



**Committee on Public Health and Welfare
March 22, 2021**

Chair Hilderbrand, Vice Chair Gossage and Members of the Committee, as the CEO of KFMC Health Improvement Partners, I leverage over 20 years' experience in the healthcare industry in furthering KFMC's vision to achieve the best health outcomes for everyone. This is closely aligned with the mission of the Immunize Kansas Coalition (IKC), to protect Kansas from vaccine-preventable diseases. As such, KFMC is an institutional member of the coalition and I personally serve on the coalition's Board of Directors. My testimony, both written and in person, is submitted in **opposition of Senate Bill 212**.

IKC is a group of Kansas providers, health department officials, researchers and educators working together to improve the health of Kansas through improved vaccination rates to protect against vaccine-preventable diseases. Both IKC and KFMC are independent and objective sources of evidence and facts, contrary to some of the misinformation you may have received (see # 12 and 13 in the attached assessment of facts). Interestingly enough, the attached assessment of facts was written last year in opposition to HB2601. I was surprised that the exact same information about IKC's affiliation are being redistributed to all of you, almost verbatim. I won't complain too much because it made drafting my comments pretty easy. IKC's members volunteer their time and resources to support our mission of protecting every Kansan from vaccine preventable diseases. We do this work because we believe in the science behind the vaccine recommendations, and like you, we want only the best for the residents of Kansas. One of our goals is to provide education and information, which will empower you, as legislators, to process and respond to the information you are receiving in an informed way.

It is important that changes to the list of mandatory school vaccinations remain in the current regulation process and are not moved to the legislative process. **All fifty states have statutes related to mandatory school vaccinations**, and each of those states allow the state department of health to require other diseases on a long-term basis in order to respond to changes in the Advisory Committee on Immunization Practices (ACIP) recommendations. Allowing the state department of health to respond timely to the best scientific recommendations for immunizations as set forth by ACIP, and adjust the list of required vaccines, minimizes the potential risk to Kansas' school children.

The current regulation process allows a timely response to changes in ACIP recommendations, both to add *and* remove vaccines from the requirements list. If vaccines were listed in statute, the ability to respond to recommended changes in a timely manner would be hampered due to the limits of the legislative process for introducing and approving bills.



Since we also live and work in the Kansas community, we know that mandatory vaccination is a position that some groups passionately oppose. Those groups are also very active in creating messaging, sharing information, and telling stories to support their position. In addition to providing KFMC's support for maintaining the status quo, this communication is also intended to address some of the mis-information you have been receiving recently and to help you identify what is true and what is not. It is easy to get caught up in the emotion and the grief of parents and children who are genuinely suffering. It is a common understanding that doctors who see disease support vaccination; activists who see grief support a loose idea of freedom.

Understanding what is true and what is false is sometimes difficult, unless you have hours to devote to research and fact-finding missions. Additionally, sometimes the sheer volume of information you are receiving is overwhelming. **It is important, as lawmakers, for you to understand that misinformation relating to vaccines is widespread and it is this misinformation that has led to the decrease in public confidence and not a lack of evidence supporting the safety of vaccines.**

In a world full of chaos and mis-information, where do you go to find the truth?

As mentioned previously, both KFMC and IKC are an independent and objective source of information, without conflict, and without affiliation to, or with, a specific provider type or organization. Based on the information you may have received directly in emails and other media communications, it's important to identify what is true and founded in science, and what is not. The facts listed in my testimony are pulled directly from emails and communications that have been widely distributed by groups who oppose vaccinations.

1. Childhood vaccinations cause Autism – FALSE

There is a preponderance of evidence to the contrary. The American Academy of Pediatrics has compiled a list of evidence-based, peer-reviewed articles published in scientific journals studying the long-term effects of vaccines, including 27 independent research articles supporting the factual statement that vaccines **DO NOT** cause Autism.

2. Vaccines cause autoimmunity and autism due to fetal DNA contaminants – MISINTERPRETATION of supporting references resulting in an UNSUPPORTED claim. This assertion first appeared based on a *Vaccine Impact* article published May 19, 2019. There are several problems with this article and this claim, specifically that the article itself is a misrepresentation of cited references, which were not used appropriately and/ or were taken out of context. Secondly, the claim that such DNA causes autoimmunity is

¹Article claiming vaccines cause autoimmunity and autism due to fetal DNA contaminants found unsupported and implausible (June 2019), retrieved from <https://healthfeedback.org/evaluation/article-claiming-vaccines-cause-autoimmunity-and-autism-due-to-fetal-dna-contaminants-found-unsupported-and-implausible-theresa-deisher/>

unsupported by science. It is important to understand that Immunologists do acknowledge that certain vaccines are produced using human fetal-derived cell lines, but many of the studies being referenced by those who oppose vaccination do not demonstrate the actual presence of fetal DNA in vaccines in any capacity. There are methodological issues with the *Vaccine Impact* study which call into question the findings. Additionally, the reference list that was used to support the article's claim shows that the citations were not used appropriately, were used out of context, or where misinterpreted.² Finally, Immunology experts also assert that it is implausible for "...recombination of fetal DNA after vaccination to cause autoimmunity and autism, since it necessitates a chain of events that are extremely unlikely to happen all together, especially in the biological context of a living person and not the artificial environment of a test tube." If that were plausible, pregnant women, who have higher levels of fetal DNA circulating constantly over 9 months, would have a higher incidence of cancer, and they do not.²

3. The cumulative number of vaccines in the immunization schedule have not be studied or examined together – **MISREPRESENTATION** of facts.

Use caution when evaluating evidence that is incomplete or taken out of context. The communications previously received with this assertion also include a YouTube link to a video of snippets pieced together from the Global Vaccine Summit (December 2019) asserting that even vaccine experts question their safety and lack of testing. This video was edited and put together by the producer of the movie *Vaxxed* and done so with an agenda. Please always consider the primary source of the information to fully understand the context in which comments are made. For example, the 2013 IOM Report that has been quoted regarding the safety of the vaccine schedule left out a key component of the report. The quote provided is from the report summary and the full quote states "no study has directly examined the health outcomes *and stakeholder concerns in precisely the way that the committee was charged to address in its statement of task.*"

The full report states quite the opposite of what has been represented in previous emails sent to legislators:

"The Food and Drug Administration's (FDA's) current protocol for approval of new vaccines requires an evaluation of the effect of administration of a new vaccine along with other vaccines within the preexisting schedule. Therefore, the burden of disease and evidence of adequate immunogenicity when vaccines are administered together with existing recommended vaccines are established at the time of FDA approval and

² Article claiming vaccines cause autoimmunity and autism due to fetal DNA contaminants found unsupported and implausible (June 2019), retrieved from <https://healthfeedback.org/evaluation/article-claiming-vaccines-cause-autoimmunity-and-autism-due-to-fetal-dna-contaminants-found-unsupported-and-implausible-theresa-deisher/>

development of a recommendation by the ACIP. Although *the committee's review of the available scientific evidence revealed that no potential adverse health outcomes that may occur after immunization with the recommended immunization schedule rose to a level of concern or biological plausibility sufficient to justify a strong recommendation for immediate study*, the committee was asked to recommend methodological approaches that could be implemented should the need arise.”³

4. Dr. James R. Shannon, director of the National Institute of Health (NIH) stated "The only safe vaccine is the one that is never given." – **TRUE**

Dr. Shannon did indeed make this statement when he was the director of the NIH...**from 1955 to 1968**⁴. Nine years of his tenure with the NIH was **PRIOR** to the introduction and testing of the Polio vaccine in 1964.

5. Vaccines never go through the double-blind placebo-controlled studies that are required of other drugs – **FALSE**

In such a trial the group of participants is randomly assigned into either a control group or an experimental group. This assignment is completely at random, and the people going into either group are not aware of what group they're in. The researchers also do not know what group the participants are. The intention behind this is to obtain experimental and control groups that are like each other in every way, such as age, gender or ethnicity. The argument for blinding the participants and the researchers seeks to eliminate bias because the participants are not aware if they are receiving the real deal (thus making them less likely to underreport or overreport outcomes) and the researchers also don't know (thus making them less likely to more closely observe one group over the other). At the end of the study, the number of outcomes are counted in each group and the resulting rates compared. An example of this type of trial in the history of vaccines is the trial of the polio vaccine in 1964 and the clinical trials used in the development and testing the measles vaccine.

In evaluating this statement, it's important to understand when a randomized clinical trial is warranted. In the case of the polio vaccine, it was necessary to know if the vaccine was better than what was available at the time to prevent polio, which was nothing at all. If there is already a known vaccine that is safe and effective, it may be unethical to randomize children into an unvaccinated group because such a process would be denying them the benefits of being vaccinated. Further, parents who oppose vaccination would likely not allow their children to be randomized into a vaccinated

³ Committee on the Assessment of Studies of Health Outcomes Related to the Recommended Childhood Immunization Schedule; Board on Population Health and Public Health Practice; Institute of Medicine. The Childhood Immunization Schedule and Safety: Stakeholder Concerns, Scientific Evidence, and Future Studies. Washington (DC): National Academies Press (US); 2013 Mar 27. 6, Methodological Approaches to Studying Health Outcomes Associated with the Current Immunization Schedule: Options, Feasibility, Ethical Issues, and Priorities. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK206942/>
<https://www.nih.gov/about-nih/what-we-do/nih-almanac/james-shannon-md>

group, and parents who are not likely to see a physician may not bring a child with an infection to a physician, further biasing the results of a study.

6. The US Supreme Court has ruled that vaccines are “unavoidable safe” – **FALSE**

This is a false representation of *Bruesewitz v. Wyeth*, 562 U.S. 223 (2011). The Supreme Court has never held or decided, or affirmatively stated as a proposition of medical fact that vaccines are “unavoidably unsafe”. The issue in this case was whether a vaccine-injured party could pursue a design-defect lawsuit under state law after an adverse decision from the federal vaccine court. The rule of law that was used in support of the Supreme Court decision held that state vaccine injury lawsuits are preempted by federal law. It is in the dicta, the additional discussions which the majority and dissent opinion writers put into their respective opinions, that has led to the incorrect notion that the Supreme Court stated that vaccines are “unavoidably unsafe”. The opinions reference a committee report from 1986, which adopted comments from §402A of the Restatement of Torts (Second)(1963-1964) which provides that “unavoidably unsafe” products (i.e. those that “in the present state of human knowledge are quite incapable of being made safe for their intended and ordinary use”) are not defective. An example of an “unavoidably unsafe” product referenced in this statute is “the vaccine for the Pasteur treatment of rabies, which not uncommonly leads to very serious and damaging consequences when injected”; “[s]ince the disease itself invariably leads to a dreadful death, both the marketing and the use of the vaccine are fully justified, notwithstanding the unavoidable high degree of risk which they involve.”⁵

7. Who in Kansas is responsible for vaccine injury to Kansas residents?

One option for Kansas residents is the National Vaccine Injury Compensation Program (VICP)⁶. Most people who get vaccines have no serious problems. Vaccines, like any medicine, can cause side effects, but most are very rare and very mild. Some health problems that follow vaccinations are not caused by vaccines.

In very rare cases, a vaccine can cause a serious problem, such as a severe allergic reaction. In these instances, VICP may provide financial compensation to individuals who file a petition and are found to have been injured by a VICP-covered vaccine. Even in cases in which such a finding is not made, petitioners may receive compensation through a settlement.

⁵ 562 U.S. 223 (2011). Retrieved from <https://www.law.cornell.edu/supct/html/09-152.ZD.html>.

⁶ National Vaccine Injury Compensation Program (VICP), <https://www.hrsa.gov/vaccine-compensation/index.html>

8. Parents are told that seizures, fevers and excessive sleepiness were “normal” following their child’s vaccines – **FALSE**

According to the CDC’s Parent Guide for vaccinations, babies often get a sore leg/limb or a mild fever after vaccinations, but more serious reactions are uncommon, and parents should contact their provider letting them know. While this is but one example, most patient information is based on the same science and would include messaging consistent with the CDC messaging.⁷

9. It’s not the government’s job to make medical decisions for me and my family - **FALSE**

“The Court held that a health regulation requiring smallpox vaccination was a reasonable exercise of the state’s police power that did not violate the liberty rights of individuals under the Fourteenth Amendment to the U.S. Constitution. The police power is the authority reserved to the states by the Constitution and embraces “such reasonable regulations established directly by legislative enactment as will protect the public health and the public safety” (197 U.S. at 25, 25 S.Ct. at 361).”⁸ We see this protection of public health and public safety and the same exercise of the government’s obligation through the mandatory quarantine of Coronavirus patients.

10. Line 13.1 of every single vaccine insert states: “...has not been evaluated for carcinogenic or mutagenic potential, or for impairment of fertility” – **PARTIALLY TRUE**

The Code of Federal Regulations require that non-clinical toxicology be outlined in the vaccine insert:

“13.1 Carcinogenesis, mutagenesis, impairment of fertility. This subsection must state whether long term studies in animals have been performed to evaluate carcinogenic potential and, if so, the species and results. If results from reproduction studies or other data in animals raise concern about mutagenesis or impairment of fertility in either males or females, this must be described. Any precautionary statement on these topics must include practical, relevant advice to the prescriber on the significance of these animal findings. Human data suggesting that the drug may be carcinogenic or mutagenic, or suggesting that it impairs fertility, as described in the “Warnings and Precautions” section, must not be included in this subsection of the labeling.”⁹

⁷ Parent’s Guide to Childhood Immunizations (August 2015), <https://www.cdc.gov/vaccines/parents/tools/parents-guide/downloads/parents-guide-508.pdf>

⁸ Malone, K.M. & Hinman, A.R., *Vaccination Mandates: The Public Health Imperative and Individual Rights*, (2003) https://www.cdc.gov/vaccines/imz-managers/guides-pubs/downloads/vacc_mandates_chptr13.pdf

⁹ CFR – Code of Federal Regulations Title 21

New vaccines undergo preclinical toxicology studies which are conducted prior to the initiation of, and concurrently with, clinical studies. If the package insert says that it has “not been evaluated”, it is simply because it was not necessary or appropriate, not that they just didn’t want to do it or left those tests out. All necessary pre-clinical or nonclinical testing is done on vaccines and their components. You just don’t see long term testing that would be listed in the package insert unless the initial tests found a problem. Finally, vaccines are also monitored through several passive and active safety systems that would detect issues with mutagenicity carcinogenicity, and impairment of fertility.¹⁰

- 11.** The Vaccine Adverse Event Reporting System (VAERS) receives an average of 30,000 reports per year. However, a Harvard study found that fewer than 1% of vaccine adverse events are reported – **SOMEWHAT TRUE**

The Harvard Study¹¹ states that fewer than 1% of vaccine events are reported to the Food and Drug Administration (FDA) for identification of “problem” drugs and vaccines that endanger public health. The data reviewed for this report was from June 2006 through October 2009. This statement is no longer accurate as the Vaccine Adverse Event Reporting System (VAERS) now provides reported data to both the CDC and the FDA concurrently.¹²

- 12.** The Immunize Kansas Coalition (IKC) is affiliated with all the major vaccine manufacturers – **FALSE**

The graphic provided to legislators is a list of the affiliated members; the list is of those members affiliated with IKC. IKC is a 501(c)3 organization with established bylaws defining membership and voting rights. Membership categories include three levels:

- Institutional Membership:** open to all institutions, organizations, and agencies who support and agree to work toward the mission of the coalition; designate one representative to serve as the voting member
- Individual Membership:** open to any individual, professional, student, honorary, or retired coalition members not otherwise included as an institution member; considered a voting member

¹⁰ Vaccine. 2017 Oct 13;35(43):5762-5767. doi: 10.1016/j.vaccine.2017.09.021. Epub 2017 Sep 12.

¹¹ Grant ID: R18 HS 017045, Grant Final Report. Electronic Support for Public Health – Vaccine Adverse Event Reporting System (ESP:VAERS), Accessed at <https://digital.ahrq.gov/sites/default/files/docs/publication/r18hs017045-lazarus-final-report-2011.pdf>

¹² Vaccine Adverse Event Reporting System Brochure, Published by HHS, FDA, and CDC. <https://www.fda.gov/files/vaccines,%20blood%20&%20biologics/published/Vaccine-Adverse-Event-Reporting-System-Brochure.pdf>



- c. Liaison Members: open to pharmaceutical companies, because of the potential for receiving financial gain from the mission, they are eligible for liaison membership only; non-voting members and liaison members are not eligible to serve on the board of directors.

IKC is not affiliated with vaccine manufacturers, nor are its institutional and individual members. Participation by representatives of vaccine manufacturers is intentionally limited to avoid even the appearance of undue influence or conflict. However, they do provide many unbranded resources to the provider and patient communities at no cost.

The assertion also states: "To what extent is money from these liability-free pharmaceutical companies--companies that have all been convicted of fraud for lying about the safety of their products--influencing the KDHE's vaccine recommendations?" First, IKC and KDHE are separate organizations. Second, *neither IKC or KDHE have received any money from any pharmaceutical companies who do or do not participate in coalition activities*. IKC has an established funding support policy in place to prevent such a conflict. This policy states: "These guidelines were designed to ensure that funds are used to support activities that are consistent with the mission and scope of IKC and to minimize potential conflicts of interest and the appearance of conflicts of interest. They are consistent with policies of other nonprofit, public health membership associations."

- 13. One of the main goals of IKC is to raise vaccination rates for the HPV vaccine to 80% by 2026 – **TRUE**

IKC established the current goals as a full coalition, with the 80% HPV vaccine goal being adopted to align with the American Cancer Society's goal and the Healthy People 2020 goal, a science-based, 10-year national objective for improving the health of all Americans. Work toward this goal is how we begin working toward herd immunity. The HPV vaccination has been recommended since 2011 by the Advisory Committee on Immunization Practices (ACIP) for both boys and girls. The HPV vaccine reduces the risk for HPV-related cancers. In the United States, each year HPV causes about 17,600 cancers in women and 9,300 cancers in Men. Kansas ranks among the lowest states when comparing HPV vaccination rates for adolescents nationally, prompting IKC to focus its attention on this life-saving cancer vaccine. Nearly 80 million Americans are currently infected with some type of HPV with the potential for 14 million new infections each year, making it a priority public health issue. Finally, it is important to note that IKC's mission is to protect all Kansans from vaccine preventable diseases and while mandatory school vaccination and exclusion policies are a component of the work IKC does, it is just one of many priorities impacting other populations.

14. FDA Announced that 73.3% of girls in HPV (Gardasil) developed new illnesses –
Presented as a MISCHARACTERIZATION of data

This is a **misrepresentation** of the data. The FDA report did state that 73.3% of the subjects in the Gardasil group reported new medical history. The report also stated that *76.3% of subjects in the Placebo group also reported new medical history*, more than the Gardasil group¹³.

COVID-19 Vaccine Facts pulled from the attached “FACT SHEET” which includes the appropriate literature references.

15. COVID-19 mRNA vaccines cannot give someone COVID-19. – **TRUE**

mRNA vaccines do not use the live virus that causes COVID-19.

16. COVID-19 mRNA vaccines do not affect or interact with our DNA in any way – **TRUE**

mRNA never enters the nucleus of the cell, which is where our DNA (genetic material) is kept. The cell breaks down and gets rid of the mRNA soon after it finishes following the instructions.

17. There are no concerning, or odd ingredients in the mRNA Vaccines – **TRUE**

There is no aluminum, mercury or food allergens in the ingredients list. This is great news for those who may have allergy concerns or be vaccine hesitant.

18. The COVID-19 infection has a 99% survival rate, there is no reason to get the vaccine –
This is a MISREPRESENTATION of the data.

Surviving and Thriving are incredibly different. COVID-19 symptoms can persist for months. The virus can damage the lungs, heart, and brain which increases the risk of long-term health problems. Even young, otherwise healthy people can feel unwell for weeks to months after the infection.

19. mRNA Vaccine Technology is new and untested – **FALSE**

mRNA technology was discovered over 30 years ago and has been studied for vaccine purposes for nearly two decades. Scientists have been working on a coronavirus vaccine since the SARS and MERS outbreaks, but once the pandemic ended and the virus was no

¹³ Clinical Review of Biologics License Application Supplement for Human Papillomavirus Quadrivalent (Types 6, 11, 16, 18) Vaccine, Recombinant (Gardasil®) to extend indication for prevention of vaginal and vulvar cancers related to HPV types 16 and 18, page 137. Retrieved from <https://www.fda.gov/media/74361/download>



longer circulating, the funding dried up. No funding = no scientific advancements. Early-stage clinical trials using mRNA vaccines have been carried out for influenza, Zika, rabies, and cytomegalovirus (CMV). Recent technological advancements in RNA biology and chemistry, as well as delivery systems, have mitigated these challenges and improved their stability, safety and effectiveness.

20. mRNA Vaccines cause infertility in women of child-bearing age, since the spike protein the body creates after vaccination is like a protein in the placenta of pregnant mothers – **FALSE**

The FDA says there is no reason to believe the vaccine causes infertility. Doctors say the two are not similar enough for the spike protein to launch an immune response to the placenta that would endanger the mother’s ability to carry a baby to term.

Current communications you are receiving would urge you to “act now” to prevent COVID Vaccines from being required for school entry next year, as proponents of this legislation “are being told” (by un-named and un-validated sources) that Children’s COVID Vaccines are going to be approved this summer. However, the clinical trials for 12 years of age and up won’t even have available data until this summer, and trials for younger children have not yet begun. As such, there is no good reason to consider changing this policy now. Additionally, current practice in Kansas is already aligned with the national “best practice” for protecting the health and wellbeing of our children. Thank you for the opportunity to present our concern and opposition of this legislation, and to provide you with the necessary information that supports informed decision making regarding SB212.

Sarah Irsik-Good, MHA
CEO, KFMC Health Improvement Partners
Immunize Kansas Coalition Board of Directors

COVID-19 Vaccine FACT SHEET

Pfizer (mRNA Vaccine)

95% effective*

2 dose series (0.3mL each) given 21 days apart

Multidose vial containing up to 6 doses/vial

Dilute with 1.8 mL of 0.9% Sodium Chloride

43,448 trial participants

Authorized for use in individuals \geq 16 years

Published safety and final efficacy results from Phase 3 trial on December 10, 2020

Moderna (mRNA Vaccine)

94.5% effective*

2 dose series (0.5 mL each) given 28 days apart

Multidose vial containing 10 doses

No dilution required

30,420 trial participants

Authorized for use in individuals \geq 18 years

Announced primary efficacy results from Phase 3 trial on November 30, 2020

**vaccine efficacy is against COVID-19 in individuals without prior SARS-CoV-2 infection*

What is mRNA and how do mRNA vaccines work?

- Messenger RNA, or mRNA, is the blueprint for making proteins. Within the nucleus of cells, DNA makes mRNA and then ships it into the surrounding cell cytoplasm. In the cytoplasm, mRNA is translated into proteins and enzymes. Soon after this, the mRNA breaks down.
- COVID-19 mRNA vaccines take advantage of the cellular process of making proteins by introducing mRNA that contains the blueprint for one of the coronavirus proteins, specifically the spike protein. This protein is responsible for attaching the coronavirus to our cells.
- COVID-19 mRNA vaccines are given in the upper arm muscle. Once the mRNA is inside the immune cells of the muscle tissue, the cells follow the instructions and make the spike protein piece.
- Next, the cell displays the protein piece on its surface. Our immune system recognizes that the protein doesn't belong there and begins mounting an immune response and making antibodies.
- After developing antibodies, our immune system can protect against future infection.
- The benefit of the mRNA vaccine is those vaccinated gain the protection without risking the serious consequences of getting sick with COVID-19.

Are mRNA vaccines safe?

Most commonly reported side effects, which are a consequence of the body's immune response to the SARS-CoV-2 spike protein, include:

Injection Site Reaction	Fatigue	Muscle Pain	Joint Pain
Low-grade Fever	Headache	Chills	

Side effects are most common after the second dose and in people younger than 55. Typically, these side effects last only 1-2 days.

COVID-19 Vaccine FACT SHEET

What other ingredients are included in the vaccines?

There has been complete transparency around ingredients. You can find the fact sheet for each vaccine posted on the FDA's website with the exact list of ingredients. In addition to the mRNA, both vaccines include:

- Lipids:** Molecules or "bubbles of fat" that surround the mRNA to protect it, so it does not break down before it gets into our cells.
- Salt:** Similar to table salt, it keeps the pH of the vaccine close to that of the body, so the vaccine doesn't damage the cells.
- Sugar:** Similar to sugar we eat, in the vaccine it helps keep the "bubbles of fat" from sticking to the vaccine vial.

Fact or Fiction?

- Fact:** COVID-19 mRNA vaccines cannot give someone COVID-19. mRNA vaccines do not use the live virus that causes COVID-19.
- Fact:** COVID-19 mRNA vaccines do not affect or interact with our DNA in any way. mRNA never enters the nucleus of the cell, which is where our DNA (genetic material) is kept. The cell breaks down and gets rid of the mRNA soon after it finishes following the instructions.
- Fact:** There is no aluminum, mercury or food allergens in the ingredients list. This is great news for those who may have allergy concerns or be vaccine hesitant.
- Fact:** The short-term, easily managed side effects are significantly less risky than taking your chances with the COVID-19 infection.
- Fact:** COVID-19 infection has a 99% survival rate. **Surviving and Thriving are incredibly different.** COVID-19 symptoms can persist for months. The virus can damage the lungs, heart, and brain which increases the risk of long-term health problems. Even young, otherwise healthy people can feel unwell for weeks to months after the infection.
- Fiction:** mRNA Vaccine Technology is new and untested. *mRNA technology was discovered over 30 years ago and has been studied for vaccine purposes for nearly two decades. Scientists have been working on a coronavirus vaccine since the SARS and MERS outbreaks, but once the pandemic ended and the virus was no longer circulating, the funding dried up. No funding = no scientific advancements. Early-stage clinical trials using mRNA vaccines have been carried out for influenza, Zika, rabies, and cytomegalovirus (CMV). Recent technological advancements in RNA biology and chemistry, as well as delivery systems, have mitigated these challenges and improved their stability, safety and effectiveness.*
- Fiction:** mRNA Vaccines cause infertility in women of child-bearing age, since the spike protein the body creates after vaccination is like a protein in the placenta of pregnant mothers. *The FDA says there is no reason to believe the vaccine causes infertility. Doctors say the two are not similar enough for the spike protein to launch an immune response to the placenta that would endanger the mother's ability to carry a baby to term.*

Short-term side effects and up to 95% vaccine efficacy > long-term health consequences of COVID-19 infection. Get vaccinated at your first opportunity!

COVID-19 Vaccine FACT SHEET

Reference List:

- “Q & A COVID-19 mRNA Vaccines: What you should know”. Children’s Hospital of Philadelphia Vaccine Education Center. Retrieved from <https://media.chop.edu/data/files/pdfs/vaccine-education-center-covid-ga.pdf> on 19 January 2021.
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- “Pfizer and BioNTech announce Publication of Results from Landmark Phase 3 Trial of BNT162B2 COVID-19 Vaccine Candidate in the New England Journal of Medicine”. December 10, 2020. Retrieved from <https://www.pfizer.com/news/press-release/press-release-detail/pfizer-and-biontech-announce-publication-results-landmark>
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- “Fact Sheet for Recipients and Care Givers: Emergency Use Authorization (EUA) of the Pfizer-BioNTech COVID-19 Vaccine to Prevent Coronavirus Disease 2019 (COVID-19) in Individuals 16 years of Age and Older”. The Food and Drug Administration. Retrieved on January 12, 2021 from <https://www.fda.gov/media/144414/download>
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