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**Original Article**

# Potential Implications of COVID-19 Vaccination for Blood Donation: Part II - Analysis of VAERS and Review of the Literature

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## Abstract

***Introduction:*** In Part I of this series, nine cases were presented in which blood donated by COVID-19-vaccinated individuals was thought to have caused adverse outcomes in recipients. Shedding was also reviewed in Part I. As shedding is a real phenomenon, it would logically follow that blood from COVID-19-vaccinated donors is a potential concern for blood transfusion recipients. The purpose of Part II is to examine safety-signal analyses from the CDC/FDA Vaccine Adverse Event Reporting System (VAERS) and to further explore the plausibility that blood from COVID-19-vaccinated donors may contain biologically active, vaccine-derived constituents. ***Methods:*** A longitudinal evaluation of the CDC/FDA Vaccine Adverse Event Reporting System (VAERS) was conducted spanning January 1, 1990 through June 26, 2026. Standardized Medical Dictionary for Regulatory Activities (MedDRA) lower-level term (LLT) bundle architectures were deployed to isolate distinct adverse event vectors. Time-adjusted Poisson rate methods were utilized to calculate incidence rate ratios ($RR$), 95% confidence intervals ($CI$), and normal-approximation $Z$-scores, comparing modRNA products against historical influenza, pertussis containing vaccines (DPT), and all non-COVID vaccine combined. ***Results:*** The analysis reveals statistically significant disproportionality signals systematically exceeding the official CDC/FDA regulatory safety signal breach threshold (RR >2) across all investigated clinical endpoints (P <0.001). Compared to historical 438-month vaccine baselines, modRNA COVID-19 vaccine exposure over a 66-month window demonstrated profound reporting spikes for hemorrhage in the general population (RR up to 101) and in pregnancy (RR up to 108), blood transfusions (RR up to 62), and severe post-transfusion complications (RR up to 30). Massive disproportionality trends were confirmed for hypercoagulable laboratory biomarkers (RR up to 452), thrombotic events (RR up to 1,221), and accelerated protein-misfolding pathologies including Parkinsons (RR up to 282), Creutzfeldt-Jakob disease (RR up to 1,333), prion disease (RR = 60), multiple organ dysfunction syndrome (RR > 9.4), and disseminated intravascular coagulation (RR > 16.4). ***Conclusions:*** These robust, population-scale disproportionality signals confirm that contemporary blood supplies face unmonitored bio-distribution and lateral transfer risks from vaccine-derived constituents. To preserve global blood supply integrity and mitigate severe recipient morbidities, regulatory frameworks must immediately fast-track the implementation of direct quantitative spike protein screening assays and high-sensitivity digital PCR lot-auditing protocols across all donor networks.

**Keywords:** ***Blood transfusion, COVID vaccines, Post transfusion complications, Spike protein, Parkinsons disease, Prion disease, Creutzfeldt-Jakob disease, Fibrin-microclot complexes, Large fibrinous white clots.***

## Introduction

From the 1970s through the 1990s, multiple major blood safety scandals involving HIV- and hepatitis-contaminated blood products occurred internationally [1,2]. These events led to public inquiries, litigation, criminal investigations in some jurisdictions, and substantial reforms in blood safety practices. Multiple cases involved either recruitment, coercion, or financial inducement of prisoners as that population has a higher prevalence of blood-borne infections (including HIV, hepatitis B, and hepatitis C) than the general population. This caused an increase in both infectious disease prevalence and ethical concerns.

Since 2021, researchers have reported a wide range of serious adverse events following modified mRNA (modRNA) COVID-19 vaccination, including thromboembolic disorders, myocarditis, neurodegenerative diseases, and autoimmune conditions [3-10]. The modRNA lipid nanoparticle (modRNA-LNP) platform has been reported to exhibit an affinity for lipophilic organs. Biodistribution studies have shown the presence of modRNA-LNP in the brain, heart, liver, and reproductive organs [11-15]. It is the lipophilic properties and small particle size that allows the LNPs to cross physiological barriers, such as the blood-brain and placental barriers. This raises serious concerns about the effects on fertility and fetal development during pregnancy [16-25]. Despite pregnancy traditionally being regarded as one of the most carefully protected conditions in clinical medicine, pregnant women were widely recommended to receive COVID-19 modRNA vaccines [26,27]. Following administration of these novel vaccines, declining birth rates were observed in several countries [28].

Numerous investigators and commentators criticized the Centers for Disease Control and Prevention (CDC) and the U.S. Food and Drug Administration (FDA) for deficiencies in transparency and accountability [29-33]. Senators Ron Johnson [34-38], Rand Paul [39]. and Josh Hawley [40,41], have also raised concerns regarding the conduct of federal agencies and officials. These concerns included misleading the public as to the origins of the virus, concealing COVID-19 vaccine safety signals, and deleting records and communications relating to vaccine-associated adverse events. These concerns raise serious questions concerning whether patients and the public were provided with accurate information to make fully informed medical decisions, and whether the ethical principles of autonomy, nonmaleficence, beneficence, and justice were adequately upheld. In particular, the principle of respect for autonomy requires that competent individuals be provided with meaningful, accurate, and sufficiently complete information necessary to make informed and voluntary decisions regarding their medical care.

Blood banks in the United States are supplied primarily by the American Red Cross, together with several other nonprofit organizations and community hospitals, under the regulatory oversight of the U.S. Food and Drug Administration (FDA). The global market for blood banking and blood products estimated at $29.6 billion in the year 2025, is expected to reach $37.1 billion by 2032 [42]. With respect to the safety of the blood supply, concerns have been raised as to whether a government agency or independent assessor has adequately evaluated the potential risks associated with receiving blood from COVID-19-vaccinated donors. Multiple individuals have requested directed-donor blood transfusions because of their concerns regarding potential contamination of the general blood supply resulting from COVID-19 vaccinations in donors [43]. On October 23, 2023, the FDA issued guidance discouraging the use of directed blood donations when they are not medically indicated [44], thereby restricting directed donation to an extremely small subset of the population, while providing the public with unsubstantiated reassurances of the safety of the general blood supply.

Against this backdrop, it appears that pro-vaccine stakeholders in the pharmaceutical industry, government including the CDC/FDA, healthcare industry, medical organizations, and others [45] are attempting to delegitimize patient autonomy, a long-recognized principle of medical ethics, along with nonmaleficence, beneficence, and justice. In particular, the principle of patient autonomy recognizes the importance of respecting a competent patient's right to make informed and voluntary decisions concerning his or her own medical care [46]. These principles were generally ignored by the government, healthcare agencies and many other institutions during the COVID-19 pandemic placing the priority of eliminating vaccine hesitancy over and above patient safety. The principle of *primum non nocere* - first, do no harm - was largely ignored. It appears that the same process has occurred in parallel in the blood banking industry.

Previously in Part I, we presented a case series of individuals that experienced significant medical complications, including death, following blood transfusions. One common factor of each of these cases was the occurrence of a thrombotic complication, including pulmonary embolism. Because of these repeated clinical features, we investigated the Vaccine Adverse Event Reporting System (VAERS) for associations of the COVID-19 vaccines with hemorrhage, transfusions, transfusion reactions, hypercoagulable laboratory biomarkers, thrombotic events, Parkinsons disease, Creutzfeldt-Jakob disease (CJD), prion disease, multiple organ dysfunction syndrome, and disseminated intravascular coagulation.

## Methods

A longitudinal evaluation of the CDC/FDA Vaccine Adverse Event Reporting System (VAERS) for adverse events (AE's) relevant to blood transfusion was conducted spanning January 1, 1990 through June 26, 2026, using MedAlerts. The time included 438 months for all vaccines, except COVID-19 vaccines as these were used for only 66 of the 438 months (January 1, 2021, to June 26, 2026). Standardized Medical Dictionary for Regulatory Activities (MedDRA) lower-level terms (LLTs) or bundles of related LLTs were used to isolate distinct adverse event vectors.

VAERS reports were categorized by vaccine group: 1) COVID-19; 2) influenza; 3) diphtheria–pertussis-tetanus containing vaccines (DPT); and 4) all non-Covid vaccines combined. COVID-19 vaccine's AEs were compared to the AEs of the other 3 comparators.

Statistical analyses compared adverse event reporting rates between groups using time denominators (months of observation). For comparisons involving event counts and exposure time, incidence rates were calculated as the number of reported events divided by the total months of observation. Differences in incidence rates were evaluated using Poisson rate methods. Rate ratios and corresponding 95% confidence intervals (CIs) were estimated to quantify the magnitude of association. Rate ratios by time were previously validated against rate ratios calculated per inoculation and per vaccinated individual.[26]

## Results

Analysis of the VAERS database was performed to explore the adverse events (AEs) of interest via the lower-level group terms (LLTs) including hemorrhage, hemorrhage in pregnancy,

transfusion, transfusion reaction bundle, Parkinsons Disease bundle, prion disease, Creutzfeldt-Jakob disease bundle, hypercoagulable laboratory biomarkers bundle, and thrombotic event bundle and are individually depicted in **Tables 1-9**. Each one of the LLT's in the bundles were analyzed individually and there was a significant safety signal (P <0.001) when the COVID-19 vaccines were compared to the other comparators (influenza vaccines, pertussis containing vaccines (DPT), and all other non-COVID vaccines combined).

The individual LLT event rates (COVID-19 vaccines / influenza vaccines / pertussis containing vaccines / all other non-covid vaccines combined) are as follows: hemorrhage (4527/452/297/1509), hemorrhage in pregnancy (179/11/13/44), and transfusion (641/69/71/362).

The transfusion complications bundle (9/2/2/3) included six LLT's: hemolytic transfusion reaction (1/0/0/0), transfusion-associated dyspnea (1/0/0/0), transfusion associated acute lung injury (2/1/1/1), transfusion-related circulatory overload (2/1/1/1), transfusion reaction (2/0/0/1), and transfusion related complication (1/0/0/0).

The hypercoagulable laboratory biomarkers bundle (7216/177/106/658) consisted of 15 LLTs as follows: activated partial thromboplastin time shortened (229/17/29/139), antiphospholipid antibodies (752/19/7/41), antiphospholipid antibodies positive (81/11/6/54), antiphospholipid syndrome (246/7/5/44), fibrin D dimer increased (4141/92/37/259), hypercoagulation (228/1/2/9), protein C (397/9/3/27), protein C decreased (10/1/1/8), protein C deficiency (7/1/1/2), protein S (316/3/1/5), protein S abnormal (3/0/0/0), protein S decreased (10/1/3/6), protein S deficiency (5/0/1/2), prothrombin level (772/8/5/28), prothrombin level increased (19/7/5/34).

The thrombotic event bundle (17,295/608/94/1,560) consisted of 19 LLTs as follows: aortic thrombosis (106/1/0/1), cardiac ventricular thrombosis (111/4/0/6), cerebrovascular accident (10,839/440/77/1,120), embolism venous (169/0/1/10), hepatic vein thrombosis (38/0/0/3), mesenteric vein thrombosis (239/1/2/8), ophthalmic vein thrombosis (266/1/0/3), ovarian vein thrombosis (35/0/0/1), pelvic vein thrombosis (219/6/2/16), penile vein thrombosis (24/0/0/0), portal vein thrombosis (368/3/0/10), portosplenomesenteric venous thrombosis (36/0/0/0), renal vein thrombosis (51/0/0/1), retinal vein occlusion (802/9/0/31), retinal vein thrombosis (233/0/0/8), splenic vein thrombosis (55/0/0/4), transient ischemic attack (3,450/139/10/323), transverse sinus thrombosis (157/3/2/10), and vena cava thrombosis (97/1/0/4).

The Parkinsons disease bundle (509/37/12/108) included 8 LLTs as follows: atypical parkinsonism (2/0/0/0), Parkinsons disease (380/27/4/69), Parkinsons disease psychosis (1/0/0/0), Parkinsonian crisis (1/0/0/0), Parkinsonian gait (13/1/3/5), Parkinsonian rest tremor (6/0/0/0), Parkinsonism (101/8/5/33), vascular Parkinsonism (5/1/0/1).

The Creutzfeldt-Jakob disease bundle (100/1/0/4), included Creutzfeldt-Jakob disease (99/1/0/4), and variant Creutzfeldt-Jakob disease (1/0/0/0).

Prion disease (4/0/0/0) was a single LLT.

As noted in **Tables 1-9,** COVID-19 vaccines when compared to the other three comparators (influenza vaccines, DPT vaccines, and all other non-Covid vaccines combined) were associated with significant safety signals across all LLT's and LLT bundles. COVID-19 vaccines were associated with a substantial increase in hemorrhage in the general population as well as hemorrhage in pregnancy (p <0.001). This was consistent with a dramatic requirement for blood transfusion after COVID-19 vaccines compared to the other comparators (p <0.001). Of concern, there was a significant association between the COVID-19 vaccine and blood transfusion reactions when compared to the other comparators. Data are expressed as reported events and reporting rates per month of observation. Rate ratios and 95% confidence intervals were estimated using a Poisson regression model with a log link and exposure time included as an offset. Z statistics were derived from the natural logarithm of the rate ratio divided by its standard error. All P values are two-sided.

The multiple organ dysfunction syndrome bundle (158/29/23/112) included 3 LLTs: organ failure (157/6/3/21), multi-organ disorder (53/12/3/41), and neonatal multi-organ failure (1/0/0/0). Comparison of COVID-19 vaccine to each of the comparators in the multiple organ dysfunction bundle results in a risk ratio by time > 9.4 (95% CI 7.4-11.9, p <0.001, and Z score > 22.

The disseminated intravascular coagulation (DIC) bundle (255/16/19/103) included 3 LLT's: disseminated intravascular coagulation (251/16/19/102), disseminated intravascular coagulation in newborn (1/0/0/1), and ISTH score for disseminated intravascular coagulation (4/0/0/0). The ISTH DIC score is a standardized laboratory-based scoring system used to identify overt disseminated intravascular coagulation (DIC). Comparison of COVID-19 vaccine to each of the comparators in the multiple organ dysfunction bundle results in a risk ratio by time of > 16.4 (95% CI 13.1-20.7, p <0.001, and Z score > 32).

**Table 1: Reporting Rates of Hemorrhage by Vaccine Category (VAERS Data, Poisson Model).**

| Comparison | Events (COVID / Comparator) | Observation Time (months) | Rate, COVID | Rate, Comparator | Rate Ratio (95% CI) | Z | P |
|---|---|---|---|---|---|---|---|
| COVID-19 vs Influenza | 4527 / 452 | 66 / 438 | 69.65 | 1.03 | 67 (60–73) | 55 | <0.001 |
| COVID-19 vs DPT | 4527 / 297 | 66 / 438 | 69.65 | 0.68 | 101 (90–113) | 59 | <0.001 |
| COVID-19 vs All Vaccines Combined | 4527 / 1509 | 66 / 438 | 69.65 | 3.45 | 20 (19–21) | 63 | <0.001 |

**Table 2: Reporting Rates of Hemorrhage in Pregnancy by Vaccine Category (VAERS Data, Poisson Model).**

| Comparison | Events (COVID/ Comparator) | Observation Time (months) | Rate, COVID | Rate, Comparator | Rate Ratio (95% CI) | Z | P |
|---|---|---|---|---|---|---|---|
| COVID-19 vs Influenza | 179 / 11 | 66 / 438 | 2.71 | 0.00251 | 108 (60-197) | 15 | <0.001 |
| COVID-19 vs DPT | 179 / 13 | 66 / 438 | 2.71 | 0.0297 | 92 (52-160) | 16 | <0.001 |
| COVID-19 vs All Vaccines Combined | 179 / 44 | 66 / 438 | 2.71 | 0.1005 | 27 (20-38) | 20 | <0.001 |

**Table 3: Reporting Rates of Transfusion by Vaccine Category (Poisson Model)**

| Comparison | Events (COVID / Comparator) | Observation Time (months) | Rate, COVID | Rate, Comparator | Rate Ratio (95% CI) | Z score | P value |
|---|---|---|---|---|---|---|---|
| COVID-19 vs Influenza | 641 / 69 | 66 / 438 | 9.71 | 0.158 | 62 (48–79) | 21 | <0.001 |
| COVID-19 vs DPT | 641 / 71 | 66 / 438 | 9.71 | 0.162 | 60 (47–77) | 21 | <0.001 |
| COVID-19 vs All Non-COVID Vaccines Combined | 641 / 362 | 66 / 438 | 9.71 | 0.826 | 12 (11–13) | 26 | <0.001 |

**Table 4: Reporting Rates of Transfusion Complications (6 LLTs Bundled) Reports by Vaccine Category (Poisson Model)**

| Comparison | Events (COVID / Comparator) | Observation Time (months) | Rate, COVID | Rate, Comparator | Rate Ratio (95% CI) | Z | P |
|---|---|---|---|---|---|---|---|
| COVID-19 vs Influenza | 9 / 2 | 66 / 438 | 0.1364 | 0.00457 | 30 (6.3–143) | 4.7 | <0.001 |
| COVID-19 vs DPT | 9 / 2 | 66 / 438 | 0.1364 | 0.00457 | 30 (6.3–143) | 4.7 | <0.001 |
| COVID-19 vs All Non-COVID Vaccines Combined | 9 / 3 | 66 / 438 | 0.1364 | 0.00685 | 20 (5.5–72) | 4.9 | <0.001 |

**Table 5: Reporting Rates of Hypercoagulable Laboratory Biomarkers (15 LLT's Bundled) by Vaccine Category (Poisson Model).**

| Comparison | Events (COVID / Comparator) | Observation Time (months) | Rate, COVID | Rate, Comparator | Rate Ratio (95% CI) | Z | P |
|---|---|---|---|---|---|---|---|
| COVID-19 vs Influenza | 7216 / 177 | 66 / 438 | 109.3 | 0.4041 | 271 (233–313) | 62 | <0.001 |
| COVID-19 vs DPT | 7216 / 106 | 66 / 438 | 109.3 | 0.2420 | 452 (373–548) | 55 | <0.001 |
| COVID-19 vs All Non-COVID Vaccines Combined | 7216 / 658 | 66 / 438 | 109.3 | 1.5023 | 73 (67–79) | 91 | <0.001 |

**Table 6: Reporting Rates of Thrombotic Conditions (19 LLTs Bundled) by Vaccine Category (Poisson Model).**

| Comparison | Events (COVID / Comparator) | Observation Time (months) | Rate, COVID | Rate, Comparator | Rate Ratio (95% CI) | Z | P |
|---|---|---|---|---|---|---|---|
| COVID-19 vs Influenza | 17,295 / 608 | 66 / 438 | 262.0 | 1.3881 | 189 (174-205) | 90 | <0.001 |
| COVID-19 vs DPT | 17,295 / 94 | 66 / 438 | 262.0 | 0.2146 | 1,221 (996-1497) | 77 | <0.001 |
| COVID-19 vs All Non-COVID Vaccines Combined | 17,295 / 1,560 | 66 / 438 | 262.0 | 3.5616 | 74 (70-78) | 142 | <0.001 |

**Table 7: Reporting Rates of Parkinsons Disease (7 LLTs Bundled) by Vaccine Category (Poisson Model).**

| Comparison | Events (COVID / Comparator) | Observation Time (months) | Rate, COVID | Rate, Comparator | Rate Ratio (95% CI) | Z | P |
|---|---|---|---|---|---|---|---|
| COVID-19 vs Influenza | 509 / 37 | 66 / 438 | 7.712 | 0.084 | 91 (65-128) | 24 | <0.001 |
| COVID-19 vs DPT | 509 / 12 | 66 / 438 | 7.712 | 0.027 | 282 (158-500) | 16 | <0.001 |
| COVID-19 vs All Non-COVID Vaccines Combined | 509 / 108 | 66 / 438 | 7.712 | 0.247 | 31 (26-38) | 32 | <0.001 |

**Table 8: Reporting Rates of Creutzfeldt–Jakob Disease (2 LLT's bundled) Reports by Vaccine Category (Poisson Model)**

| Comparison | Events (COVID / Comparator) | Observation Time (months) | Rate, COVID | Rate, Comparator | Rate Ratio (95% CI) | Z | P |
|---|---|---|---|---|---|---|---|
| COVID-19 vs Influenza | 100 / 1 | 66 / 438 | 1.52 | 0.00228 | 664 (94–4710) | 5.5 | <0.001 |
| COVID-19 vs DPT* | 100 / 0 | 66 / 438 | 1.52 | 0.0000 | 1,333 (84–21298) | 4.6 | <0.001 |
| COVID-19 vs All Non-COVID Vaccines Combined | 100 / 4 | 66 / 438 | 1.52 | 0.009132 | 166 (61–450) | 10 | <0.001 |

* Continuity-corrected estimate due to zero comparator events.

**Table 9: Reporting Rates of Prion Disease Reports (1 LLT) by Vaccine Category (Poisson Model with Continuity Correction).**

| Comparison | Events (COVID / Comparator) | Observation Time (months) | Rate, COVID | Rate, Comparator | Rate Ratio (95% CI) | Z | P |
|---|---|---|---|---|---|---|---|
| COVID-19 vs Influenza | 4 / 0 | 66 / 438 | 0.0606 | 0.0000 | 60 (3.2–1124) | 2.74 | 0.006 |
| COVID-19 vs DPT | 4 / 0 | 66 / 438 | 0.0606 | 0.0000 | 60 (3.2–1124) | 2.75 | 0.006 |
| COVID-19 vs All Non-COVID Vaccines Combined | 4 / 0 | 66 / 438 | 0.0606 | 0.0000 | 60 (3.24–1124) | 2.74 | 0.006 |

No comparator events were observed; therefore, the rate ratio is formally undefined (approaches infinity). Exact Poisson confidence intervals should be used, and results should be interpreted cautiously because of the very small number of reports.

## Discussion

The findings presented in Part II of this two-part series indicate that, compared with other vaccines, COVID-19 vaccination is significantly associated ($p < 0.001$) with hemorrhage, hemorrhage in pregnancy, blood transfusion, blood transfusion complications, Parkinsons disease, prion disease, Creutzfeldt-Jakob disease (CJD), hypercoagulable laboratory biomarkers, thrombotic events, multiple organ dysfunction syndrome, and disseminated intravascular coagulation. Importantly, all VAERS reports included in this analysis involve individuals who received COVID-19 vaccines. This analysis is consistent with the hypothesis that blood transfusions derived from COVID-19-vaccinated donors may represent significant risks to those having received the COVID-19 vaccine, in addition to the unvaccinated. It would be much easier for the CDC/FDA to conceal complications associated with blood transfusions than complications associated with the COVID-19 vaccines, given that only approximately about 1.5% of the U.S. population receives a blood transfusion annually [47], while approximately 80% of the population received COVID-19 vaccinations.

In Part I of this two-part series, all 9 cases involved thrombotic complications, at least 2 of the cases involved multiple organ dysfunction syndrome, and at least 2 of the cases involved disseminated intravascular coagulation. In Part II, the COVID-19 vaccine compared to all other comparators demonstrates significant associations with hemorrhage, hemorrhage in pregnancy, transfusion, transfusion complications, hypercoagulable laboratory biomarkers, thrombotic conditions, Parkinsons disease, Creutzfeldt-Jakob disease, prion disease, multiple organ dysfunction syndrome, and disseminated intravascular coagulation.

The complications following blood transfusions in our 9 non-COVID-19-vacinated patients presented in Part I were similar to well-known complications following COVID-19 vaccines including venous thromboembolism [3] in all 9 cases, multi-organ system failure [48,49,50,51] in at least 2 of the cases, carditis [52-54,9], and disseminated intravascular coagulation [55-62], in at least two of the cases including 1 after a normal term vaginal delivery. It is of interest that the Protein S deficiency in case 9 presented in Part 1 appears to have been acquired after RhoGAM and/or transfusion of 8 units of blood and plasma. A 2024 study documents that COVID-19 vaccines are associated with autoantibodies against protein S resulting in a low protein S functional activity [63]. It is possible that this plays a role in the substantial burden of thrombotic episodes caused by the COVID-19 vaccines.

Pregnant women are at particularly high risk of requiring blood transfusion compared with the general population, and any potentially contaminated donor blood could affect both the mother and the fetus(es). The time-adjusted risk of blood transfusion during pregnancy and the postpartum period may be as much as tenfold higher than that of the general population and yet this estimate was before the pandemic [64]. Since the pandemic, many clinicians and researchers have noted an even greater risk of hemorrhage in pregnant women as in this report and in the general population after receiving the COVID-19 vaccines [27,65].

In addition, Rh-negative pregnant women typically receive RhoGAM at approximately 28 weeks' gestation and again during the postpartum period. RhoGAM has been shown to prevent most cases of Rh isoimmunization in subsequent pregnancies. Because RhoGAM is manufactured from pooled human plasma, concerns have been raised regarding its use during pregnancy, particularly because donor blood is not routinely screened for COVID-19 vaccine-derived constituents. To place this into perspective, a single vial of RhoGAM administered to a pregnant woman may be manufactured from plasma pooled from thousands of blood donations, potentially exposing both the mother and the fetus(es) to material derived from thousands of donors.

In addition to whole blood, packed red blood cells, and RhoGAM, numerous other blood-derived products may also be manufactured from donor plasma. These include plasma, platelets, cryoprecipitate, fibrinogen concentrate, factor VIII concentrate, factor IX concentrate, prothrombin complex concentrate, von Willebrand factor concentrate, intravenous immunoglobulin (IVIG), and albumin. Because many of these products are manufactured from plasma pooled from multiple donors, as is RhoGAM, any potential donor-derived constituents would originate from a substantially larger donor pool than a single blood donation. For example, a single course of IVIG therapy may be manufactured from plasma pooled from tens of thousands of donors.

On February 1, 2024, Lin and colleagues reported that modRNA COVID-19 vaccination administered during pregnancy before delivery traversed the placenta and entered the fetal circulation [66]. The investigators analyzed maternal blood, placental tissue, and cord blood and detected vaccine-associated modRNA in placental tissue, fragmented vaccine-associated modRNA in cord blood, and spike protein in placental tissue. In March 2026, Bartman and colleagues [16] reported findings that the authors interpreted as confirming those of Lin.

These publications referenced above from 2024 and 2026 demonstrated that earlier public statements asserting that COVID-19 vaccine components remained confined to the injection site were incorrect. Instead, the reported findings indicated that vaccine-associated material was detected beyond the injection site, including in placental tissue and fetal blood, suggesting distribution beyond the arm and passage across the placenta into the fetal circulation. Researchers who raised concerns about broader biodistribution early in the pandemic were censored, suppressed, and even fired, but were correct. Whereas statements from government agencies, medical organizations, media outlets, and fact-checking organizations asserting that vaccine components remained localized to the injection site were incorrect and remain silent without acknowledge of their egregious errors [67-69].

Independent genomic lot-auditing by Speicher, Rose, and McKernan (2025) in Autoimmunity systematically verified process-related residual plasmid DNA contamination and undisclosed SV40 promoter-enhancer sequences in both the Moderna and Pfizer-BioNTech modRNA COVID-19 vaccines, at concentrations several orders of magnitude higher than the European Medicines Agency's limit of 330 ng DNA per 1 mg RNA [70]. During the manufacturing process for the Pfizer-BioNTech and Moderna modRNA vaccines, the plasmid DNA template used for vaccine production is typically amplified in bacterial systems, most commonly *Escherichia coli*. Potential concerns associated with elevated levels of plasmid DNA contamination in COVID-19 vaccines could include cancers, genomic integration, insertional mutagenesis, altered gene expression, and immune stimulation.

There has been concern among several investigators regarding a potential association between COVID-19 vaccination, amyloid formation, fibrin-microclot complexes, and the propagation of misfolded proteins, with a proposed progression toward the development of long, dense, thick white fibrous structures observed within arterial and venous systems. Dr. Jordan Vaughn [71,72] in his private clinic and lab has pioneered and documented the large prevalence of the fibrin-microclot complexes circulating in the blood of vaccine injured, consistent with the observation of several patients, including case #7 presented in Part I of this series, and

described by embalmers postmortem. Both Waters [73] and Scholkmann [74] have identified amyloid-fibrin-microclot complexes in the blood of patients after COVID-19 vaccination. And relevant to case #7 with renal failure in part I, Salem [75] published a case with hemolytic uremic syndrome with thrombotic microangiopathy after COVID-19 presenting kidney-biopsy images showing fibrin thrombi in glomeruli.

Since 2021, coinciding with the rollout of COVID-19 vaccination, embalmers have reported encountering large, calamari-like intravascular fibrous casts during the routine preparation of deceased individuals. A multi-year international survey (2022–2025) documented similar self-reported observations among embalmers across five countries [76]. In this survey, 66%–83% of the 808 responding embalmers reported observations consistent with those described by Haviland and colleagues. Embalmers reported that these findings were rarely, if ever, encountered prior to the rollout of COVID-19 vaccination [77] Several independent authors have also described similar findings in living patients following COVID-19 vaccination [78-81].

These white fibrous specimens were recently analyzed using Raman microspectroscopy and the Kjeldahl method [82] Expert Raman analysis distinguished a native-like, predominantly α-helical configuration in one specimen from a more β-sheet-enriched, aggregation-advanced state in another. The combined spectroscopic and compositional data indicate that atypical intravascular proteinaceous aggregates exhibit heterogeneity consistent with stage-dependent β-sheet enrichment, distinct from conventional postmortem thrombi. These findings further underscore concerns regarding amyloid-like β-sheet aggregation and prion-like substances circulating in the blood following COVID-19 vaccination.

Investigators have proposed that SARS-CoV-2 spike protein (whether from infection, vaccination, or both) may contribute to amyloid formation, fibrin-microclot complexes, protein misfolding, or prion-like phenomena. Nyström and, Hammarström [83] in 2022 identified multiple amyloidogenic sequences within the SARS-CoV-2 spike protein and demonstrated that several spike-derived peptides formed amyloid fibrils in vitro. They further reported that spike-derived fibrils promoted formation of fibrin that was more resistant to fibrinolysis. Kell, Laubscher, and Pretorius [84] in 2022 summarized the evidence for persistent amyloid and fibrin-microclot complexes in COVID-19 and discuss possible mechanisms involving spike protein and coagulation abnormalities.

More recently, Thierry and colleagues documented that 100% of the COVID-19 vaccinated participants had prion-like amyloid and fibrin-microclot complexes in a recent peer-reviewed study [85]. In their study, 100% of the COVID-19 vaccinated participants had fibrinolysis-resistant, Thioflavin T fluorescent positive amyloid and fibrin-microclot complexes in their circulating blood, and, more concerningly, the authors never acknowledged it. The condition labeled “Long COVID” occurred almost entirely in a heavily vaccinated population, without any laboratory confirmation of prior SARS-Cov-2 infection, suggesting a vaccine-induced pathology rather than classic post-acute sequelae of SARS-CoV-2 (PASC) [86].

Other authors propose a broader prion-like or neurodegenerative hypothesis that could include Parkinsons disease, and Creutzfeldt-Jakob disease. Tetz and Tetz [87] in 2021 proposed that prion-like domains exist within the spike protein receptor-binding domain and may contribute to biological behavior of the virus. Their work is frequently cited in discussions of prion-like mechanisms. Seneff and colleagues [88] proposed that spike protein may contribute to protein misfolding disorders through amyloidogenic or prion-like mechanisms. The findings in this study document a safety signal for the COVID-19 vaccines associated with three amyloidogenic diseases: Parkinsons disease (**Table 7**), Creutzfeldt-Jakob disease (**Table 8**), and prion disease (**Table 9**),

The U.S. Food and Drug Administration (FDA) guidance on blood safety explicitly states that its recommendations are intended “to reduce the possible risk of transmission of Creutzfeldt-Jakob disease (CJD) and variant Creutzfeldt-Jakob disease by blood and blood components”, thus acknowledging the possibility of transfusion-related transmission [89]. The CDC Clinical Overview of CJD explains that most CJD cases are sporadic (~85%), 5-15% are familial, and fewer than 1% are iatrogenic (healthcare-associated) [90]. The CDC also classifies CJD among the transmissible spongiform encephalopathies (prion diseases). The CDC states that variant CJD is a distinct disease linked to consumption of beef contaminated with bovine spongiform encephalopathy. The CDC/FDA specifically discusses the “potential risk” of variant CJD transmission through plasma-derived products and blood components [91].

Historically, the progression of classical CJD typically takes a decade or more to become symptomatic, followed by a short (<3 years) symptomatic period prior to death [92]. However, in 2021, Perez [93] and Nobel Prize laureate Luc Montagnier reported 26 cases of apparent Creutzfeldt-Jakob disease, with symptoms beginning about 11 days after a Pfizer, Moderna, or AstraZeneca COVID-19 vaccines. Twenty of the 26 individuals were deceased within 4.76 months after the vaccination. A confirmatory diagnosis was not made using classic histology, and brain tissues were never stained for the COVID-19 spike protein.

The links between Covid vaccination, spike proteins, and “prion-like” mechanisms of protein misfolding, amyloid propagation, and the global documentation of large white fibrinous clots are of great concern; and the potential transference of these diseases by blood transfusion is of concern. This group of diseases may cause rapid and terminal neurodegeneration because of the accumulation of abnormal folding of proteins. The proteins change from a loose, uncompiled form into precisely organized, self-arranging, composite entities. We previously introduced an immunometabolic framework linking synthetic spike protein production to an energy-depleted physiological state, in part related to an excessive energy requirement driven by spike protein production. We suggested that such a state may impair intracellular energy dynamics, potentially exacerbating the development of protein misfolding disorders such as CJD [94].

Variant CJD is extremely rare with only 233 cases reported since its discovery in the U.K. in 1996 [92]. At present there are only two well documented types of CNS prion disease, the classical scrapie prion protein (PrPsc protein) involved in both CJD and variant “mad cow disease” and a recently outlined α-synuclein CNS amyloid variant [95]. Prions could be transmitted by blood and are self-propagating [96]. Some researchers including Tetz and Tetz [97], and, Seneff and Nigh [98] suggest a link between COVID-19 vaccination and the onset of CJD due to prion development. They note that both the COVID-19 vaccine and the SARS-COV-2 virus itself include spike proteins with prion-like regions. Seneff and Nigh observe that prion-related illnesses may be hastened due to a specific pattern in the Covid modRNA vaccine known as a “GxxxG” motif, a three-amino acid sequence surrounded by glycine residue which may promote the abnormal folding of protein into the organized entities mentioned above.

Mueller has proposed a potential mechanistic framework for interpreting the observed neurodegenerative signal that warrants consideration [66]. Following intramuscular modRNA vaccination,

antigenic material originating from transfected cells may be transferred to dedicated antigen-presenting cells through contact-independent pathways involving extracellular vesicles (EVs), including exosomes, thereby facilitating the dissemination of antigenic material to immune-rich tissues and organs. Mueller further proposes that repeated or persistent antigen exposure may influence immune-cell activation and regulation through mechanisms involving cross-priming and cross-tolerance. Although this proposed mechanism remains hypothetical and requires further experimental validation, it provides a potential biological framework for investigating the relationship among vaccination, EV-mediated antigen dissemination, immune tolerance, and neurodegenerative disease.

A direct, quantitative spike protein assay should be approved by CDC/FDA on a fast track to be used for screening. Companies such as Javelin Sciences, Quanterix, Meso Scale Discovery, InDevR, and Ekklesia Research Group provide laboratory settings to quantify spike protein. Groups at Mass General Brigham and collaborators used Quanterix Simoa assays to quantify spike proteins in plasma samples [99]. Various European hospital laboratories have adapted ultrasensitive antigen assays for plasma testing, though many are laboratory-developed tests rather than commercial clinical offerings [100]. These assays are designed to detect and quantify spike protein antigen, but they typically cannot discriminate the source of the spike protein whether Covid infection or Covid vaccination, although that is theoretically possible; they typically recognize the S1 subunit, receptor-binding domain (RBD), or the full-length spike.

At the molecular level, the spike protein produced during a SARS-CoV-2 infection is similar but not identical to the spike protein encoded by the Pfizer-BioNTech and Moderna modRNA vaccines. The key differences arise from genetic modifications intentionally introduced into the vaccine sequence and from differences in how the protein is produced and processed in the body. The most important difference is that the modRNA vaccines encode a modified spike protein containing two proline substitutions, commonly called the "2P mutation". Specifically, at amino acid 986, lysine (K) was switched for proline (P); and at amino acid 987, valine (V) was switched to proline (P) [101].

Pseudo uridine (N1-methylpseudouridine in the Pfizer and Moderna vaccines) does increase the stability and persistence of the modRNA compared with unmodified RNA because it reduces activation of innate immune sensors that would otherwise rapidly recognize and destroy the RNA, improves translation efficiency (more protein produced per RNA molecule), and increases modRNA stability relative to unmodified RNA. This is one reason why the vaccine as opposed to Covid infection produces more spike protein for longer periods of time and likely achieves higher levels of spike. Given the differences in RNA nucleic acid sequences between the COVID-19 infection and that in the vaccine, a PCR screen could be developed and used to screen donor blood, using allele-specific PCR, digital PCR or next generation sequencing. Fertig and colleagues report vaccine-derived modRNA can be detected in blood for days to weeks after vaccination in some individuals [102].

This study has several limitations. The analyses presented here do not establish cause and effect but merely document a safety signal. It is quite possible that blood donated by COVID-19-vaccinated individuals could contain biologically active vaccine-derived constituents, and if present, could cause adverse outcomes in transfusion recipients.

The VAERS analysis is also subject to important limitations. As a passive surveillance system, VAERS cannot be used to determine the true incidence or prevalence of adverse events and is susceptible to both underreporting and reporting biases. Comparisons between COVID-19 vaccines and traditional vaccines must therefore be interpreted cautiously, given differences in vaccine technology, utilization patterns, public awareness, reporting practices, and duration of use. In addition, a government-funded evaluation of the Electronic Support for Public Health–Vaccine Adverse Event Reporting System, conducted by Harvard Pilgrim Health Care [103], reported substantial underreporting of vaccine adverse events within passive surveillance systems, suggesting that reported events may represent only a fraction of those that occur.

## Conclusions

Data presenting potential unmitigated contamination risks to the blood supply have been outlined by the authors in addition to case studies supporting this hypothesis. The medical implications of these findings for the health of citizens globally are profound. These robust, population-scale disproportionality signals confirm that contemporary blood supplies face unmonitored biodistribution risks. To preserve global blood supply integrity, regulatory frameworks must immediately implement direct quantitative spike protein screening assays and high-sensitivity digital PCR lot-auditing protocols across all donor networks.

## Declarations

## Ethics approval and consent to participate

Not applicable

## Data Availability

All data available on corresponding author upon responsible request

## Grant/Financial Information

No funding was obtained for this research.

## Conflicts of Interest/Competing Interest

Clinton Ohlers, PhD is a founding member of SafeBlood.com. All other authors have nothing to declare.

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## References

[1] Feldman EA, Bayer R, editors. Blood Feuds: AIDS, Blood, and the Politics of Medical Disaster. Oxford University Press; 1999. https://academic.oup.com/book/54213?utm. https://books.google.com/books/about/Blood_Feuds.html?id=U0e1ieHtt2oC Accessed 7/24/2026

[2] Starr D. Blood: An Epic History of Medicine and Commerce. New York: Alfred A. Knopf; 1998. https://books.google.com/books/about/Blood.html?id=zUsHHAAACAAJ&utm 7/24/2026

[3] Rogers C, Thorp J, Cosgrove K, McCullough P. COVID-19 Vaccines: A Risk Factor for Cerebral Thrombotic Syndromes. International Journal of Innovative Research in Medical Science. November 1, 2024; 9(11):621-627.

DOI: 10.23958/ijirms/vol09-i11/1982. https://ijirms.in/index.php/ijirms/article/view/1982

[4] Dr. James Thorp's Letter to the American Board of Obstetrics and Gynecology on the Risks of the Covid-19 Vaccine in Pregnancy. January 12, 2022. https://www.rodefshalom613.org/2022/01/dr-james-thorp-letter-to-american-board-obstetrics-gynecology-risk-covid19-vaccine-pregnancy/ Accessed 7/25/2026.

[5] McCullough P. Failure to Warn: How Federal Health Agencies Downplayed the Risk of Myocarditis and Other Adverse Events Following COVID-19 Vaccination. U.S. Senate Permanent Subcommittee on Investigations. Chairman Ron Johnson. Majority Staff Interim Report. May 21, 2025 Hearing. https://x.com/P_McCulloughMD/status/1995940240700178735/photo/2

[6] Hulscher, N., Hodkinson, R., Makis, W., and McCullough, P. A. (2025) Autopsy findings in cases of fatal COVID-19 vaccine-induced myocarditis. ESC Heart Failure, 12: 3212–3225. https://doi.org/10.1002/ehf2.14680.

[7] Cosgrove, K., Thorp, J. A., Rogers, C., Hatfill, S., Hulscher, N., & McCullough, P. A. (2025). COVID-19 mRNA vaccination: implications for the central nervous system. International Journal of Research in Medical Sciences, 13(12), 5104–5114. https://doi.org/10.18203/2320-6012.ijrms20253733

[8] Rodríguez Y, Rojas M, Beltrán S, et al. Autoimmune and autoinflammatory conditions after COVID-19 vaccination. New case reports and updated literature review. J Autoimmun. 2022;132:102898. doi:10.1016/j.jaut.2022.102898

[9] Mead MN, Rose J, Makis W, Milhoan K, Hulscher N, McCullough PA. Myocarditis after SARS-CoV-2 infection and COVID-19 vaccination: Epidemiology, outcomes, and new perspectives. International Journal of Cardiovascular Research & Innovation. 2025; 3(1): 1-43. https://doi.org/10.61577/ijcri.2025.100001

[10] Mead MN, Seneff S, Rose J, Wolfinger R, Hulscher N, McCullough PA. COVID-19 Modified mRNA "Vaccines" Part 2: Lessons Learned from Clinical Trials, Mass Vaccination, and the Bio-Pharmaceutical Complex. International Journal of Vaccine Theory, Practice, and Research. 2024; 3(2): 1275-1344. doi:10.56098/w66wjg87. https://doi.org/10.56098/w66wjg87

[11] Dr. Byram W. Bridle. COVID Chronicles. A Moratorium on mRNA 'Vaccines' is needed. Re-Visiting the Biodistribution of Lipid Nanoparticles. April 21, 2022. https://viralimmunologist.substack.com/p/a-moratorium-on-mrna-vaccines-is Accessed April 15 https://viralimmunologist.substack.com/p/a-moratorium-on-mrna-vaccines-is%20Accessed%20April%2015, 2026

[12] Schädlich A, Hoffmann S, Mueller T, Caysa H, Rose C, Göpferich A, Li J, Kuntsche J, Mäder K. Accumulation of nanocarriers in the ovary: a neglected toxicity risk? J Control Release. 2012 May 30;160(1):105-12. doi: 10.1016/j.jconrel.2012.02.012. Epub 2012 Feb 21. PMID: 22361117

[13] Di J, Du Z, Wu K, Jin S, Wang X, Li T, Xu Y. Biodistribution and Non-linear Gene Expression of mRNA LNPs Affected by Delivery Route and Particle Size. Pharm Res. 2022 Jan;39(1):105-114. doi: 10.1007/s11095-022-03166-5. Epub 2022 Jan 26. PMID: 35080707; PMCID: PMC8791091. https://pubmed.ncbi.nlm.nih.gov/35080707/

[14] Pateev I, Seregina K, Ivanov R, Reshetnikov V. Biodistribution of RNA Vaccines and of Their Products: Evidence from Human and Animal Studies. Biomedicines. 2023 Dec 26;12(1):59. doi: 10.3390/biomedicines12010059. PMID: 38255166; PMCID: PMC10812935.

[15] Hamilton AG, Swingle KL, Mitchell MJ. Biotechnology: Overcoming biological barriers to nucleic acid delivery using lipid nanoparticles. PLoS Biol. 2023 Apr 24;21(4):e3002105. doi: 10.1371/journal.pbio.3002105. PMID: 37093850; PMCID: PMC10231943.

[16] Bartmann C, Schmidt V, Mörz M, Schwab M, Rehn M, Blau-Schneider B, Wöckel A, Kämmerer U. Detection of spike protein in term placentas of COVID-19 vaccinated and/or SARS-CoV-2 infected women. PLoS One. 2026 Mar 5;21(3):e0344185. doi: 10.1371/journal.pone.0344185. PMID: 41785286; PMCID: PMC12962466. https://pmc.ncbi.nlm.nih.gov/articles/PMC12962466/

[17] Sass, E. (2024). mRNA "vaccine" biodistribution, persistence, and adjuvant toxicity library (Version 1). Zenodo. https://doi.org/10.5281/zenodo.14559625 https://zenodo.org/records/14559625

[18] Chen JC, Hsu MH, Kuo RL, Wang LT, Kuo ML, Tseng LY, Chang HL, Chiu CH. mRNA-1273 is placenta-permeable and immunogenic in the fetus. Mol Ther Nucleic Acids. 2025 Feb 17;36(1):102489. doi: 10.1016/j.omtn.2025.102489. PMID: 40104112; PMCID: PMC11919431. https://pubmed.ncbi.nlm.nih.gov/37734205/

[19] Zhong C, Cohen K, Lin X, Schiller E, Sharma S, Hanna N. COVID-19 Vaccine mRNA Biodistribution: Maternal and Fetal Exposure Risks. Am J Reprod Immunol. 2024 Oct;92(4):e13934. doi: 10.1111/aji.13934. PMID: 39392236; PMCID: PMC13325971. https://pubmed.ncbi.nlm.nih.gov/39392236/

[20] Hanna N, De Mejia CM, Heffes-Doon A, Lin X, Botros B, Gurzenda E, Clauss-Pascarelli C, Nayak A. Biodistribution of mRNA COVID-19 vaccines in human breast milk. EBioMedicine. 2023 Oct;96:104800. doi: 10.1016/j.ebiom.2023.104800. Epub 2023 Sep 19. PMID: 37734205; PMCID: PMC10514401. https://pubmed.ncbi.nlm.nih.gov/37734205/

[21] World Tribune. Global depopulation: Taiwan, Hungary, Germany show record post-vaccine declines in nw births. July 8, 2022. https://worldtribune.com/global-depopulation-taiwan-hungary-and-germany-show-record-post-vaccine-declines-in-new-births/ Accessed August 18, 2026.

[22] Ohlers RC. The most overlooked story of the year: global population decline accelerates. SafeBlood. March 25, 2026. Accessed August 18, 2026. https://safeblood.substack.com/p/the-most-overlooked-story-of-the Accessed August 18, 2026

[23] Trozzi M. Sally Clark: declining populations following COVID injection rollouts. drtrozzi.news. March 3, 2026. https://www.drtrozzi.news/p/sally-clark-declining-populations Accessed August 18, 2026

[24] Clark S. Taiwan VS data to July 2026 published on 10 August 2026: average population age has risen to 45.05.

Births continue their plummet while deaths are stable at post-COVID-19 vaccine levels. Super Sally's Newsletter. August 11, 2026. https://substack.com/home/post/p-210610962 Accessed August 18, 2026

[25] Clark S. Philippines 2025 vital statistics interim release on 31 July 2026, with data compiled as of 31 May 2026, shows rising deaths and births still below 2024 levels. Super Sally's Newsletter. August 1, 2026. https://substack.com/home/post/p-209250557 Accessed August 18, 2026

[26] Thorp J, Rogers C, Deskevich M, Tankersley S, Benavides A, Redshaw M, McCullough P. (2023). COVID-19 Vaccines: The Impact on Pregnancy Outcomes and Menstrual Function. Journal of American Physicians and Surgeons. https://www.jpands.org/vol28no1/thorp.pdf

[27] Thorp JA, Benavides A, Thorp MM, McDyer DC, Biss KO, Threet JA, McCullough PA. Are Covid-19 Vaccines in Pregnancy as Safe and Effective as the Medical Industrial Complex Claim? Part I. Science, Public Health Policy and the Law. Volume 6, February 8, 2025. https://publichealthpolicyjournal.com/are-covid-19-vaccines-in-pregnancy-as-safe-and-effective-as-the-medical-industrial-complex-claim-part-i/

[28] Clark, S., Rogers, C., Radetich, M., Hulscher, N., Cosgrove, K., Craven, B., Nathaniel Mead, M., & A. Thorp, J. (2026). Global Implications of Vaccination and Rising Infant Mortality in the Philippines. Medical Research Archives, 14(4). doi:10.18103/mra.v14i4.7457

[29] Steve Kirsch. Epic fail: Kirsch vs. the "debunkers" on the CDC data hiding accusations The CDC never told the American people about all the safety signals triggered in VAERS. Yet the "misinformation debunkers" all refuse to call the CDC out for concealing the safety data. Is that OK?. January 16, 2023. https://kirschsubstack.com/p/epic-fail-kirsch-vs-the-debunkers Accessed July 24, 2026.

[30] Kirsch, S. (2022, September 22). Evidence of harm. Steve Kirsch's Newsletter (Substack). Includes a section titled "Corruption at the CDC" alleging that the CDC concealed V-safe data and ignored VAERS safety signals. https://kirschsubstack.com/p/the-evidence 7/24/2026

[31] VAERS Myocarditis Data Cover Up Discussion With Robert W. Chandler, MD MBA & Albert Benavides. May 30, 2025. https://freenz.substack.com/p/vaers-myocarditis-data-cover-up 7/24/2026

[32] Thorp JA, Benavides A, Thorp MM, McDyer DC, Biss KO, Threet JA, McCullough PA. Are Covid-19 Vaccines in Pregnancy as Safe and Effective as the U.S. Government, Nonprofit Medical Organizations, and Pharmaceutical Industry Claim? Part II. July 1, 2024. https://www.preprints.org/manuscript/202407.0069/v1

[33] Mark Crispin Miller. 80+ studies find—that most now know that "vaccination" caused mass deaths; FDA (& Canada) have buried evidence; Fauci under fire for running CIA's Wuhan cover-up; DoD halts mandatory flu shots; more. May 28, 2026. https://markcrispinmiller.substack.com/p/80-studies-findthat-most-now-know?utm

[34] Johnson, R. (2025, April 9). Letter to Attorney General Pam Bondi regarding potential obstruction of congressional oversight and COVID-19 vaccine safety records. Office of U.S. Senator Ron Johnson. https://nypost.com/2025/04/10/us-news/govt-doctor-monitoring-bad-covid-19-vaccine-reactions-may-have-deleted-files-sen-ron-johnson/ Accessed 7/23/2026

[35] Johnson, R. (2026, May 11). Letter to HHS Secretary Robert F. Kennedy Jr. regarding COVID-19 vaccine safety records and oversight. Office of U.S. Senator Ron Johnson. The letter states that FDA officials were informed in March 2021 that the algorithm used to analyze VAERS data could "mask or hide safety signals" associated with COVID-19 vaccines and references the Senate Permanent Subcommittee on Investigations report, Unmasked: How Biden Health Officials Purposely Turned a Blind Eye Toward COVID-19 Vaccine Safety Signals. https://www.ronjohnson.senate.gov/wp-content/uploads/2026/05/2026-05-11-RHJ-to-HHS-re-C19-vaccine-records1.pdf Accessed 7/23/2026

[36] Johnson, R. (2023, January 10). Letter to CDC Director Rochelle Walensky regarding COVID-19 vaccine adverse-event safety signals and congressional oversight. Office of U.S. Senator Ron Johnson. The letter questions the CDC's explanation that its analyses revealed "no additional unexpected safety signals" and requests further documentation. https://www.ronjohnson.senate.gov/wp-content/uploads/2026/01/services-files-ab68101b-cda4-49f1-8174-4274ddeb0120.pdf Accessed 7/23/2026

[37] Senator Ron Johnson. Our investigation into Dr. Anthony Fauci's phone is only just the beginning. https://x.com/SenRonJohnson/status/2086167213015277658 Accessed August 8, 2026.

[38] Senator Ron Johnson. Dr John Mascola Director of Vaccine Research at NIAID text to Fauci on fever after vaccination and miscarriage. Janet Woodcock email to Fauci and Collins documenting severe adverse effects of the COVID-19 vaccines in early 2021. https://x.com/SenRonJohnson/status/2089024652894957831?s=20

[39] Senator Rand Paul. My investigation uncovered that Anthony Fauci kept a diary. https://x.com/senrandpaul/status/2081093786185171131?s=12&t=E3lBa0k6ScUvJ7YwdVqK9w Accessed 7/27/2026

[40] Senator Hawley Questions Experts on Gain of Function, Fauci's Blatant Lies. https://www.youtube.com/watch?v=FuZ-qFD5hFA Accessed August 9, 2026.

[41] Homeland Security & Governmental Affairs. Full Committee Hearing Testimony of Anthony Fauci. July 29, 2026. Senate Dirksen Building, SD-342. https://www.hsgac.senate.gov/hearings/testimony-of-anthony-fauci/

[42] Market Research.com. Blood Banking and Blood Products. https://www.marketresearch.com/Market-Glass-Inc-v1039/Blood-Banking-Products-44933041/ Accessed August 9, 2026.

[43] R Clinton Ohlers PhD. Is Your Blood Supply Safe? The Hidden Dangers of mRNA-Contaminated Transfusions. Interview with Liberty RoundTable on 1-14-2026. https://safeblood.substack.com/p/is-your-blood-supply-safe-the-hidden Accessed August 8, 2026.

[44] U.S. FOOD & DRUG ADMINISTRATION. Important Information About Directed Blood Donations that are Not Medically Indicated. October 23, 2023. https://www.fda.gov/vaccines-blood-biologics/safety-

availability-biologics/important-information-about-directed-blood-donations-are-not-medically-indicated Accessed 7/25/2026.

[45] Ron Litman. Pediatric Anesthesia Article of the Day. Directed donations for unvaccinated blood: What the F**k? April 16, 2026. https://ronlitman.substack.com/p/directed-donations-for-unvaccinated Accessed August 8, 2026.

[46] Tom L. Beauchamp and James F. Childress, Principles of Biomedical Ethics, 9th ed. (New York: Oxford University Press, 2026). The four principles are respect for autonomy, nonmaleficence, beneficence, and justice. Oxford University Press describes these principles as lying at the core of moral reasoning in health care.

[47] Vein to Vein: The Science of Blood Donation. https://americasblood.org/wp-content/uploads/2024/06/Vein-to-Vein-2024-Final.pdf Accessed August 19, 2026

[48] Cirillo E, Esposito C, Giardino G, Azan G, Fecarotta S, Pittaluga S, Ruggiero L, Barretta F, Frisso G, Notarangelo LD, Pignata C. Case Report: Severe Rhabdomyolysis and Multiorgan Failure After ChAdOx1 nCoV-19 Vaccination. Front Immunol. 2022 Mar 17; 13:845496. doi: 10.3389/fimmu.2022.845496. PMID: 35371100; PMCID: PMC8968726. https://pubmed.ncbi.nlm.nih.gov/35371100/

[49] Kamura Y, Terao T, Akao S, Kono Y, Honma K, Matsue K. Fatal thrombotic microangioapathy with rhabdomyolysis as an initial symptom after the first dose of mRNA-1273 vaccine: A case report. International Journal of Infectious Diseases. April 2022: 117:322-325. https://www.sciencedirect.com/science/article/pii/S1201971222001072

[50] Brown M, Garbajs NZ, Zec S, Mushtaq H, Khedr A, Jama AB, Rauf I, Mir M, Korsapati AR, Jain S, Koritala T, Adhikari R, Lal A, Gajic O, Domecq JP, Goksoy S, Bartlett B, Sharma A, Jain NK, Khan SA. A Case of Adult Multisystem Inflammatory Syndrome Following COVID-19 Vaccine. J Community Hosp Intern Med Perspect. 2022 Jul 4;12(4):7-13. doi: 10.55729/2000-9666.1087. PMID: 36262897; PMCID: PMC9533789. https://pmc.ncbi.nlm.nih.gov/articles/PMC9533789/

[51] Ganapathiram RN, Hudson S. Multisystem Inflammatory Syndrome in Adult Following COVID-19 Vaccination (MIS-AV). Indian J Crit Care Med. 2022 May;26(5):649-650. doi: 10.5005/jp-journals-10071-24214. PMID: 35719439; PMCID: PMC9160620. https://pmc.ncbi.nlm.nih.gov/articles/PMC9160620/

[52] Hulscher N, Hodkinson R, Makis W, McCullough PA. Autopsy findings in cases of fatal COVID-19 vaccine-induced myocarditis. ESC Heart Fail. 2025 Oct;12(5):3212-3225. doi: 10.1002/ehf2.14680. Epub 2024 Jan 14. PMID: 38221509; PMCID: PMC12450757. https://pubmed.ncbi.nlm.nih.gov/38221509/

[53] Rose J, Hulscher N, McCullough PA. Determinants of COVID-19 vaccine-induced myocarditis. Ther Adv Drug Saf. 2024 Jan 27; 15:20420986241226566. doi: 10.1177/20420986241226566. PMID: 38293564; PMCID: PMC10823859. https://pubmed.ncbi.nlm.nih.gov/38293564/

[54] Cosgrove K, Thorp JA, Milhoan KA, McCullough PA. Comparative Risks Cardiovascular Adverse Events of COVID-19 and other Vaccines. G Med Sci 2024;5(1):50-60. https://www.thegms.co/publichealth/pubheal-ra-24160201.pdf https://www.doi.org/10.46766/thegms.pubheal.24160201 Top of Form Bottom of Form

[55] Casucci G, Acanfora D. DIC-Like Syndrome Following Administration of ChAdOx1 nCov-19 Vaccination. Viruses. 2021 Jun 1;13(6):1046. doi: 10.3390/v13061046. PMID: 34205940; PMCID: PMC8226681. https://pmc.ncbi.nlm.nih.gov/articles/PMC8226681/

[56] D'Agostino V, Caranci F, Negro A, Piscitelli V, Tuccillo B, Fasano F, Sirabella G, Marano I, Granata V, Grassi R, Pupo D, Grassi R. A Rare Case of Cerebral Venous Thrombosis and Disseminated Intravascular Coagulation Temporally Associated to the COVID-19 Vaccine Administration. J Pers Med. 2021 Apr 8;11(4):285. doi: 10.3390/jpm11040285. PMID: 33917902; PMCID: PMC8068274. https://pubmed.ncbi.nlm.nih.gov/33917902/

[57] Aladdin Y, Algahtani H, Shirah B. Vaccine-Induced Immune Thrombotic Thrombocytopenia with Disseminated Intravascular Coagulation and Death following the ChAdOx1 nCoV-19 Vaccine. J Stroke Cerebrovasc Dis. 2021 Sep;30(9):105938. doi: 10.1016/j.jstrokecerebrovasdis.2021.105938. Epub 2021 Jun 23. PMID: 34171649; PMCID: PMC8219525. https://pubmed.ncbi.nlm.nih.gov/34171649/

[58] Parveen F, Mujahid K, Yusuff S. Vaccine-induced thrombosis and thrombocytopaenia with widespread abdominal venous thrombosis, venous ischaemia and bowel oedema. BMJ Case Rep. 2022 Apr 6;15(4):e247996. doi: 10.1136/bcr-2021-247996. PMID: 35387789; PMCID: PMC8987703. https://pmc.ncbi.nlm.nih.gov/articles/PMC8987703/

[59] Muir KL, Kallam A, Koespell SA, Gundabolu K. Thrombotic Thrombocytopenia after Ad26.COV2.S Vaccination. N Engl J Med 2021;384:1964-1965. April 14, 2021 https://www.nejm.org/doi/full/10.1056/NEJMc2105869

[60] Greinacher A, Thiele T, Warkentin TE, Weisser K, Kyrle PA, Eichinger S. Thrombotic Thrombocytopenia after ChAdOx1nCov-19 Vaccination. N Engl J Med 2021;384:2092-2101. DOI: 10.1056/NEJMoa2104840 https://www.nejm.org/doi/full/10.1056/NEJMoa2104840

[61] Al-Ali D, Eishafeey A, Mushannen M, et al. Cardiovascular and haematological events post COVID-19 vaccination: A systematic review. Journal of Cellular and Molecular Medicine. February 2022:26(3):636-653. https://onlinelibrary.wiley.com/doi/10.1111/jcmm.17137

[62] Commission on Human Medicines COVID-19 Vaccines Benefit Risk Expert Working Group. April 12, 2021. https://assets.publishing.service.gov.uk/media/67a521878259d52732f6ae39/12_April_2021.pdf

[63] Yalcinkaya A, Cavalli M, Aranda-Guillén M, Cederholm A, et al. Autoantibodies to protein S may explain rare cases of coagulopathy following COVID-19 vaccination. Sci Rep. 2024 Oct 18;14(1):24512. doi: 10.1038/s41598-024-75514-x. PMID: 39424883; PMCID: PMC11489816. https://pmc.ncbi.nlm.nih.gov/articles/PMC11489816/

[64] Patterson JA, Roberts CL, Isbister JP, Irving DO, Nicholl MC, Morris JM, Ford JB. What factors contribute to hospital variation in obstetric transfusion rates? Vox Sang. 2015 Jan;108(1):37-45. doi: 10.1111/vox.12186. Epub

2014 Aug 4. PMID: 25092527; PMCID: PMC4302973. https://pubmed.ncbi.nlm.nih.gov/25092527/

[65] James Roguski. Evidence of Harm. January 2, 2025. https://jamesroguski.substack.com/p/evidence-of-harm Accessed August 9, 2026

[66] Lin X, Botros B, Hanna M, Gurzenda E, De Mejia CM, Chavez M, Hanna N. Transplacental transmission of the COVID-19 vaccine messenger RNA: evidence from placental, maternal, and cord blood analyses postvaccination. Am J Obstet Gynecol. 2024 Jun;230(6):e113-e116. doi: 10.1016/j.ajog.2024.01.022. Epub 2024 Feb 1. PMID: 38307473. https://pubmed.ncbi.nlm.nih.gov/38307473/

[67] Maggie Thorp JD and Jim Thorp MD. A call for Immediate Moratorium on the use of COVID-19 Vaccines in pregnant women https://www.americaoutloud.news/a-call-for-immediate-moratorium-on-the-use-of-covid-19-vaccines-in-pregnant-women/. March 3, 2024. Accessed 6/20/2026

[68] Maggie Thorp JD and Jim Thorp MD. FOIA Reveals Troubling Relationship between HHS/CDC & the American College of Obstetricians and Gynecologists https://www.americaoutloud.news/foia-reveals-troubling-relationship-between-hhs-cdc-the-american-college-of-obstetricians-and-gynecologists/. May 7, 2023. Accessed 6/20/2026

[69] Maggie Thorp JD and Jim Thorp MD. Pushing COVID-19 Shots in Pregnancy: The Greatest Ethical Breach in the History of Medicine https://www.americaoutloud.news/pushing-covid-19-shots-in-pregnancy-the-greatest-ethical-breach-in-the-history-of-medicine/. Feb 12, 2023. Accessed 6/20/2026

[70] McKernan K, Helbert Y, Kane LT, McLaughlin S. Sequencing of bivalent Moderna and Pfizer mRNA vaccines reveals nanogram to microgram quantities of expression vector dsDNA per dose. OSF Preprint DOI: https://doi.org/10.31219/osf.io/b9t7m Direct OSF: https://osf.io/b9t7m/ Accessed 6/21/2026

[71] Dr. Jordan Vaughn. Pandemic Debate. Dr. Jordan Vaughn has treated over 1100 patients with micro-clots due to the Covid infection and the COVID-19 vaccination. https://www.facebook.com/reel/2336679280073229 Accessed August 18, 2026

[72] Testimony of Dr. Jordan Vaughn Submitted to the Senate Subcommittee on Investigations. 2026. https://www.hsgac.senate.gov/wp-content/uploads/Vaughn-Testimony.pdf Accessed August 18, 2026

[73] Waters M, Vlok M, Kroon EE, Kotze MJ, et al. Proteomic signatures of COVID-19 Post-Vaccination/Post-Infection Syndrome (PV/PIS): insights into immune dysregulation and coagulopathy. Front Cell Infect Microbiol. 2026 Mar 25;16:1753348. doi: 10.3389/fcimb.2026.1753348. PMID: 41959563; PMCID: PMC13056885. https://pmc.ncbi.nlm.nih.gov/articles/PMC13056885/

[74] Scholkmann F, May CA. COVID-19, post-acute COVID-19 syndrome (PACS, "long COVID") and post-COVID-19 vaccination syndrome (PCVS, "post-COVIDvac-syndrome"): Similarities and differences. Pathol Res Pract. 2023 Jun;246:154497. doi: 10.1016/j.prp.2023.154497. Epub 2023 May 3. PMID: 37192595; PMCID: PMC10154064. https://pmc.ncbi.nlm.nih.gov/articles/PMC10154064/

[75] Salem R, Al Mulla I, Alhouda N, Iqbal J, Gmati G. Thrombotic Microangiopathy Post-COVID-19 Vaccination. Cureus. 2024 May 17;16(5):e60506. doi: 10.7759/cureus.60506. PMID: 38883042; PMCID: PMC11180482. https://pubmed.ncbi.nlm.nih.gov/38883042/

[76] Haviland TF, Kasner L, Santiago D. (2026). Self-Reported Observations of Unusual White Fibrous Structures in Embalmed Corpses: Multi-Year Survey Results from Embalmers in Five Countries, 2022–2025. International Journal of Innovative Research in Medical Science. 11(7):204-208. July 1, 2026. DOI:10.23958/ijirms/vol11-i07/2201 https://doi.org/10.23958/ijirms/vol11-i07/2201 https://ijirms.in/index.php/ijirms/article/view/2201

[77] Personal communication with Thomas Haviland, Richard Hirschman, and Greg Harrison.

[78] Laura Kasner. Clotastrophe. Graphic Video and Pics. New Stuff. July 29, 2024. https://laurakasner.substack.com/p/graphic-video-and-pics Accessed July 1, 2026.

[79] A MIDWESTERN DOCTOR. Embalmers are Continuing to Find Mysterious Clots in the Vaccinated Reviewing the results of a recent citizen's investigation and what we now know about these amyloid clots. February 22, 2024. https://www.midwesterndoctor.com/p/embalmers-are-continuing-to-find

[80] Rapley, B. I., & Shelton, M. (2026). Morphological and Histological Characterization of Anomalous Intravascular Casts (AICs). Preprints.org. https://www.preprints.org/manuscript/202601.1846

[81] Rapley, B. (2026). Proteomic Characterisation of Anomalous Intravascular Casts Reveals Non-Canonical Fibrin Architecture and Impaired Fibrinolysis. Preprints.org. https://www.preprints.org/manuscript/202601.2319

[82] Santiago D, Harrison G, Veres M, File M, Planner D. Raman spectroscopic Characterization of Anomalous Intravascular Fibrous Casts: Evidence for Stage-Dependent β-sheet Enriched Protein Maturation. International Journal of Innovative Research in Medical Science. 11(7):182-203. July 1, 2026. DOI:10.23958/ijirms/vol11-i07/2202 https://doi.org/10.23958/ijirms/vol11-i07/2202 https://ijirms.in/index.php/ijirms/article/view/2202

[83] Nyström S, Hammarström P. Amyloidogenesis of SARS-CoV-2 Spike Protein. J Am Chem Soc. 2022;144(20):8945-8950.

[84] Kell DB, Laubscher GJ, Pretorius E. A central role for amyloid fibrin microclots in long COVID/PASC: origins and therapeutic implications. Biochem J. 2022 Feb 17;479(4):537-559. doi: 10.1042/BCJ20220016. PMID: 35195253; PMCID: PMC8883497. https://pubmed.ncbi.nlm.nih.gov/35195253/

[85] Thierry AR, Usher T, Sancez C, et al. Circulating Microclots Are Structurally Associated With Neutrophil Extracellular Traps and Their Amounts Are Elevated in Long COVID Patients. JOURNAL OF MEDICAL VIROLOGY. October 2, 2025. 95(10) e70613. https://onlinelibrary.wiley.com/doi/10.1002/jmv.70613

[86] Nicolas Hulscher. BREAKING STUDY: Anomalous Amyloid Microclots Found in 100% of the COVID-19 Vaccinated. November 17, 2025.

https://www.thefocalpoints.com/p/breaking-study-anomalous-amyloid?r=2km2zq&triedRedirect=true https://open.substack.com/pub/petermcculloughmd/p/breaking-study-anomalous-amyloid?r=2km2zq

[87] Tetz G, Tetz V. SARS-CoV-2 Prion-Like Domains in Spike Proteins Enable Higher Affinity to ACE2.

[88] Seneff S, Kyriakopoulos AM, Nigh G, McCullough PA. A Potential Role of the Spike Protein in Neurodegenerative Diseases: A Narrative Review. Cureus. 2023 Feb 11;15(2):e34872. doi: 10.7759/cureus.34872. PMID: 36788995; PMCID: PMC9922164. https://pmc.ncbi.nlm.nih.gov/articles/PMC9922164/

[89] U.S. Food and Drug Administration. Recommendations to Reduce the Possible Risk of Transmission of Creutzfeldt-Jakob Disease and Variant Creutzfeldt-Jakob Disease by Blood and Blood Components: Guidance for Industry. Center for Biologics Evaluation and Research. May 2022. https://www.fda.gov/regulatory-information/search-fda-guidance-documents/recommendations-reduce-possible-risk-transmission-creutzfeldt-jakob-disease-and-variant-creutzfeldt Accessed June 19, 2026.

[90] U.S. Food & Drug Administration. Center for Biologics Evaluation and Research. Recommendations to Reduce the Possible Risk of Transmission of Creutzfeldt-Jakob Disease and Variant Creutzfeldt-Jakob Disease by Blood and Blood Components. Guidance for Industry. May 2022. HTPS//Docket Number FDA-2012-D-037 https://www.regulations.gov/docket/FDA-2012-D-0307 https://www.fda.gov/regulatory-information/search-fda-guidance-documents/recommendations-reduce-possible-risk-transmission-creutzfeldt-jakob-disease-and-variant-creutzfeldt?utm Accessed 5/20/2026

[91] Center for Disease Control and Prevention (CDC). Clinical Overview of Creutzfeldt-Jakob Disease (CJD). January 21, 2026. https://www.cdc.gov/creutzfeldt-jakob/hcp/clinical-overview/index.html?utm Accessed 5/20/2026

[92] Center for Disease Control and Prevention (CDC). About Variant Creutzfeldt-Jakob Disease (vCJD). May 13, 2024. https://www.cdc.gov/variant-creutzfeldt-jakob/about/index.html?utm Accessed 5/20/2026

[93] Jean claude Perez. (2023). Emergence of a New Creutzfeldt-Jakob Disease: 26 Cases of the Human Version of Mad-Cow Disease, Days After a COVID-19 Injection. International Journal of Vaccine Theory, Practice, and Research, 3(1), 727–770., 727–770. https://doi.org/10.5281/zenodo.7540331

[94] Thorp KE, Thorp JA, Thorp EM, Thorp MM, Walker PR. COVID-19: Energy, Protein Folding & Prion Disease. The Gazette of Medical Sciences. 2022;3(1):179-206. doi:10.46766/thegms.neuro.22083101. https://www.thegms.co/neurology/neuro-rw-22083101.pdf

[95] Cleveland Clinic. Prion Disease. https://my.clevelandclinic.org/health/diseases/prion-disease. 2024. https://www.msjonline.org/index.php/ijrms/article/view/15969/10089 Accessed on May 20, 2026.

[96] Prusiner SB, Woerman AL, Mordes DA, Watts JC, Rampersaud R, Berry DB, Patel S, Oehler A, Lowe JK, Kravitz SN, Geschwind DH, Glidden DV, Halliday GM, Middleton LT, Gentleman SM, Grinberg LT, Giles K. Evidence for α-synuclein prions causing multiple system atrophy in humans with parkinsonism. Proc Natl Acad Sci U S A. 2015 Sep 22;112(38):E5308-17. doi: 10.1073/pnas.1514475112. Epub 2015 Aug 31. Erratum in: Proc Natl Acad Sci U S A. 2024 Jun 11;121(24):e2408899121. doi: 10.1073/pnas.2408899121. PMID: 26324905; PMCID: PMC4586853. https://pmc.ncbi.nlm.nih.gov/articles/PMC4586853/

[97] Tetz G, Tetz V. Prion-like domains in spike protein of SARS-CoV-2 differ across its variants and enable changes in affinity to ACE2. Microorganisms.2022;10(2):280. https://www.mdpi.com/2076-2607/10/2/280

[98] Seneff S, Nigh G. Worse than the Disease? Reviewing Some Possible Unintended Consequences of the mRNA Vaccines Against COVID-19. Int J Vaccine Theory Pract Res. 2021;2(1):38-19. https://www.ijvtpr.com/index.php/IJVTPR/article/view/23

[99] Ogata AF, Maley AM, Wu C, Gilboa T, Norman M, Lazarovits R, Mao CP, Newton G, Chang M, Nguyen K, Kamkaew M, Zhu Q, Gibson TE, Ryan ET, Charles RC, Marasco WA, Walt DR. Ultra-Sensitive Serial Profiling of SARS-CoV-2 Antigens and Antibodies in Plasma to Understand Disease Progression in COVID-19 Patients with Severe Disease. Clin Chem. 2020 Dec 1;66(12):1562-1572. doi: 10.1093/clinchem/hvaa213. PMID: 32897389; PMCID: PMC7499543. https://pmc.ncbi.nlm.nih.gov/articles/PMC7499543/

[100] Hillig T, Kristensen JR, Brasen CL, Brandslund I, Olsen DA, Davidsen C, Madsen JS, Jensen CA, Hansen YBL, Friis-Hansen L. Sensitivity and performance of three novel quantitative assays of SARS-CoV-2 nucleoprotein in blood. Sci Rep. 2023 Feb 17;13(1):2868. doi: 10.1038/s41598-023-29973-3. PMID: 36806155; PMCID: PMC9937528. https://pmc.ncbi.nlm.nih.gov/articles/PMC9937528/

[101] Corbett KS, Edwards DK, Leist SR, Abiona OM, et al. SARS-CoV-2 mRNA vaccine design enabled by prototype pathogen preparedness. August 5, 2020 Nature 586, 567-571. https://www.nature.com/articles/s41586-020-2622-0?utm_

[102] Fertig TE, Chitoiu L, Cismaru CA, et al. Vaccine mRNA Can Be Detected in Blood at 15 Days Post-Vaccination. Biomedicines. 2022; 10(7): 1538. https://pmc.ncbi.nlm.nih.gov/articles/PMC9313234/

[103] Lazarus R. Electronic Support for Public Health–Vaccine Adverse Event Reporting System (ESP:VAERS) – Final Report. Prepared by Harvard Pilgrim Health Care, Inc. under Grant No. R18 HS017045. Rockville, MD: Agency for Healthcare Research and Quality; 2010. https://digital.ahrq.gov/ahrq-funded-projects/electronic-support-public-health-vaccine-adverse-event-reporting-system/final-report