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Reports Of Autopsies In VAERS And Associated Adverse Events Linked To Cause Of Death

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Abstract

Background: Millions of individuals in the United States have reported adverse events (AEs) using the Vaccine Adverse Event Reports System (VAERS) since the roll-out of the COVID-19 injections in 2021.

Methods: VAERS data was used to examine frequency of reporting of AEs linked to autopsy reports since the start of the COVID-19 injectable product (IP) roll-out. COVID-19 IP AE data from 2021-2023 were compared to Influenza vaccine AE data from 2018-2020. The total number of shots administered per product type was calculated and used to determine rates of AEs per million doses. Autopsy reports made in association with COVID-19 IPs were further examined in the context of fetal and child deaths. Geographic locations were mapped according to ratios of autopsies to deaths per state to visualize autopsy reporting rates.

Results: The absolute number of autopsy reports in VAERS for 2021-2023 is 18 times higher (1,714% increase) than the average for 2018-2020. The reporting rate of autopsies (as a % of death reports) for COVID-19 IP decreased significantly ($p = 0.03$) by 77.6% when compared to Influenza vaccines in the same time frame. 69% (N=262) of all COVID-19 IP autopsy-linked reports were associated with cardiovascular AEs, with 11%, 12%, and 16% of these associated with myocarditis, cardiac arrest and pulmonary embolism (PE), respectively. 67% (N=14) of all Influenza autopsy-linked reports were associated with cardiovascular AEs, but only 7% were associated with myocarditis; no autopsy reports involved cardiac arrest or PE. with New York and Utah has the highest autopsy reporting rates at 10.1% and 9.8%.

Conclusions: The large decrease in reporting rate of autopsy as a percentage of death reports, combined with the large increase in absolute counts of autopsy reports in the COVID-19 IP context indicates that there is an unexplained void in the data with regard to autopsy reports. This corresponds to known de-incentivization to perform autopsies during the COVID-19 era due to the alleged danger associated with SARS-CoV-2. A large percentage of autopsy-linked VAERS reports in the context of the COVID-19 IP are linked to myocarditis, cardiac arrest and PE, and suggests that the COVID-19 IPs are deterministic for death due to myocarditis, cardiac arrest, and PE. Confirmation of this theory can, and should have been obtained by way of autopsy.

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Keywords

Adverse Events (AEs), COVID-19, myocarditis; pulmonary embolism (PE), SARS-CoV-2, serious adverse events (SAEs), VAERS

Introduction

Approximately 85% of the United States population has received at least one dose of either BNT162b2 (Pfizer-BioNTech), mRNA-1273 (Moderna), Ad26.COV2.S (Janssen) or Novavax COVID-19 products, according to CDC data as of May 10, 2023 [1,2]. These products had not been fully licensed by the U.S. Food and Drug Administration (FDA) prior to August 23, 2021 [3], and were instead authorized for emergency use by the FDA under an Emergency Use Authorization (EUA) to prevent Coronavirus Disease 2019 (COVID-19) [4,5]. The shots were not approved to reduce transmission or the severity of infection with SARS-CoV-2, thus any emergent AEs temporally-associated with administration of these COVID-19 shots resulting in hospitalization and death tip the risk-benefit ratio toward risk, especially considering that SARS-CoV-2 did not itself pose a risk of death in healthy and young demographics. Tens of thousands of deaths have been reported to VAERS in association with the COVID-19 shots since the roll-out began [6].

An autopsy is generally ordered when the cause of death is not known, if there is a public health concern, foul play is suspected, or is associated with infants [7]. Pharmacovigilance databases such as VAERS are designed to detect safety signals in data submitted as voluntary reports of AEs in the context of pharmaceuticals or biologicals such as vaccines [8,9]. The primary purpose for maintaining the database is to serve as an early warning or signaling system for AEs not detected during pre-market testing, and has been used historically to induce the withdrawal of vaccines from the market due to observed safety issues [10]. In addition, the National Childhood Vaccine Injury Act of 1986 (NCVIA) requires health care providers and vaccine manufacturers to report to the Department of Health and Human Services (DHHS) specific AEs following the administration of vaccines outlined in the Act [8,11]. If safety signals emerge in the context of a particular marketed or EUDed product, such as a sudden cluster of reports of sudden death, death following cardiac arrest without known etiology, or death of an infant, this would provide a reason to order and perform an autopsy. It is a criminal offense to submit a false VAERS report and can result in imprisonment [8].

Vaccine-induced injuries or AEs can be defined as the onset of clinical symptoms that are temporally associated with vaccine/injection administration and in the absence of another known cause [12,13]. A recent study by McCullough *et al*., 2024 revealed that of 325 reports of autopsy as surveyed in the peer-reviewed literature, 240 deaths (73.9%) were found to be “directly due to” the COVID-19 shots. More specifically, the primary causes of death involved cardiovascular defects including sudden cardiac death (35%), pulmonary embolism (12.5%), and myocarditis (7.1%) [14]. Defects in this system, at any level – be it the arterial or venous supply routes, can result in disease states ranging from high blood pressure to myocarditis and are often life-threatening [15-19].

An Adverse Event (AE) is defined as any untoward or unfavorable medical occurrence in a human study participant, including any abnormal physical exam or laboratory finding from autopsy, symptom, or disease, temporally associated with the participants’ involvement in the research, whether or not considered related to participation in the research. A serious or severe adverse event (SAE) is defined as any adverse event that results in death, is life threatening, or places the participant at immediate risk of death from the event as it occurred, requires, or prolongs hospitalization, causes persistent or significant disability or

incapacity, results in congenital anomalies or birth defects, or is another condition which investigators judge to represent significant hazards [8,20]. The VAERS Data Use Guide states that 10-15% of reported AEs are classified as severe for any given set of data [8].

The VAERS coding system uses an international coding system that is used worldwide called the Medical Dictionary for Regulatory Activities (MedDRA) [8,21]. The MedDRA coding system uses key words representing the AEs described in the case report and converts them to standardized codes. The MedDRA codes provided in the VAERS dataset are called the "Preferred Terms." VAERS reports are primarily filed by medical professionals (67%) and can also be filed by family members [21]. Upon individual reporting of AEs, a temporary VAERS ID number is assigned to the individual to preserve confidentiality, and a detailed description of the side effects are transcribed along with the individual's age, residence by state, past medical history, laboratory data, allergies, sex and other details. In addition, the vax lot number, place of injection, and manufacturer details are included in the report. If the VAERS report is "validated" following vetting, a permanent VAERS ID is assigned, and the report is filed in the front-end data set available for download.

Autopsy reports are entered into VAERS as primary or associated AEs when an individual dies in the context of a pharmaceutical or biological intervention. It is often the case that the MedDRA code "Autopsy" is reported only in association with the MedDRA code "Death," with no additional AEs or information indicating potential cause of death. The VAERS Data Use Guide states the following: "Disclaimer: Please note that VAERS staff follow-up on all serious and other selected adverse event reports to obtain additional medical, laboratory, and/or autopsy records to help understand the concern raised." Therefore, if an autopsy was done, it is meant to be recorded in VAERS as an AE. It is possible to use free text fields in VAERS data to more accurately confirm a cause of death, but for the purposes of this study, whether or not an autopsy was ordered is more relevant than ascertaining the cause of death based on the results of the autopsy. This is because it is very difficult to ascertain cause of death using VAERS data [8].

Nonetheless, many autopsies are reported to VAERS in conjunction with AEs associated with cardiovascular anomalies such as myocarditis and pulmonary embolism. Myocarditis is inflammation of the myocardium or "musculature" of the heart [15,16,18,19,22,23]. It has recently been shown that SARS-CoV-2 spike protein can disrupt human pericyte function [24]. Pulmonary Embolism (PE) occurs when a blood clot impairs lung function by blocking an artery. It is commonly associated with shortness of breath, coughing up blood, and chest pain and can be deadly if not quickly ameliorated [25].

Both myocarditis and PE can manifest as chest pain, heart failure, or sudden death [26,27]. Myocarditis is a major risk for cardiac death among the young while PE has highest incidence among individuals 70-80 years old [28,29]. The high-risk age population for myocarditis is from puberty through early 30s, and it is the third leading cause of sudden cardiac death in children and young adults. Four per million children every year were affected by myocarditis before the pandemic, [30,31]. with most cases of myocarditis identified in young adults and with males affected more often than females [32,33], Since the onset of the COVID-19 shot roll-out this rate has become 27 per million according to a recent preprint [34]. In addition, Tom Shimabukuro presented data as part of a 2021 Advisory Committee on Immunization

Practices (ACIP) meeting and demonstrated that the observed rate of myocarditis in boys aged 12-17 was many times more than the expected rate in the context of 2 doses of "mRNA COVID-19 vaccination" [35,36].

Multiple vaccines have been associated with myocarditis in the past, including Influenza and Smallpox, but not to the degree of the COVID-19 IPs [37]. Cases of myocarditis and PE have been reported after SARS-CoV-2 infection before the advent of COVID-19 injections [38-42]. None of these cases resulted in cardiac hospitalization and death, and as a result, myocarditis screening programs for athletes and soldiers were dropped by the end of 2020. In the context of COVID-19 critical illness, multiple studies have reported cardiac injury defined by clusters of ICD codes related to cardiac troponin measurement [43,44]. The incidence of PE is estimated to be approximately 60 to 70 per 100,000 individuals of any general population [29].

The roll-out of COVID-19 injections are actively being monitored by regulatory agencies, but all of the risks are not yet known [45-48]. Recently, the Israeli Ministry of Health announced that approximately 1 in 4,500 men ages 16 to 24 who received BNT162b2 developed myocarditis [49]. In prospective cohort studies with measures before and after the second and third injections, Mansanguan and Buergin reported rates of possible myocarditis of 2.3% and 2.8%, respectively [50,51]. There is great concern regarding a causal link between many AEs - including myocarditis and death - and the COVID-19 IPs, to the degree that revisions to patient and provider fact sheets for the Pfizer and Moderna COVID-19 products include "an increased risk" warning have been made [52-57].

Under-reporting is a known and serious limitation of the VAERS system and as already described, a report of autopsy as an AE cannot be used to directly infer cause of death [8,9,20].

Methods

To analyze the VAERS data the Language and Environment for Statistical Computing, R, was used. Excel was also used to generate some of the figures and to perform chi-square tests of independence. The VAERS data was downloaded as three separate comma separated values (csv) files representing i) general data for each report; ii) the reported AEs or "symptoms"; and iii) injection data including injection manufacturer and lot number, for each VAERS ID. In order to maximize the input variables per individual for analysis, the three files were merged using the VAERS ID as a linking variable. A tally of all VAERS reports of AEs were counted in the context of all vaccines (1990-2020) and the COVID-19 IPs (2021-July 2024) to assess the differences in absolute counts per year. In addition, a timeframe-matched assessment (462 days) was done to compare the differences between the number of AEs and the number of types of AEs with respect to COVID-19 IPs and Influenza products.

For the purposes of comparing potential differences in autopsy reporting, two merged data sets using only domestic data (data sourced from the United States) were created: one comprising data associated with nCoV-2019 products (COVID19 (6) including mono- and bi-valent Moderna and Pfizer/BioNTech products) administered and reported between 2021 and 2023, and one comprising data associated with Influenza vaccines (INFLUENZA (H1N1) (3); INFLUENZA (SEASONAL) (27)) administered and reported from 2018-2020. It is noteworthy that there are 5 times as many Influenza products reported than for COVID-19 in VAERS. The merged data sets were created by filtering according to vaccine name

(VAX_NAME) (COVID19-1 (monovalent) and COVID19-2 (bivalent)) in the case of the former, or FLU products [58] in the case of the latter, and relevant variables were selected including VAERS ID, AEs, age, sex, state, vaccination date, date of death, death, vaccine dose series, vaccine lot number, vaccine manufacturer, hospitalization, emergency department visit and onset date of AEs.

Autopsy reports were filtered out of each merged data set according to whether or not it was reported as an AE or SYMPTOM. As previously stated, Autopsy AEs are filed to VAERS if appropriately reported. The prevalence of pending autopsies in VAERS was assessed for both Influenza and COVID-19 for the respective time frames using the laboratory data (LAB_DATA). The frequency of autopsies to death reports was calculated for each group. Additional details as to the cause of death were queried from free text variables in order to explore whether or not the biological intervention was the cause. Myocarditis, cardiac arrest, and pulmonary embolism as standalone AEs were extracted by keyword, and cardiac events were counted, and were grouped, by extracting multiple keywords according to MedDRA nomenclature [59] Time to death was calculated using the difference in days between the injection date and the onset or death date.

Vaccination and excess mortality data were also downloaded from the Our World in Data database [1]. Rates per million doses were calculated using Our World in Data resources and CDC archive data [1,2].

Results

Adverse Events associated with COVID-19 IPs compared with historical data in VAERS

As of July 2024, 1,002,624 domestic reports have been reported to the VAERS system in the context of the COVID-19 injections for public download. When comparing this number to total number of AE reports filed to VAERS for the past 30 years for all vaccines combined, the number of reports in the context of the COVID-19 injections are disproportionately high (Figure 1). Note that the VAERS reports for 2021 onward are for the COVID-19 injections *only*. The average number of AE reports per year for all injections combined for the past 30 years is 23,356 and during this time period, the number of reports only slightly increased (Figure 1 – grey bars). The increase in AEs has been proportional to the increase in the number of vaccine products the entering the market prior to COVID-19 injections (Supplementary Figure 1).

Timeframe-matched AE counts and AE type counts for COVID-19 IPs and Influenza vaccines

In 2021, for the COVID-19 IPs only, 710,731 reports were filed. Between 2020 and 2021, there was a 1,338% increase in reports. This is not due to the greater number of injections administered as demonstrated by quantitative comparison of the COVID-19 injections and *only* the Influenza injections for a 462-day timeframe: although there were 2.3 times as many COVID-19 products compared with Influenza injections administered in this timeframe.

As shown in Figure 2, there were 6.2 times as many AE types reported by MedDRA code and 118 times as many AE reports. More than 14,000 different AE types by MedDRA code have been reported as of July 2024 following the initial roll-out of the COVID-19 IPs. The number of types of AEs by MedDRA code reported for all other injections combined in 2020 is only 5000.

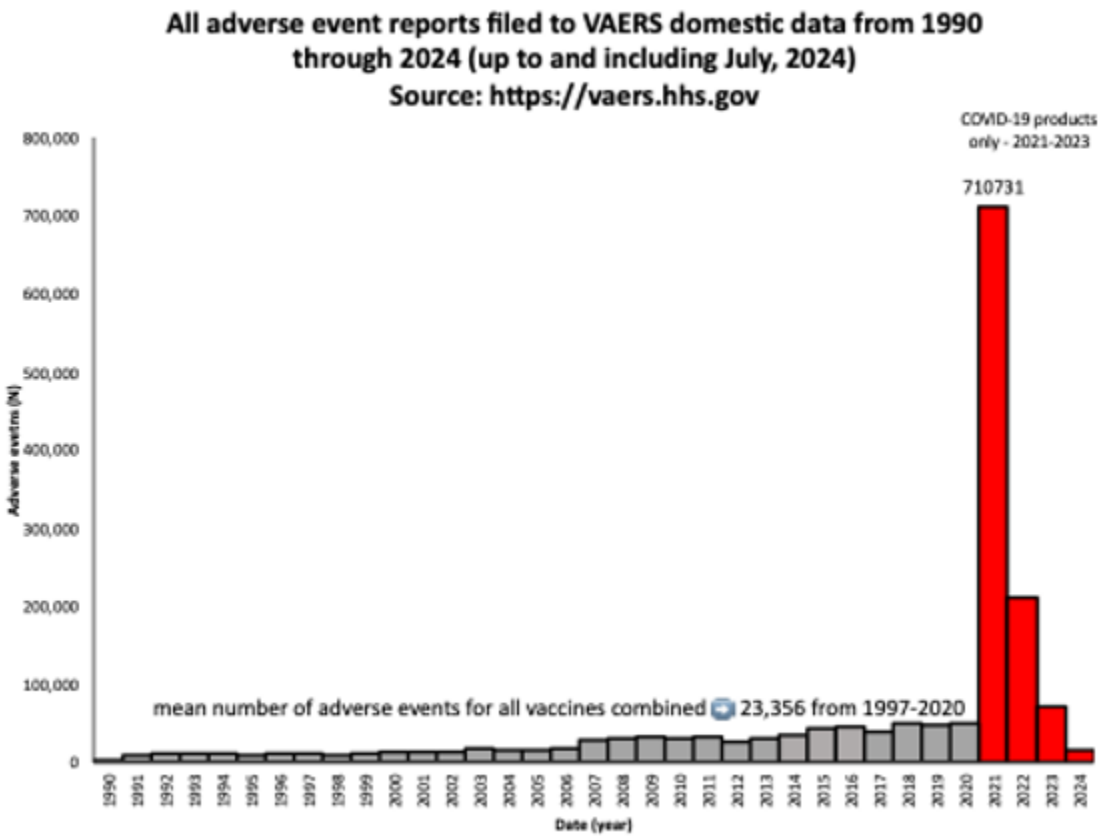

Figure 1. All AEs filed to VAERS domestic data from 1990 through to July 2024. The grey bars represent all vaccines combined and the red bars represent only the COVID-19 IPs.

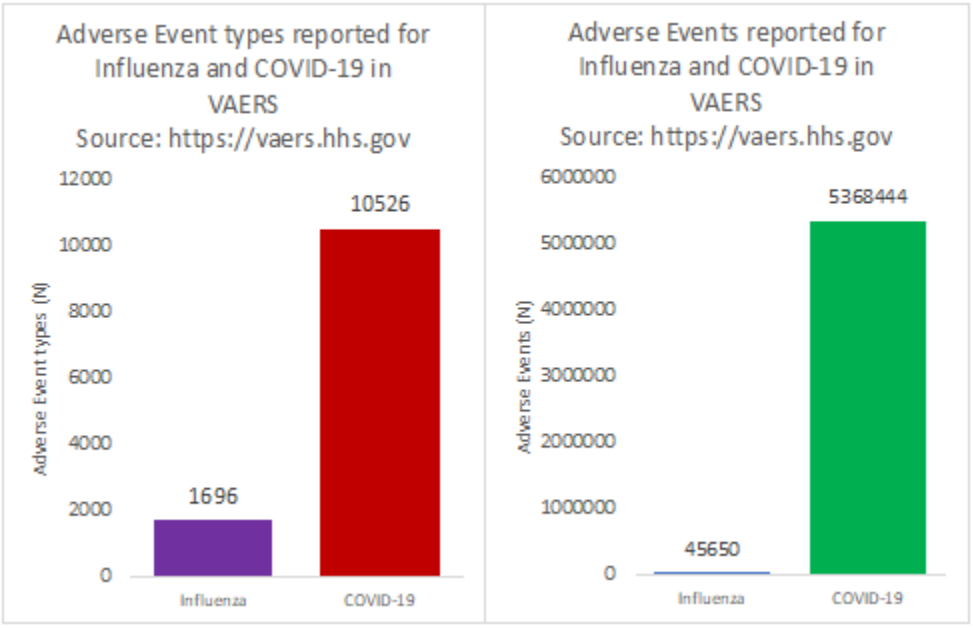

Figure 2. VAERS reports of adverse events by type (left) and absolute count (right) for Influenza vaccines and COVID-19 IPs spanning a 462-day timeframe.

VAERS reports for Influenza vaccines 2018-2020/COVID-19 IPs 2021-2023

The differences in rates of general AEs (per million doses), death (percentage of total AEs), death associated with cardiovascular AEs (percentage of total AEs), and autopsy reports (percentage of death AEs) when comparing COVID-19 IPs (2021-2023) and Influenza vaccines (2018-2020) are shown in Figure 3 and Table 1.

Figure 3 shows the Influenza vaccine and COVID-19 IP data normalized per million doses for the 2018-2020 and 2021-2023 timeframes, respectively. There is an approximate 60 times higher reporting rate for COVID-19 deaths per million shots administered in equal timeframes. If the products were equally associated with death, these rates would also be equal, or at least, comparable. This also proves the conjecture that the anomalously high number of death reports filed to VAERS in the context of the COVID-19 IPs is due to "more shots having been administered," is demonstrably false. The number of deaths per million doses in the COVID-19 shot context is statistically significantly higher ($X2$ (1, N = 862728782) = 5069.5289, $p < 0.00001$).

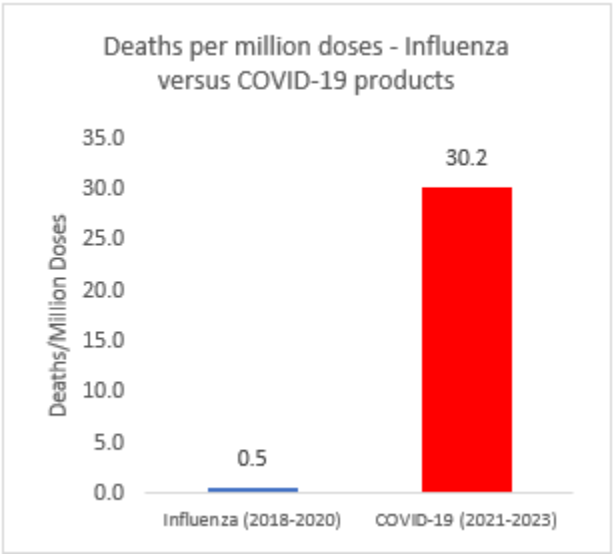

Figure 3. Deaths reported to VAERS per million doses reported by the CDC for Influenza vaccines administered between 2018 and 2020 and COVID-19 IPs administered between 2021 and 2023. https://vaers.hhs.gov; https://covid.cdc.gov/covid-data-tracker/#archived

VAERS data - no under-reporting factor considered	Product	AEs (Rate/million doses administered)	Deaths (% of total AEs)	Deaths associated with cardiovascular AEs (% of deaths)	Autopsies (% of deaths)	Autopsies associated with cardiovascular AEs (% of deaths associated with cardiovascular AEs)
	Influenza (2018-2020)	34213 (69.3)	247 (0.7)	76 (30.8)	21 (8.5)	14 (66.7)
	COVID-19 (2021-2023)	992436 (1466.5)	20425 (2.1)	10577 (51.8)	381 (1.9)	262 (68.8)

Table 1. Descriptive statistics for VAERS data relating to Influenza vaccines (2018-2020) and COVID-19 IPs (2021-2023).

The reporting rate of total AEs per million doses in the context of the COVID-19 shots is 21 times higher than for the Influenza vaccines. More specifically, the percentage of deaths per total AEs is 3 times higher in the COVID-19 shot context. Deaths associated with cardiovascular AEs are 1.7 times higher in the context of the COVID-19 shots with almost half of the deaths co-associated with cardiovascular AEs in the latter context.

Perhaps most interesting, however, are the differences in the rates of autopsy reporting in the context of the percentages of death AEs. Despite the fact that there is a 1,714% increase in absolute count of autopsies in VAERS when comparing Influenza vaccine to COVID-19 IP reports, there is a 77.6% decrease in the rate of autopsy reporting in the context of death reports. This is quite a remarkable finding and begs the question: Why weren't more autopsies ordered in the context of individuals who died within temporal proximity to being administered a COVID-19 IP? To be clear, 24% of all COVID-19 IP-associated deaths reported to VAERS were reported within 7 days of injection as indicated by the difference in days between the injection data and death date recorded in VAERS. Considering that temporality is one of the Bradford Hill criteria for causality, and that this criterion is satisfied, it remains unclear why more autopsies weren't ordered for subsequent entry into VAERS alongside the death report.

Chi-square tests (results significant at $p < 0.05$) confirm statistically significant differences between Influenza and COVID-19 shots with respect to whether or not autopsies were performed subsequent to death ($X2$ (1, $N = 1026649$) = 4.4659, $p = 0.03$). Similarly, chi-square tests confirm statistically significant differences when comparing Influenza and COVID-19 shot death counts ($X2$ (1, $N = 1026649$) = 299.251, $p < 0.00001$). Interestingly, there is no statistically-significant difference between the reports of autopsy with cardiovascular involvement when comparing Influenza and COVID-19 shots ($X2$ (1, $N = 1026649$) = 2.5945, $p < 0.1$). Perhaps the autopsies ordered in the Influenza context should be re-examined as well.

Cause of death assessment from autopsies reported in VAERS

A total of 381 reports of COVID-19 injection-related autopsies were reported to VAERS from 2021 through 2023, and likewise 21 were reported for Influenza from 2018 through 2020. Shockingly, in the latter case, this only represents 1.9% of total death reports filed to VAERS. Of the COVID-19 autopsy reports, 69% involved cardiovascular AEs and likewise for Influenza, 67% involved cardiovascular AEs. As previously stated, myocarditis, cardiac arrest and pulmonary embolism are frequently reported AEs in the context of the COVID-19 IPs and oftentimes in the context of a death report. Of the COVID-19 autopsy reports with associated cardiovascular AEs, 11%, 12%, and 16% were concurrent with myocarditis, cardiac arrest, and pulmonary embolism, respectively. Interestingly, of the Influenza autopsy reports, only 7% were concurrent with myocarditis. There were no reports of cardiac arrest or pulmonary embolism.

The top concurrently reported AEs with COVID-19 autopsy reports are sudden death, pulmonary embolism, and cardiac arrest as shown in Table 2. On the other hand, in the case of the Influenza vaccines, the top concurrently reported AEs are anaphylactic shock, respiratory tract oedema, and tryptase increase (not including "Death" itself). In fact there are 28, 32, 42 and 6 reports of myocarditis, cardiac arrest, pulmonary embolism, and enlarged heart associated with COVID-19 IP autopsy reports, respectively, whereas there is only a single report of myocarditis in the Influenza

vaccine autopsy context.

	COVID_AE1	COVID_AE2	COVID_AE3	COVID_AE4	COVID_AE5	COVID_N	FLU_AE1	FLU_AE2	FLU_AE3	FLU_AE4	FLU_AE5	FLU_N
1	Autopsy	Death	NA	NA	NA	40	Autopsy	Death	NA	NA	NA	3
2	Autopsy	Sudden death	NA	NA	NA	8	Anaphylactic reaction	Autopsy	Death	Respiratory tract oedema	Tryptase increased	2
3	Autopsy	Death	Pulmonary embolism	NA	NA	7	Asthma	Autopsy	Cardio-respiratory arrest	Death	Wheezing	2
4	Autopsy	Cardiac arrest	Death	NA	NA	6	Abnormal behaviour	Autopsy	Completed suicide	NA	NA	1
5	Autopsy	Death	Malaise	NA	NA	5	Acute disseminated encephalomyelitis	Anti-VGCC antibody negative	Anti-ganglioside antibody negative	Anti-muscle specific kinase antibody negative	Antinuclear antibody negative	1
6	Autopsy	Cardiomegaly	Death	NA	NA	3	Acute disseminated encephalomyelitis	Anti-VGCC antibody negative	Anti-muscle specific kinase antibody negative	Antibody test negative	Antinuclear antibody negative	1
7	Autopsy	Death	Intracardiac thrombus	NA	NA	3	Anaphylactic reaction	Autopsy	Cardio-respiratory arrest	Death	Tryptase increased	1
8	Autopsy	Death	Myocardial infarction	NA	NA	3	Anaphylactic reaction	Autopsy	Death	Respiratory failure	Tryptase increased	1

Table 2. Top 8 reported groups of AEs in association with autopsy reports in VAERS for COVID-19 IPs (left) and Influenza vaccines (right).

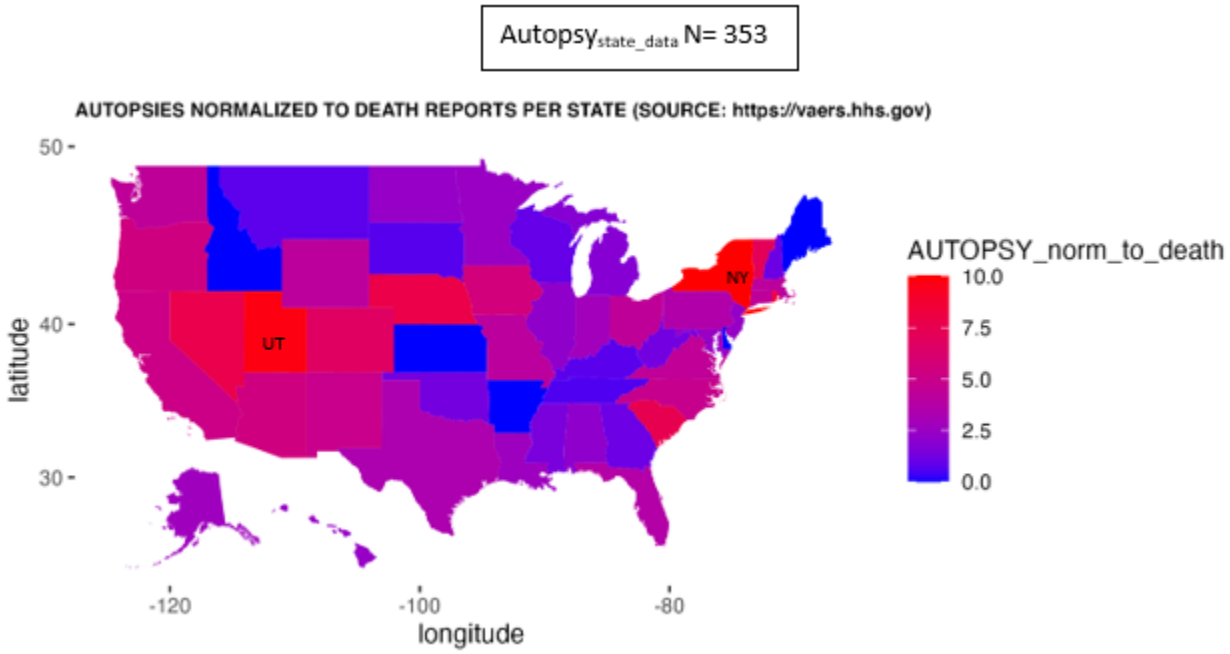

Figure 4. Distribution of autopsies according to percentage performed as per death reports in VAERS per state.

The percentages of people who had autopsies who died are shown per state in the map in Figure 4. New York and Utah were the top 2 states at 10.1% and 9.8%.

As a point of note, if the number of states requesting autopsies in the context of sudden deaths or fetal deaths was higher, we would know more regarding etiology.

Closer examination of COVID-19 IP autopsy reports in miscarriage/still birth context

Many pregnant women are still being told by authorities that they should be injected with COVID-19 IPs despite the fact that SARS-CoV-2 has evolved away from any original potential pathogenicity, and that there is no long-term safety data for pregnant women in the context of these products. This rec-

ommendation is maintained on the CDC website as of July 2024 [58,59]. Reports of "Exposure during pregnancy" or "Maternal exposure during pregnancy" are currently at 5,259 in the VAERS system. Of the 6 autopsy reports in VAERS that involve infants who had autopsies, 2 are pending results as per laboratory data (LAB_DATA). Of the 4 reports with laboratory data, the results of the autopsies were all inconclusive as indicated in Table 3.

VAERS_ID	SYMPTOM_TEXT	LAB_DATA
1033412	20 weeks gestation at time of vaccine administration. Saw OB that morning (1/12/21), normal exam and fetal heart rate. Normal anatomy scan 1/8/21, normal genetic screening. Fetal demise noted at 24 week OB visit on 2/9/21, stillborn baby delivered 2/12/21.	Fetal autopsy pending
1478309	Previous healthy pregnancy with healthy live childbirth Jan 22nd, 2019. Healthy pregnancy, no complications, due May 23rd, 2021. 38 week check-up with OB on Mon May 10th, 2021 - normal, healthy, heard heartbeat ER visit on Wed May 12th, 2021 due to reduced fetal movement detected and ER OB confirmed no fetal heartbeat Stillborn baby girl delivered via induction on Fri May 14th, 2021 Autopsy and Genetic Testing performed and revealed no known cause for fetal demise	Autopsy and Genetic Testing performed and revealed no known cause for fetal demise
1602762	Infant died 10 days after birth	Autopsy is being done, results not back yet
1640972	I was 17 weeks and 2 days pregnant (from an IVF cycle with a donor egg) the day I received the vaccine. My baby stopped growing the same day I received the vaccine - (subsequent ultrasounds showed no growth beyond 17 weeks and 2 days. The baby's heartbeat stopped sometime around one week after the vaccine. I had to get induced on Saturday August 7th and delivered the baby on Sunday August 8th. The reason listed on the autopsy is fetal demise.	8/5/21: Ultrasound showing the baby was measuring 17w2d but should have been at 18w1d, low amniotic fluid around the baby 8/7/21: Ultrasound showed the baby no longer had a heartbeat; followup ultrasound at hospital confirmed fetal demise 8/8/21: Delivered baby; autopsy showed no abnormal structural issues
2036787	Pregnancy resulted in stillbirth at 36 weeks, 6 days gestation. IVF Pregnancy with PGT-A testing. Unremarkable pregnancy with the exception of placenta previa (which resolved at 32 weeks gestation) and slightly elevated MSAFP (3.58 MOM).	No genetic abnormality detected per CMA. Negative: toxoplasmosis, rubella, CMV, herpes, RPR, fetal maternal bleed, lupous anticoagulant, anticardiolipin antibody IgG IgM, Beta 2 glycoprotein 1 IgG and IgM, Factor 5 Leiden. Coagulation testing showed mildly elevated D-dimer and fibrinogen, consistent with pregnancy. Antithrombin III repeat testing normal. Genetic mutation on prothrombin gene 19911G positive, 20210A negative. Placental pathology - small for term pregnancy, moderate acute chorioamnionitis Fetal autopsy - no congenital abnormalities, no obvious etiology for intrauterine death
2223076	This infant died of a rare heart tumor (left ventricular rhabdomyoma). The mother was vaccinated during pregnancy. The Forensic Pathologist requested VAERS reporting as the mother was vaccinated during pregnancy at 18 wks and at 22 wks (Moderna). It is unclear if there is any correlation between vaccination and tumor development.	Full autopsy; negative COVID-19, negative respiratory panel, and positive Rhino/enterovirus

Table 3. Reports of fetal deaths associated with the COVID-19 IPs where autopsies were ordered and reported to VAERS. Shown are the VAERS_IDs (VAERS_ID), the free text (SYMPTOM_TEXT) and laboratory findings (LAB_DATA), if any. Source: https://vaers.hhs.gov

Of the 4 fetal death reports in VAERS, one report (VAERS_ID: 1640972) states that the baby stopped growing on the day of her COVID-19 shot. It was following the Moderna shot and the dose is unknown. The lab reports indicate that the fetus indeed did not increase in weight the week after injection and also that the amniotic fluid index had decreased. This woman had gotten pregnant via in vitro fertilization (IVF) – a very expensive procedure – and was quite far along in her pregnancy (17 weeks). Another new mother (VAERS_ID: 1602762) had her infant die 10 days after birth 45 days after her Moderna shot. However, the US vaccine schedule usually includes the HepB 12-24 hours post birth, Vitamin K, and the RSV mab. This could potentially serve as a confounder since we don't know the actual vaccination status of the newborn. The dose number is not known. Presumably, based on her VAX_DATE and ONSET_DATE, she got her shot at 8 months pregnant, gave birth, and then 10 days later lost her child. This is the first report of late term injection associated with infant demise I have reported on. In her case, the autopsy results are not "back yet" and it is likely that these results will never see the VAERS database. In any case, the only listed AEs for this woman's report are

"Autopsy," "Exposure during pregnancy," and "Death of relative," so with this data, it is impossible to assess true cause of death.

The tragedy here cannot be over-expressed.

Closer examination of COVID-19 IP autopsy reports in childhood context

Of the 7 children listed in VAERS with autopsy reports, there are 3 that indicate "idiopathic" myocarditis as the cause of death. Something induced myocarditis in these children and in these specific cases, death occurred 6 (2 doses), 3 (2 doses) and 358 (1 dose) days after their last shot of Pfizer IP. In the other 4 cases, there is no data indicative of cause of death.

VAERS_ID	AGE_YRS	NUMDAYS	VAX_DOSE_SERIES	LAB_DATA
1764974	15	6	2	Autopsy report 6/21/2021. Pertinent findings include: no external indication of scalp injury, with small subgaleal hemorrhage over the left occiput; normal epidural, subdural, and subarachnoid evaluations; mildly elevated cardiac mass 420 mg; normal pericardial appearance; normal coronary artery origins from the aorta and free of atherosclerosis; increased left ventricular wall thickness (1.8 cm) and normal right ventricular wall thickness (0.3 cm); normal gross appearance of the endocardium, myocardium, and cardiac valves; small foci of myocardial inflammation of the lateral wall of the left ventricle with myocyte necrosis; negative myocyte disarray; negative toxicology; negative SARS-CoV-2 RT-PCR; Ambry Genetics CardioNext analysis of 92 genes associated with inherited cardiomyopathies and arrhythmias negative for pathologic findings, positive for 2 variants of unknown significance.
1974744	15	177	2	Autopsy conducted through the Medical Examiner, pending final toxicology results.
1975356	7	11	1	COVID pcr negative 12/9/2021
2109625	8	8	2	None by me, but plenty at ER/ICU?..I know they are doing an autopsy.
2454771	12	3	2	Autopsy was performed on 08/03/2022 with findings of myocarditis. SARS-CoV-2 test positive.
2599510	15	358	1	On 10/15/22 CBC - abnormal results Comprehensive metabolic panel - abnormal results Urinalysis - abnormal results UA/microscopy - normal Sodium, serum - abnormal results Monotest - normal Respiratory panel (including COVID-19) - normal Drug screen - normal/negative Autopsy performed 10/16/22 . Toxicology - negative Histology performed Cause of death - idiopathic myocarditis
2726333	15	158	2	Death - no prior medical concerns of athlete. Found in bedroom, no signs of foul play or self-harm. Went to sleep and never woke up. Autopsy performed.

Table 4. Reports of child (<=15 years of age) deaths associated with the COVID-19 IPs where autopsies were ordered and reported to VAERS. Shown are the VAERS_IDs (VAERS_ID), ages (AGE_YRS), the number of days that passed between injection and death (NUMDAYS), the dose number (VAX_DOSE_SERIES) and laboratory findings (LAB_DATA), if any. https://vaers.hhs.gov

Discussion

Autopsies are essential to discovery of cause of death. Considering 24% of the COVID-19 IP-associated deaths reported to VAERS were reported within 7 days of injection, it is not a stretch to question the etiology as being injection-induced. It is also telling that in a cohort of individuals in this study, idiopathic myocarditis was listed as the cause of death following autopsy. Autopsies should, in fact, be a requirement considering the evidences of COVID-19 IP-induced death etiology [60-64] The necessity and importance of autopsy following injection-associated death has been detailed in a publication by Walach, Klement and Aukema in 2021 [65].

The number of autopsy reports in VAERS domestic data following COVID-19 injection spanning 2021-2023 is 18 times higher than for Influenza vaccines for the timeframe spanning 2018-2020. This represents a 1,714% increase in absolute number of reports of autopsy for equal timeframes in the context of 4 COVID-19 products, versus 12 Influenza vaccines. It is as of yet, unexplained, why there is such a discrepancy in the absolute counts of reports of both deaths and autopsies in the COVID-19 IP

context. Perhaps more concerning however, is the 77.6% decrease in the rate of autopsy reporting to VAERS when comparing Influenza vaccines to the COVID-19 IPs. In a time when the importance and relevance of autopsies is so great, one would think that the rate of autopsies ordered in the context of the COVID-19 crisis would be at least as high as for previous vaccine contexts. It is also important to consider for the purposes of this study that many autopsies may have been ordered and not entered into VAERS. It is also worth noting that autopsy reporting for Influenza vaccines and COVID-19 IPs may differ with respect to vigilance in reporting and prominence of knowledge of the system.

The cause of the still births and fetal deaths in the context of the COVID-19 IPs has not been ascertainable by autopsies ordered, according to VAERS data. The etiology must be sought out by asking questions that perhaps we have not been permitted to ask to date, such as: are the COVID-19 shots the cause of these fetal deaths and if so, how? Until we know that the COVID-19 shots did *not* cause these fetal deaths, we cannot assume that they did not play a role. Further investigations should be carried out as to etiology, and more autopsies should be ordered and reported in a transparent way.

Emerging sources of clinical and peer-reviewed data supporting the conclusion that COVID-19 IPs are deterministic for myocarditis, including fatal cases, are growing. Given the very low SARS-CoV-2 infection fatality rate (IFR) in children with robust natural immune responses [66-68], and the presence of effective medical treatment and prevention, [69-73].COVID-19 product injection - especially novel modified mRNA-LNP-based injection - poses more harm to children than theoretical benefit. Considering the plethora of published studies and case studies confirming cardiovascular involvement with death of young people, athletes, and others in the context of a temporal association to injection with a COVID-19 product, deaths associated with cardiovascular AEs must be accurately reported and autopsies ordered [65,74-77]. Because of the spontaneous reporting of events to VAERS, we can assume that the cases reported thus far are not rare, but rather, just the tip of the iceberg. As aforementioned, under-reporting is a known and serious disadvantage of the VAERS system. Thus, VAERS alone without adjustment, cannot be used to estimate population incidence. Based on the 20,425 death reports filed to VAERS as of December 2023, using an under-reporting factor of 31 [78], it is estimated that the actual number of COVID-19 IP-associated deaths in the United States is 633,175.

Safety signals emerging from VAERS were apparent in January of 2021 [78]. Reports of death after product administration should prompt market withdrawal. Historically, there are many examples of biological product recalls. In 2010, rotavirus injections licensed in the U.S were found to contain Porcine circovirus (PCV) type 1 and were subsequently suspended [79]. In 2010, an increased risk of narcolepsy was found following vaccination with a monovalent H1N1 influenza injection that was used in several European countries during the H1N1 influenza pandemic [80]. Between 2005 and 2008, a meningococcal injection was suspected to cause Guillain Barré Syndrome (GBS) [81]. In 1998, an injection designed to prevent rotavirus gastroenteritis was associated with childhood intussusception after being vaccinated [82,83]. Finally, in the early 2000s, a hepatitis B injection product was linked to multiple sclerosis (MS) [84]. This begs the question as to why the high number of reported AEs in VAERS associated with the COVID-19 IP have not prompted recalls.

Children have a negligible risk for COVID-19 [85], and yet they are a high-risk group for myocarditis from COVID-19 IP use [86-88] Cardiac abnormalities have been detected for at least a year after the

initial diagnosis of COVID-19 injection-induced myocarditis [89]. The exact mechanisms of action for induction and progression of COVID-19 injection-induced myocarditis, and death, need to be elucidated to ensure appropriate management of both AEs and products.

Limitations of this study are acknowledged and are based on use of a pharmacovigilance database where reporting of AEs is not mandatory. VAERS data are grossly under-reported due to many reasons, including the lack of clinical recognition of injury in the context of the COVID-19 IPs, frustration with the VAERS online system, and fear of professional reprisal. In addition, and as a specific example, despite myocarditis being the MedDRA code listed in VAERS, the diagnosis of myocarditis requires clinical adjudication in order to be deemed correct. Thus myocarditis may be under-reported even more so. Also limiting with regard to etiology, autopsies don't always reveal the cause of death, and this is more likely to be the case in the COVID-19 era because medical professionals are asking the wrong questions, or rather, not asking the right questions. The very first question a coroner should ask is: "Did the deceased get a COVID-19 shot." The second question should be: "When did they receive their last COVID-19 shot?" Ascertaining the cause and manner of death, wherever possible, should be a priority [90].

Conclusion

This study demonstrates the reduction of autopsy reports in VAERS in the COVID-19 context - a specific product - and the question is: Why? The public was told that these experimental COVID-19 IPs were necessary in order to mitigate a health disaster in humans, and experimental COVID-19 IPs – including ones based on *two* novel technologies (modified mRNA and lipid nanoparticle) [91,92] were rushed to market based on the supposition that we were in an emergency situation [93,94]. If the public are to believe that there was a need to expedite experimental products to vanquish SARS-CoV-2, then the public can also believe that autopsies should also be expedited as well; especially considering the significantly higher rate of death in the context of the COVID-19 IPs when compared to Influenza vaccines alone. Even though autopsies don't always reveal the cause of death, without them, we have no definitive answers at all.

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