all-cause mortality risk. p. 20, table 3. Pantazatos and Seligmann[1]

[1] https://www.researchgate.net/profile/Spiro-Pantazatos/publication/355581860_COVID_vaccination_and_age-stratified_all-cause_mortality_risk/

2.5 A causal link to vaccination was established by:

(1) Temporal precedence or Granger causality analysis;

(2) Total deaths due to vaccine status are similar to independent estimates using data-driven, credible assumptions about VAERS underreporting bias [6];

(3) COVID case rates in previous months do not explain the findings; results were largely similar when cases were included in the regressions;

(4) Vaccination rates predict mortality in younger age groups where COVID deaths are much rarer;

(5) Existing vaccine surveillance studies showing contrary results contain critical errors and issues;

(6) Results show an age-related temporal pattern consistent with vaccination campaigns that first targeted nursing homes and older age groups; and

(7) Results comport with the volume and nature of responses to social media posts, FDA dockets for solicited public comments and websites created to give voice to vaccine injured.

2.6 Findings from *COVID vaccination and age-stratified all-cause mortality risk*. By Spiro Pantazatos and Herve Seligmann

Regional variation in vaccination rates predicts mortality in subsequent periods. COVID vaccination rates predict higher mortality. Estimates are based only on significant effects, and hence likely represent a lower bound on vaccine-associated all-cause fatality. Severe adverse reactions to the COVID vaccines appear to be mediated in part by cytotoxicity of the spike protein and its cleaving from transfected cells and biodistribution in organs outside the injection site. Vaccination may also contribute to higher COVID infection fatality rates before vaccination protection kicks in and again after full protection wears off due to antibody dependent enhancement (ADE). These calculations do not rely on VAERS data and suggest the CDC reported VFR of 0.002% means vaccine-associated deaths are under-reported to VAERS by a factor of 20. The majority of deaths in < 18 years age occur in infants < 1 years, and a significant effect of vaccination on infant mortality was detected. The observed effects may relate to abnormally high mortalities around delivery in pregnant women. There is no evidence that vaccines reduce community spread and transmission. Thus, vaccine mandates are not based on sound science and are ill-advised.

Existing safety and surveillance studies relying on Vaccine Trial Data and Vaccine Safety Datalink are not designed to reliably estimate COVID vaccine-induced death risks. For example, data has been withheld; its authors received funding from vaccine manufacturers; control groups were vaccinated within a few months eliminating long-term safety data; adverse events were compared between two vaccinated groups rather than between vaccinated and unvaccinated groups; and the data, e.g. Vaccine Safety Datalink, is not publicly accessible. The taboo on discussing vaccine-induced injury and death needs to be lifted.

APPENDIX B: UK OFFICIAL SOURCES

Source 1: UK COVID-19 Health Security Agency. Vaccine Surveillance Report - Week 6 ending 6 February 2022, Table 12b, [4,p.43]

(b)

Death within 60 days of positive COVID-19 test by date of death between week 2 2022 (w/e 16 January 2022) and week 5 2022 (w/e 6 February 2022)	Total**	Unlinked*	Not vaccinated	Received one dose (1 to 20 days before specimen date)	Received one dose, ≥21 days before specimen date	Second dose ≥14 days before specimen date[1]	Third dose ≥14 days before specimen date[1]
	[This data should be interpreted with caution. See information below in footnote about the correct interpretation of these figures]						
Under 18	12	0	8	0	2	2	0
18 to 29	42	1	19	0	1	15	6
30 to 39	86	1	36	0	6	32	11
40 to 49	167	2	56	0	15	54	40
50 to 59	408	9	121	1	30	138	109
60 to 69	780	6	197	1	25	258	293
70 to 79	1563	7	249	5	50	454	798
80 or over	4,181	15	391	2	107	1,083	2,583

* Individuals whose NHS numbers were unavailable to link to the NIMS.
** number of deaths of people who had had a positive test result for COVID-19 and either died within 60 days of the first positive test or have COVID-19 mentioned on their death certificate.
[1] In the context of very high vaccine coverage in the population, even with a highly effective vaccine, it is expected that a large proportion of cases, hospitalisations and deaths would occur in vaccinated individuals, simply because a larger proportion of the population are vaccinated than unvaccinated and no vaccine is 100% effective. This is especially true because vaccination has been prioritised in individuals who are more susceptible or more at risk of severe disease. Individuals in risk groups may also be more at risk of hospitalisation or death due to non-COVID-19 causes, and thus may be hospitalised or die with COVID-19 rather than because of COVID-19.

Source 2: Weekly national Influenza and COVID-19 surveillance report Week 6 (up to week 5 data) 10 Febuary 2022, table 9, p. 81

Table 9: Provisional cumulative COVID-19 vaccine uptake by age in England

NATIONAL	People in NIMS cohort	Vaccinated with at least 1 dose		Vaccinated with at least 2 doses		Vaccinated with at least 3 doses	
		Number vaccinated	% vaccine uptake	Number vaccinated	% vaccine uptake	Number vaccinated	% vaccine uptake
Over 80	2,763,730	2,643,616	95.7	2,624,774	95.0	2,510,554	90.8
75 to under 80	2,142,152	2,053,012	95.8	2,037,709	95.1	1,971,178	92.0
70 to under 75	2,852,363	2,702,955	94.8	2,679,271	93.9	2,578,493	90.4
65 to under 70	2,916,276	2,703,713	92.7	2,671,323	91.6	2,522,721	86.5
60 to under 65	3,507,189	3,192,729	91.0	3,144,655	89.7	2,875,583	82.0
55 to under 60	4,121,585	3,683,678	89.4	3,616,231	87.7	3,205,653	77.8
50 to under 55	4,249,640	3,701,253	87.1	3,616,676	85.1	3,096,829	72.9
45 to under 50	3,999,646	3,312,619	82.8	3,209,997	80.3	2,569,501	64.2
40 to under 45	4,217,136	3,282,823	77.8	3,145,503	74.6	2,344,829	55.6
35 to under 40	4,598,423	3,363,784	73.2	3,177,585	69.1	2,165,165	47.1
30 to under 35	4,849,012	3,384,700	69.8	3,138,342	64.7	1,951,807	40.3
25 to under 30	4,550,951	3,099,753	68.1	2,822,696	62.0	1,603,025	35.2
20 to under 25	4,017,112	2,827,364	70.4	2,505,881	62.4	1,316,827	32.8
18 to under 20	1,385,607	1,014,910	73.2	894,041	64.5	461,571	33.3
16 to under 18	1,375,297	920,721	66.9	659,597	48.0	86,796	6.3
12 to under 16	2,886,908	1,578,267	54.7	562,980	19.5	2,792	0.1
Under 12	8,506,666	114,150	1.3	13,230	0.2	10	0.0
Total*	**62,939,693**	**43,580,862**	**69.2**	**40,520,848**	**64.4**	**31,263,555**	**49.7**