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Beyond Grief: A Case Study Examining the Perspectives of Vaccine Hesitancy in Berea	ved
Parents and Grandparents	
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Children are unquestionably precious, deserving of unwavering commitment to their vigilant protection. This sentiment can hold especially true for parents and grandparents who have lost children due to illness. Looking for answers to their unbearable and tragic loss can lead some to conclude that vaccinations may be responsible for the development of disease and the ultimate passing of the child. In these situations, parents/grandparents may likely become hesitant toward vaccines and actively choose not to attain vaccinations for subsequent children. Vaccine hesitancy poses significant public health challenges, influencing vaccination rates and potentially contributing to preventable disease outbreaks. To gain comprehensive insights into their experiences, beliefs, and decision-making processes concerning their aversion to vaccinations, this qualitative study aimed to investigate vaccine hesitancy among parents/grandparents who have tragically lost a child to illness and hold the viewpoint that vaccinations may have played a significant role in the untimely passing of their child. A case study approach directed the data collection process, which included in-depth interviews with a parent and grandparent who have experienced the loss of a child and exhibit vaccine hesitancy. Participants were recruited through purposive sampling. Narrative analysis was employed to identify structure, content, themes, and storytelling elements.

*Keywords*: case study, constructivism, loss of a child, vaccine hesitancy, narrative analysis, narrative research, public health

#### Introduction

Vaccines stand out as a remarkable achievement in the 21st century and are lauded for their pivotal role in promoting the health and well-being of people worldwide. This scientific milestone is commended for effectively preventing numerous fatalities caused by avoidable illnesses through timely vaccination efforts. Vaccines contribute significantly to disease prevention and play a vital role in elevating life expectancy globally by fortifying our immune systems against a range of potentially deadly diseases. This accomplishment represents a notable milestone in humanity's continuous pursuit of improved health outcomes. With this in mind, parents are urged to vaccinate their children for their well-being and the broader community's well-being. These vaccination endeavors are believed to secure a healthier and safer future for children and the global population.

While vaccinations are recognized as having revolutionized public health through the prevention of numerous life-threatening diseases, it is important to acknowledge that there are parents who hold concerns and uncertainties about their safety. These reservations can foster vaccine hesitancy. Questions surrounding the necessity of immunizations coupled with misgivings about potential side effects may further contribute to this hesitation. Moreover, apprehensions about vaccine effectiveness, safety, proliferation, and potential for harm and death heighten this hesitancy. Reluctance toward vaccinations is often intertwined with a mistrust of governmental, medical, and pharmaceutical organizations. This mistrust can cast doubt on the true intentions of the public health sector to positively influence public well-being and lead to a perception that financial considerations may be shaping the landscape of vaccinations.

Going through the unimaginable pain of losing a child is a heartbreaking tragedy that leaves parents and grandparents grappling with the need for solace, purpose, and comprehension. In the midst of their sorrow, some individuals feel compelled to seek answers. They may

contemplate: Could vaccinations have inadvertently played a role in the onset of their child's illness and, tragically, their untimely departure? In some cases, this profound introspection may give rise to vaccine hesitancy. This multi-faceted issue is laden with emotional weight and complex considerations and can carry potential far-reaching consequences for public health. In navigating this precarious terrain, it becomes evident that addressing vaccine hesitancy is not just a matter of medical concern but one that encompasses deeply personal experiences and societal implications.

#### **Literature Review**

Many factors, including fear of vaccines, religious beliefs, information sources, or personal experience, can influence vaccine hesitancy. This hesitancy can potentially threaten public safety and is a growing concern in the global public health sector (Nuwarda et al., 2022). Vaccine hesitancy can be defined as a reluctance or refusal to accept vaccination, even when vaccination services are readily available (MacDonald & Sage Working Group on Vaccine Hesitancy, 2015). Nuward (2022) contends that vaccine hesitancy has prompted the World Health Organization (WHO) to deem it one of the top 10 global health concerns in 2019. Vaccine hesitancy can hinder establishing and maintaining herd immunity, which is crucial for overall population protection (Nuward, 2022). Achieving herd immunity through vaccination has been cited as reducing disease prevalence and safeguarding vulnerable individuals who cannot be vaccinated due to health reasons. However, certain diseases remain without herd immunity (Nuward, 2022). The Centers for Disease Control and Prevention (CDC) emphasize that childhood vaccination prevents "4 million deaths worldwide every year" (CDC, 2023b, para. 1). Building trust among public health officials, medical professionals, and parents regarding vaccine safety is paramount. In response to safety concerns, the Vaccine Adverse Event

Reporting System (VAERS), jointly administered by the CDC and the U.S. Food and Drug Administration (FDA), was established in 1990. Its purpose is to identify potential issues in licensed U.S. vaccines, addressing concerns about vaccine safety (VAERS, n.d.). VAERS analyzes reports of adverse events post-vaccination, accepting submissions from anyone. While not designed to establish causation, it is valuable for detecting unusual patterns, which may prompt further assessment by the CDC and FDA. Objectives include detecting new adverse events, monitoring increases in known events, identifying risk factors, assessing newly licensed vaccines, addressing reporting clusters, recognizing safe-use problems, and providing a nationwide safety monitoring system for public health emergencies. Individuals can submit their adverse vaccine-related experiences to VAERS. These reports help detect unusual or concerning patterns that may suggest potential safety issues, prompting further evaluation by health authorities (VAERS, n.d.). However, their study focused on improving the reporting of adverse vaccine events to VAERS. Lazarus et al. (2010) highlighted the underreporting of such events. They advocated for implementing automated reporting systems integrated into electronic health records. The research team aimed to enhance reporting by monitoring electronic medical records for adverse events, submitting secure electronic reports to VAERS, evaluating the performance of the Electronic Support For Public Health - Vaccine Adverse Event Reporting System (ESP: VAERS), and distributing portable documentation and software for broader use in ambulatory care settings and EMR systems (Lazarus et al., 2010).

Building upon efforts to ensure vaccine safety and monitor adverse events through systems like VAERS, it is crucial to recognize concerns raised by individuals who believe their children's negative vaccine-related experiences are overlooked or unreported. As a result, these

parents may understandably develop vaccine hesitancy stemming from fears that vaccines are ineffective, unsafe, overly abundant, and have the potential to cause serious harm or even death.

# Fear of Vaccines

Vaccine Efficacy. The CDC (2023b) reports that childhood vaccinations prevent 4 million deaths globally yearly. However, many vaccine-hesitant proponents look at McKinlay and McKinlay's (1977) assertion that, at most, about 3.5 percent of the total decline in mortality could be attributed to medical interventions, including vaccinations, for infectious diseases. Contemporarily, the McKinlays contend that effective vaccines play an important role in containing diseases after prevalence reduction and point to measles as an example of disease resurgence when vaccination efforts decrease (Kindig, 2020). Profound reductions in morbidity and mortality are achieved through vaccination (Davis & Kemper, 2003). Moreover, Maman et al. (2015) highlight the value of combination vaccines in increasing coverage rates and protecting against multiple diseases with fewer injections. Echoing the praises of vaccine hesitancy, Scheffler (2013) emphasizes the importance of high vaccination rates to prevent disease outbreaks. Disease prevention in childhood has been found to be positively impacted by the development of new vaccines (De Clavijo & Weart, 1994).

Vaccine Safety and Potential Risks. Expressing concerns about vaccine safety is a prevalent issue among hesitant parents (CDC, 2023c). The CDC underscores the safety of vaccine components like aluminum salts, formaldehyde, and thimerosal, asserting their effectiveness for children's well-being (CDC, 2023c). Contrarily, the National Childhood Vaccine Injury Act of 1986 recognizes vaccines as "unavoidably unsafe," initiating discussions on the safety of these elements (National Childhood Vaccine Injury Act, 1986, pp. 11-15), which could prompt debate on the safety of these elements. Tomlijenovic and Shaw (2011) raise the

alarm about aluminum, highlighting its neurotoxic properties and advocating for a comprehensive evaluation of its vaccine risks and benefits. While the CDC (2022) downplays safety concerns about formaldehyde, Duong et al. (2011) express worries about its pervasive presence in various industries, including vaccines, posing potential health risks, especially for children and women of childbearing age.

Additionally, the CDC defended thimerosal-containing ethylmercury (2022), emphasizing its minimal usage and distinct processing in the body to reduce the risk of accumulation. Barrett's (2005) study on baby monkeys exposed to thimerosal in vaccines suggests a need for further research due to the presence of more inorganic mercury in their brains. Parents apprehensive about vaccine safety can refer to the CDC's website for information on side effects, with most being minimal, such as a sore arm or slight fever (CDC, 2020). However, serious side effects like high fevers, seizures, and allergic reactions are acknowledged, contributing to parental concerns and potential vaccine hesitancy and refusal.

The Proliferation of Childhood Vaccines. It is recommended that children have 69 doses of 16 vaccines by the time a child is 18 years of age, with 50 doses before age 6 (CDC, 2023a; Mawson & Croft, 2020) (See Figure 1). As the vaccination schedule has expanded and accelerated threefold since 1983 due to the development of new vaccines, Mawson and Croft (2020) and other recent research raise concerns about the cumulative effects of multiple vaccinations, suggesting a potential link to various health issues, including allergies, infections, as well as neuropsychiatric or neurodevelopmental disorders. The researchers (2020) propose a hypothesis connecting vaccination-induced liver dysfunction to toxic vitamin A levels, which can lead to chronic adverse health outcomes. Moreover, Goldman and Miller's (2012) study analyzing the Vaccine Adverse Event Reporting System (VAERS) database from 1990 to 2010,

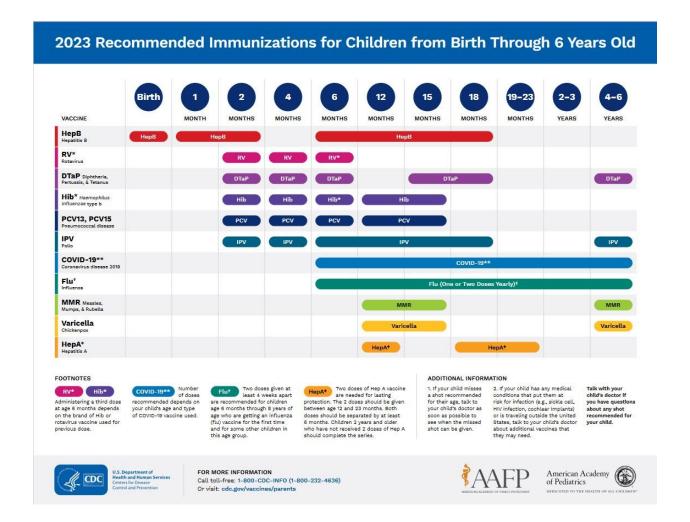
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focusing on cases of hospitalization or death among infants, found a positive correlation between the number of vaccine doses administered and both the percentage of hospitalizations and deaths. The study (2012) emphasizes the importance of conducting scientific studies on the combined toxicity of various vaccine combinations. It underscores the need to prioritize efforts to enhance vaccine safety, given the widespread administration of vaccines to infants (Goldman & Miller). Conversely, studies by Börner et al. (2006) highlight that administering multiple vaccines can be well-tolerated, causing minimal subjective side effects. In line with this perspective. Choo and Finn (1999) underscore the benefits of combination vaccines, emphasizing their capacity to improve vaccine coverage and reduce morbidity and mortality. Additionally, the Institute of Medicine U.S. Immunization Safety Review Committee (2002) asserts the absence of evidence supporting the notion that multiple immunizations increase the risk of immune dysfunction. Additionally, Fletcher et al. (2004) propose that combination vaccines have the potential to address epidemiological gaps and extend protection against diverse diseases.

Figure 1

2023 Recommended Immunizations for Children from Birth Through 6 Years Old



(CDC, 2023a)

Harm and Mortality Associated with Vaccination. Increases in cases of autism beginning in the 1990s have raised red flags for some parents. Scientists believe that it might be due to a combination of genetics and environmental factors. Delong (2011) explored whether childhood vaccinations could be linked to more cases of autism and found a positive relationship between an increase in vaccinations that might be connected to more cases of autism or speech and language issues. Due to these findings, this researcher is a proponent for further investigation into factors that may be contributing to an increase in cases of autism. Subsequently, Miller (2021) examined reports of infant deaths from vaccines between 1990 and 2019 and found that

more than half of the deaths occurred within three days of vaccination, and almost 80% happened within seven days. This researcher's study suggests there may be more deaths right after vaccines and advocates for further research on vaccines to determine if they could be linked to sudden and unexplained infant deaths. Conversely, a study conducted by DeStefano and colleagues in 2013 contends that no clear connection exists between vaccines and autism. The findings from these researchers who studied a number of children with and without autism revealed a non-elevated risk of autism with more vaccinations (DeStefano et al., 2013). Notably, Price (2021) and Yang and Shaw (2018) contend that no evidence exists regarding a correlation between vaccines and Sudden Infant Death Syndrome (SIDS). Moreover, Vennemann and fellow researchers (2007) suggest that getting vaccinated may lower the risk of SIDS by half, while Mitchell et al. (2006) convey that vaccines may aid in reducing the risk of SIDS instead of making it higher.

### Religious beliefs

Religious beliefs play an important role in the lives of many individuals, serving as a source of meaning and purpose, bringing people together, guiding behavior, contributing to overall well-being, and inspiring them to make positive changes in their communities (Mirola et al., 2016). Religious beliefs may impact vaccine hesitancy. Rutjens et al. (2017) found that, in particular, religious conservatives harbor skepticism about vaccines, stemming from a broader distrust in science. This sentiment is reinforced by Kuru et al. (2022), who underscored the link between religious affiliations and varying levels of philosophical and moral beliefs, crucial predictors of vaccine hesitancy. The researchers (2022) found that negative vaccine attitudes predicted weaker intentions to encourage others to vaccinate and a lower probability of receiving a vaccine (Kuru et al.). Furthermore, Levin and Bradshaw (2022) identified a significant

association between vaccine hesitancy and conservative religious beliefs. Their results indicate that skepticism and hesitancy toward vaccines were significantly linked to conservative political leanings and religious beliefs, with a relatively weaker association with socioeconomic status. (Levin & Bradshaw, 2022). Additional research conducted by Nagar and Ashaye (2022) unveiled heightened levels of vaccine hesitancy within particular religious communities, such as white evangelicals, African American Protestants, and Hispanic Catholics. Religious beliefs can significantly influence individuals' perspectives and choices regarding vaccines, shaping their trust or distrust in these medical interventions.

### Information sources

Recognizing the persuasive influence of information sources on individuals is important in exploring how various channels impact vaccine hesitancy. Charron et al. (2020) highlighted that parents receiving vaccine information from healthcare professionals exhibited better vaccination adherence and acceptance, contrasting those relying on the internet or relatives. Bhagianadh and Arora (2021) extended this understanding to older adults, revealing that those dependent on healthcare providers, social media, internet/webpages, or family/friends as their primary information sources expressed higher negative intent towards COVID-19 vaccination, specifically in contrast to those relying on regular news. Furthermore, Getman et al. (2017) shed light on the influence of online content, emphasizing that vaccine-hesitant communities rarely engage with pro-vaccine information. Reno et al. (2021) added another layer, illustrating how social media could directly or indirectly increase vaccine hesitancy, while institutional websites had the opposite effect. Reinforcing this perspective, Green (2023) underscored the significant impact of social media as a primary source of vaccine information for the general public, influencing both rational and irrational vaccine hesitancy.

Moreover, Fischbach et al. (2022) looked into the trust factor, noting that misinformation from different sources like mainstream media and social media affected people's doubts about vaccine information from health experts. Further emphasizing the pivotal role of trust, Low et al. (2022) suggest that trust in information sources is highly predictive of vaccine hesitancy, irrespective of whether the sources are formal or informal. Expanding on these considerations, Koskan et al. (2023) underscored that vaccine hesitancy is a multifaceted phenomenon influenced by confidence in the safety and effectiveness of the vaccine, complacency, convenience in obtaining the vaccine, communication of information and misinformation about the vaccine, and the broader context of vaccine acceptance and hesitancy. Providing accurate and reliable information through trusted sources to effectively address vaccine hesitancy cannot be overstated.

# Personal experience

Personal experiences significantly shape an individual's worldview, making it unsurprising that these experiences profoundly impact attitudes toward vaccinations and vaccine hesitancy. Veronese (2023) explored how negative healthcare experiences, such as facing racial discrimination, can strongly contribute to vaccine hesitancy. This sentiment is echoed by Meng's (2022) national survey study in China, which identifies negative vaccine experiences as the foremost factor leading to unfavorable vaccine attitudes and heightened hesitancy. Likewise, a study conducted in Taiwan by Deng et al. (2023) pinpoints past negative experiences as a crucial factor influencing parental hesitancy regarding vaccines for their children. Consequently, individuals with negative vaccination experiences display a heightened susceptibility to antivaccine arguments (Stasiuk et al., 2021). Sun et al.'s (2021) work further establishes that adverse emotional reactions, such as anger and anxiety, towards vaccine events are associated with

diminished trust in vaccines and declining vaccine intentions. Recognizing the intricate web of influences on vaccine hesitancy, Dubé et al. (2018) investigate the multifaceted landscape of parental vaccination decisions. The researcher (2018) emphasizes the significance of various elements such as experiences, emotions, information sources, risk perceptions, and trust (Dubé et al.). Adding to this perspective, Facciolà et al. (2019) illuminate how parents' viewpoints on vaccination are molded by their awareness of instances where vaccines adversely affect individuals. Kestenbaum and Feemster (2015) reiterate the complex nature of vaccine hesitancy, underscoring the interconnected impact of social, cultural, and personal factors.

Personally experiencing the profound loss of a child can profoundly impact an individual's perspective on vaccinations, potentially leading to vaccine hesitancy. Unfortunately, there is a paucity of research, particularly concerning the experiences of bereaved parents and grandparents who have lost a child, potentially due to complications arising from vaccinations. The emotional toll and unique circumstances surrounding these cases warrant a more profound exploration of the nuanced factors contributing to vaccine hesitancy within this demographic. Comprehensive research in this area can provide valuable insights into the emotional and psychological aspects that influence vaccine decision-making among those who have experienced the tragic loss of a child in connection with vaccinations.

#### **Theoretical Framework**

A case study was employed to explore vaccine-hesitant parents' and grandparents' perceptions and experiences. This methodology explores real-life, contemporary scenarios or settings to understand how a specific case, an individual, a group, an organization, or a broader concept, like a community or a decision-making process, functions (Creswell & Poth, 2018). A case study comprehensively explores one or more bounded systems, gathering detailed

information from various sources and presenting a comprehensive case description and its underlying themes (Creswell & Poth, 2018). A case study design is well-suited for this study as it allowed for a focused and detailed examination of a specific group within a broader context, ultimately providing valuable insights into vaccine hesitancy among parents and grandparents who have experienced such a tragic loss. This method provides a comprehensive understanding of how these individuals perceive the role of vaccinations in their child's illness and passing. It also allows for a nuanced exploration of the factors contributing to their vaccine hesitancy. I gathered rich and detailed qualitative data through in-depth interviews with a parent and grandparent who have directly experienced this loss and exhibit vaccine hesitancy. This approach enabled the collection of personal narratives, emotions, and perspectives, crucial in understanding the complex interplay of grief, beliefs, and vaccine hesitancy.

This study was approached through the lens of social constructivism. Social constructivism is a philosophical approach that posits individuals construct their understanding of the world through personal experiences shaped by social interactions, cultural influences, and historical context (Creswell & Poth, 2018). It asserts that meaning is socially constructed through personal experience and cultural context (Crotty, 2015). This perspective emphasizes that all social or natural reality is socially constructed, challenging the notion that natural phenomena are independent of human interpretation (Crotty, 2015). Social constructivism highlights the interconnectedness of the social and natural world in light of the broader human experience (Crotty, 2015). Within this framework, this research prioritized the exploration of the intricate nuances of vaccine hesitancy and the roles institutions such as governmental, medical, internet, and media entities play in shaping the construction of how vaccines are interpreted and understood. To capture these nuanced perspectives, I engaged in one-on-one interviews using

open-ended questions, collected online journal entries, and gathered material data meaningfully reflecting the participants' viewpoints and outlooks. This methodological approach was chosen to delve deeply into the diverse range of experiences and contexts that influenced participants' perceptions and interpretations. Embracing this social constructivist standpoint, I aimed to explore the intricate interplay between individual experiences and broader societal constructs in shaping the meaning and comprehension of vaccine hesitancy among bereaved parents and grandparents.

#### Method

#### Recruitment

Participants were thoughtfully selected through purposive sampling, a deliberate approach aimed at identifying individuals who could offer unique insights into vaccine hesitancy due to heartbreaking bereavement. Within this method, the researcher reached out to acquaintances within their social network. Through considerate phone calls and emails, these individuals were approached with sensitivity, inquiring if they would be open to sharing their tragic loss's profoundly personal and impactful narrative, subsequently influencing their stance on vaccination.

# **Participants**

The participants in this study consisted of a 33-year-old mother who tragically lost her 2-year-old son due to what she believes were complications from the flu vaccine. Her 56-year-old mother, the child's grandmother, also participated in the study. Both of these individuals reside in the rural Mountain West. They both identify as heterosexual Caucasian women, providing a unique perspective on the intersection of personal tragedy, vaccine hesitancy, and cultural context in this region.

#### **Data Collection**

Data collection was conducted using three primary research methods from October 2023 to November 2023. These methods were strategically chosen to ensure a thorough exploration of the subject matter.

#### Interview

Participants were interviewed in the comfort of one participant's home, while the other interview was conducted via Zoom, ensuring a convenient and accessible platform. The discussions centered around their profound experiences and perspectives concerning the tragic loss of their two-year-old son/grandson. Additionally, the interviews delved into their sentiments regarding vaccine hesitancy and their strategies for accessing information on health matters that they consider reliable. An interview guide was prepared to facilitate a comprehensive conversation, offering flexibility to delve deeper into specific points of interest. These insightful conversations spanned approximately 60 to 80 minutes, with the proceedings assiduously recorded for thorough analysis.

### Online Journal

Following the interviews, each participant was provided access to a dedicated online journal facilitated through a secure and collaborative Google document platform. This innovative approach offered participants a valuable opportunity to contribute additional information that may have been overlooked during the interview or were not explicitly prompted to discuss. By supplementing the interview process with this journaling method, a wealth of profound insights and nuanced perspectives were unearthed, enriching the overall depth of the gathered data beyond what could have been obtained solely through the interview sessions. This

complementary approach comprehensively explored the participants' experiences and viewpoints.

# Material Data

Participants were invited to contribute a tangible piece of material data that held significance in representing their departed son or grandson, their perspectives on vaccinations, or any other aspect related to the study's focal point. This method offered a profound dimension of insight by recognizing the unique power of visual data in conveying sentiments and experiences that may transcend verbal expression alone. By supplementing the interview and journaling processes with this visual element, a depth of understanding was attained that surpassed what could have been achieved through these methods in isolation. This multi-dimensional approach ensured a comprehensive and nuanced exploration of the participants' narratives and viewpoints.

#### **Ethics**

The research process adhered to strict ethical standards. This involved securing Institutional Review Board (IRB) approval from the researcher's affiliated university, underscoring the commitment to ethical research practices. Additionally, prior to any interviews, participants provided explicit written consent for their participation, including an agreement to an audio recording. They also willingly engaged in the online journal component and contributed meaningful material data.

Participants were offered the option to use pseudonyms for added privacy, although both chose not to exercise this option. They were assured that all information shared would be treated with the utmost confidentiality and that they retained the right to withdraw from the study at any point without consequence. Furthermore, participants were allowed to review interview transcripts, allowing them the agency to modify or retract any content as they saw fit.

Throughout all interactions, profound sensitivity and empathy were maintained, recognizing the subject's deeply sensitive and tragic nature. This approach was paramount in establishing a safe and supportive environment for participants to share their experiences.

# **Data Analysis**

Interview transcripts, online journal entries, and material data were meticulously examined using narrative analysis. I utilized the NVivo 14.23.2 (46) software as a secure platform for efficient data organization and in-depth analysis. This allowed for a systematic and comprehensive examination of the data.

Labov's Five Principles of Narrative Analysis is a structured and systematic framework that was applied to delve into the narratives provided by participants. These principles of narrative analysis include abstract, orientation, complicated action, evaluation, and result (Andrews et al., 2013). The abstract summarizes the story, previewing what will come (Andrews et al., 2013). Orientation answers the questions of who, when, and where, establishing the setting for the narrative (Andrews et al., 2013). Complicating action provides a chronological account of events and forms the core plot of the story (Andrews et al., 2013). Evaluation conveys the narrator's perspective on the events, justifying the storytelling and revealing the narrator's emotions and feelings. The result reveals how the story concludes, offering closure to the narrative. A sixth element, the coda, signifies the end of the narrative and is utilized to bring the narrative back to the present (Andrews et al., 2013).

Initially, focus was placed on pinpointing abstracts and orientations, which allowed for an insightful understanding of the context and purpose woven into each narrative. These foundational steps were crucial in offering an overview of the story and shedding light on the core motivations and recurring themes that influenced the narratives. The analysis delved deeply

into the complicated actions and resolutions within the narratives. These stages provided valuable insights into how participants navigated their experiences, bringing to light the challenges, decisions, and resolutions they encountered. Moreover, meticulous attention was paid to the evaluation component, revealing the emotional and reflective dimensions interwoven in their stories. This facet unveiled the nuanced process of meaning-making and exposed the subjective interpretations participants ascribed to their experiences.

The analysis sought to go beyond surface-level content. Efforts were directed towards identifying underlying structures, recognizing recurring patterns and themes, and discerning the broader narrative arcs, encompassing exposition, rising action, climax, falling action, and resolution, that shaped these accounts (Boyd et al., 2020). By integrating Labov's principles into the research, the aim was to examine the content of narratives and unravel the intricacies and themes of storytelling elements. This approach facilitated a comprehensive and nuanced understanding of the experiences shared by the participants.

### **Trustworthiness**

The current study prioritized trustworthiness by intentionally applying data triangulation, researcher reflexivity, and prolonged engagement. Triangulation with multiple data sources involves comparing and cross-verifying information gathered through varied data collection methods (Merriam & Tisdell, 2016). Employing data triangulation, I systematically gathered information from various sources, including interviews, online journal entries, and material data, to ensure the robustness and credibility of the study's findings. Researcher position and reflexivity involve the researcher acknowledging and explaining their biases and assumptions, providing transparency for readers to understand how their perspectives may have influenced the study's conduct and conclusions (Merriam & Tisdell, 2016). Researcher positionality and

reflexivity were pivotal as I shared and remained conscious of my biases and potential influences on the research process. This self-awareness guided interactions and interpretations, contributing to a more nuanced understanding of the data. Furthermore, the study embraced prolonged engagement by conducting extensive, hour-long participant interviews. Prolonged engagement is the substantial investment of time required to familiarize oneself with the culture, assess potential biases in both the researcher and participants, and cultivate a foundation of trust (Greene, 2014). This prolonged interaction not only facilitated the development of rapport but also allowed for a comprehensive exploration of perspectives and experiences, enriching the depth and authenticity of the collected data. Furthermore, member checking was employed as an additional measure to enhance the study's trustworthiness. Seeking feedback from interviewed individuals is crucial for avoiding misinterpretations of participants' meanings and perspectives, allowing researchers to identify and address their biases and potential misunderstandings, thereby enhancing the study's validity and rigor (Merriam & Tisdell, 2016). Member checking involved sharing transcribed interviews with participants and seeking their feedback to validate and refine the content. This iterative process ensured the accuracy of interpretations and allowed participants to contribute to the research's trustworthiness by confirming the accuracy of the transcriptions with their lived experiences. Member checking, as a form of participant validation, further solidified the credibility and authenticity of the study, reinforcing the reliability of the insights gained from the participants' perspectives. Through these deliberate measures, I aimed to establish a foundation of trustworthiness in this research, enhancing the reliability and validity of study outcomes.

### Researcher Positionality

As a mother of five grown children, I have had ample vaccination experience. In my early years of motherhood, I harbored significant apprehensions about subjecting my children to routine inoculations. The very idea of witnessing them endure even minor discomfort was unsettling. However, as I journeyed as a mother, I came to recognize the significance of vaccinations and believe in their contribution to the collective well-being of public health and safety.

As a researcher, having further explored the subject matter for this study and engaged in conversations with the participants, I empathize with and can now rationalize how parents may develop concerns beyond mere apprehension. It is understandable how, in some instances, there may be a belief that vaccinations could pose not just harm but even a threat of fatality. I am convinced that seeking information from reliable, reputable sources and arming oneself with comprehensive knowledge about vaccines is paramount in making well-informed decisions for oneself and one's family.

### **Findings**

# Abstract - Vaccination Hesitancy & Regret

The narrative centers around a tragic sequence of events involving a 2-year-old boy named Kale. Kale's health took a severe turn after receiving routine vaccinations, including the flu shot. Initially dismissed as flu symptoms, Kale's condition worsened in the ER, marked by the emergence of alarming purple and red splotches. Despite his deteriorating state, medical staff struggled to diagnose him accurately and even attempted to send the family home, conveying that his symptoms were likely manifestations of the flu. Eventually, Kale was diagnosed with bacterial meningitis, but by then, the situation had become critical. He was airlifted to a hospital for children, where he experienced further crises. Despite the medical efforts, Kale's condition

continued to worsen, leading to an eventual end to his battle. The family faced profound grief and struggled to comprehend the sudden loss.

In the midst of this horrifying experience, there was a persistent belief held by the family, particularly Kale's mother and grandmother, that the flu vaccine may have played a role in Kale's illness. This suspicion was met with resistance from medical professionals, who firmly asserted that vaccines could not be the cause. The narrative also highlights a decisive moment of spiritual intervention, where the family received what they believed to be a visitation from an angel, offering comfort and reassurance during their darkest hour. This profound and heartbreaking experience triggered a significant vaccine hesitancy in both the mother and grandmother, prompting them to reevaluate their perspectives on immunization. Additionally, it marked the commencement of a profoundly transformative spiritual journey for both women. The story underscores the family's enduring quest for answers and their unwavering commitment to seeking the truth about Kale's tragic passing, even in the face of medical skepticism and uncertainty. The recounting of this painful experience serves as a testament to the family's resilience and determination to honor Kale's memory.

### Orientation - Narrative Setting

At the time of the narrative, the participants, Amber, the mother, and Chris, Amber's mother and the grandmother of two-year-old Kale, live in a rural Mountain West community with Kale's father, Matt, and Chris's husband, Dan, the toddler's grandfather. Here in a small town hospital, the pivotal event unfolded that would forever alter the lives and perspectives of this family, including Amber and Chris specifically. Their overarchingly healthy toddler received his routine vaccinations, including the flu shot. Four days after the routine vaccinations, Kale developed a seemingly unthreatening fever. However, the fever took a serious turn, leading the

family to an unplanned and challenging eight-day hardship. After unsuccessfully attempting to assuage the fever, Kale's parents took him to the local emergency room. The medical staff assured the parents and grandparents that the toddler's symptoms were merely those associated with the common flu, and the subsequent hours proved to be a series of harrowing moments as Kale's condition rapidly deteriorated, defying initial diagnoses. Purple and red splotches began appearing on Kale's skin, marking a turning point that shattered any illusions of the common flu. This unsettling change led the medical events into unfamiliar territory, with healthcare workers working frantically to identify the precise medical condition they were facing. The mother shared,

And in the ER, they kept trying to send us home. They just kept telling us it was the flu, too. And I just knew that it wasn't, you know. And so I kept refusing. Well, then, a couple of hours into it, he started getting purple splotches all over. I can't remember the exact term for them. But when that happened, he like started crashing like he went, like non-responsive.

# Complication - Medical Crisis & Coping Strategies

Kale was scheduled for his routine 2-year-old vaccinations, which included the flu shot. Both Amber and Chris harbored reservations about this particular vaccine. However, Kale's doctor convinced Amber to allow Kale to receive the vaccinations. She acquiesced, believing the doctor likely knew best. Four short days later, Kale started showing signs of sickness. He initially complained of a headache and later developed a high fever. Chris, his grandmother, conveyed,

I believe he had a headache because he kept saying, "Owee, owee, owee,"

Unable to control Kale's fever, which reached 104 to 105, Amber and Kale's father, Matt, took the toddler to the local emergency room. Amber's parents, Chris and Dan, were in the area when they learned that Kale was in the emergency room, and they joined Amber, Matt, and Kale at the hospital. Chris shares,

I just I'll never forget that. He was so sick, almost pleading. But he looked normal at that moment.

Initially, the medical staff brushed off the little boy's symptoms as flu symptoms. However, small reddish-purple spots started appearing on Kale's arms. Chris noticed the splotches,

But as the hour went on, as I was sitting there in the emergency room, I started noticing these little red, dark red little splotches on his arm. Well, I noticed one, and I'm like, "What is that?" As we sat there, there'd be more. And I'm like, "That's not normal" So, I went and got the nurse.

The whole mood and treatment protocol shifted when these splotches were pointed out to the healthcare workers. The staff began frantically rushing around and conducted more extensive tests, including a spinal tap. After receiving results from the toddler's testing, the doctors informed the family that the two-year-old was suffering from bacterial meningitis. Kale's condition worsened, leading the medical staff of the small town hospital to transport him via helicopter hospital designated for children. Between the time the parents left the small hospital and the time they were able to arrive at the children's hospital in a neighboring metropolitan area, Kale's appearance drastically changed. Their sweet boy's body was swollen and discolored, making him nearly unrecognizable. For the next eight days, doctors and medical staff ran tests and gave their best efforts to save little Kale's life.

The following themes, doubts and misinformation surrounding vaccination, medical misdiagnosis and delayed intervention, and emotional and spiritual coping mechanisms, emerged from the complicated action of Kale's narrative.

Doubts and Misinformation Surrounding Vaccination. The narrative of the mother, Amber, and the grandmother, Chris, reveals doubts and concerns surrounding vaccination. Despite a nagging feeling experienced by both Amber and Chris, the family proceeded with the immunization, only to witness a rapid decline in the child's health just days later. This unsettling development led to persistent suspicions centered around the flu shot. Amber and Chris conveyed that their attempts to highlight this connection were met with dismissal, as medical professionals emphasized that the vaccine was not a live virus. Even when they pointed out that the vaccination occurred just days before Kale fell ill, their concerns were brushed aside. This skepticism extended to a peculiar posthumous survey from the CDC, inquiring about the maternal grandfather's opinions on vaccines, further deepening their apprehension. Both women are now firmly vaccine-hesitant after their devastating loss and find themselves wrestling with how to make sense of their experiences, especially given the widespread belief in the medical community about the benefits of vaccinations. Amber shared,

He was healthy when we went in and got the vaccine. I just had a really weird feeling that day, you know, like I shouldn't do it. And so I ignored that feeling and did it anyway.

Chris echoed Amber's hesitancy,

He was going in for his 2-year-old vaccinations. I had a feeling, and so did my daughter. She knew that he was going to do the flu vaccine. And immediately I didn't feel right about it; she didn't feel right about it. We discussed it and for the day the day before, and I told her that probably the best thing to do would be to talk to the doctor and tell them

your concerns and make your final decision with that. So that's what ended up happening. I did not feel good about it all night, and by the next day, I wanted to tell her, call her before she went in there to tell her not to let them do it because I just didn't feel right about it. Well, when I called her at 10:30 because that's what her appointment was when I remembered (to call) because I was busy at work, she told me that they just did it. They gave him that vaccine.

Medical Misdiagnosis and Delayed Intervention. The family faced a frustrating ordeal in the ER, where they were repeatedly told that Kale's symptoms were just the flu. However, Amber knew deep down that something more serious was going on and steadfastly refused to leave. This persistence led to further medical tests, including a spinal tap. When the results came back clear, the doctors initially claimed it was viral meningitis instead of bacterial, which turned out to be incorrect. This misdiagnosis only added to the chaos as the medical staff scrambled to get Kale transported to a children's hospital in a nearby metropolitan city. Amidst this turmoil, Amber and Chris's concerns about the flu shot were consistently dismissed by medical staff, who insisted that vaccines could not be the cause. This resistance to considering alternative possibilities left the family feeling unheard and frustrated. In retrospect, they realized that the situation could have been more tragic had they followed the initial advice to go home. Amber shared her persistent feelings about not wanting to be sent home from the hospital,

And in the ER, they kept trying to send us home. They just kept telling us it was the flu, too. And I just knew that it wasn't, you know. And so I kept refusing.

Chris mirrored Amber's sentiments,

They were going to send him home, by the way. Before this happened, they were like, well, "It's the flu." And they were going to send them home. So it's good that I noticed

those black splotches because they would have been on their way home when that happened.

Amber asserted that she was frustrated at Kale's initial misdiagnosis,

But they did this spinal tap, and they came back and said the spinal tap was clear. "So good news! It's viral meningitis instead of bacterial meningitis." Which that's not correct. So, that I thought was weird and but at the time, I didn't know.

She also shared her aggravation of not feeling heard when she raised concerns about the flu shot, The second I would start asking because I kept asking him about the flu shot, the flu shot. I was saying, "I'm pretty sure the flu shot did this." And every time I'd bring that up they'd shut me down. And some of them would get mad. Some of them got angry with me after a while, and we're like, "The flu shot would not cause this. Vaccines won't cause this." None of them had an actual conversation about it. They all shut me down right away.

Chris concurred, asserting,

So I just had a really bad feeling about this flu shot, and I kept telling them, "I think this is the flu shot." And they're like, "No, it's not a live virus." And I'm like, "Well, I don't believe that. I don't believe that."

Emotional and Spiritual Coping Mechanisms. Amid the chaos, the family turned to their faith as a source of strength. The mother sought solace in prayer, leaving the room to seek a higher power's intervention. She clung to her faith through the long, agonizing night, finding comfort in her conversations with the divine. When the call came from her daughter, urgently pleading for more prayers, she did not hesitate. The family's spiritual resilience extended beyond words as they physically surrounded Kale's bedside, seeking a divine presence to guide them

through the turmoil. Their unwavering belief in the power of prayer seemed to touch something extraordinary as the chaos in the room subsided, and Kale's condition momentarily stabilized. Chris shared this experience,

she [Amber] ran in, and there were like 30 some doctors in his room. All the bells and whistles were going off in there. And she just pushed them all aside and threw herself on his body and started praying over him, praying, praying, praying. You know how. And she said she can remember looking at Matt, and he was furious, but she didn't care. She kept going. And all of a sudden, everything shut down like the bells and whistles stopped. And the doctors were confused because Kale stabilized through that. That's pretty amazing. And so it kind of gave us hope that maybe everything was going to be okay.

This spiritual connection, culminating in a palpable sense of hope, provided a glimmer of light in the darkest hour.

In another pivotal moment, a stranger appeared, claiming to have been watching over them from above. Her presence felt otherworldly, and her words offered a profound reassurance. She assured them they were not alone in their prayers and that a higher power's peace was with them. Chris shares,

I was praying back and forth, back and forth, marching and marching, praying and praying. And when I walked away from them, I yelled out to God in my prayer, I'm like, "Lord, send us an angel. Send us your angels to bring your peace to us or something," you know. And when I came back around and I stopped at Dan's feet, I noticed an extra set of feet. And I looked up, and there is this lady standing next to Amber. And that's when they noticed it, too, and it took me back. And they looked at her, and she said, "I just want you to know that I've been watching you from up there," and she was pointing

at the balcony above us. And she goes, "I'm praying with you. I'm believing with you. And I'm standing with you in prayer." And then she goes, "And I'm praying that God's peace is on you," or whatever. And then she just like turned around, got on the elevator, and left us. But it was so weird how we just was there. And I told Amber and Dan, and I'm like, "It was an angel." I'm sure she was an angel because of that.

This encounter, seemingly orchestrated by a higher force, became a cornerstone of their coping process, a tangible reminder of the divine presence they believed to be guiding them through the harrowing ordeal.

# Resolution - Vaccine Hesitancy Due to Lack of Trust & Information

Despite the doctors' efforts, Kale's condition continued to deteriorate. Both Amber and Chris prayed ceaselessly for their little boy. The toddler's doctors spoke with the family, and their somber words painted a bleak picture of Kale's potential recovery. The cruel reality that there was severe damage to Kale's frontal lobe and the potential that he would face the loss of his limbs left little room for hope. The decision to let him go was made. Amber cradled her son; their final moments together were a mix of profound sorrow and fierce yet tender love. Chris shares.

Amber got in bed with him and was holding him, and they were watching Mowana, the Disney (movie). And Amber was talking to him and telling him that she's going to take care of his kitty. Very, very, very sad. But then I said then I said my goodbyes, and I left [the room].

A short time later, Kale passed away. Chris conveyed that it was "it a hard, hard time." After the medical staff tended to and took Kale, the grieving family left the hospital. The family's hushed exit from the hospital, carrying Kale's belongings, reflected their shattered hope. The world

outside was still, standing in stark contrast to the turmoil being experienced within each of them. In that achingly quiet moment, Chris found herself at a crossroads, a profound need to revisit the foundations of her faith taking root. This pivotal juncture marked the beginning of a new spiritual journey, a reconnection with her beliefs, now more fervent and essential than ever before. The journey home was silent.

The days that followed were a blur of painful tasks. Yet somehow, they forged through with the love and memory of Kale, guiding them forward. Amber's heartbreak left a permanent mark on her soul. Soon after Kale's passing, Amber made the tough decision to end her marriage. It was a strong sign of how much she loved her recently departed son and how deeply she grieved for him. Chris recounts,

And Amber was just beside herself. And Amber had to, you know, they stayed at her brother and sisters-in-law. And she called the next morning and said, "Mom, come and get me." And she never went back to Matt. At that point, she came here. She said she was done. I mean that's how bad it broke her. She was a fighter too before that, but.

The devastating loss of Kale shook the family to its core and played a significant role in Amber's marriage ending. She initially turned towards alcohol as a way to cope. However, she and Chris eventually found solace and strength in their faith and personal growth. Moreover, this traumatic event shifted their perspective on vaccines, making them staunch opponents, as they suspected that inoculations were connected to Kale's passing. The family continues to wrestle with their grief, forever marked by this heart-wrenching experience.

Concerns about vaccine effectiveness and safety, informed decisions, lack of trust in vaccines, and skepticism about vaccine research and trials emerged from the narrative's resolution.

Concerns About Vaccine Effectiveness and Safety. After their harrowing experience, Amber and Chris expressed deep concerns about the effectiveness and safety of vaccinations. They believe that the large number of vaccines given to children, especially in their first year, might not provide the long-lasting protection that is assumed. They also find it worrisome that some common symptoms after vaccination, like red spots or lumps or sleeping an abnormal amount of hours, are often dismissed as usual when they could indicate serious issues, including brain damage. Amber conveyed,

I learned the other day that I thought was interesting. One of the doctors on this documentary came on and was saying that with these vaccines, they tell you, "Oh, if you go home, and there's like a red spot or a red lump, that's normal." You know their whole spiel on what's normal. And a lot of times, these parents will call in and be like, "Hey, my kid has a slight fever," or "My kid's sleeping for long periods of time, like waking up to eat, and then going right back to sleep for two days. Is that normal?" And he said instantly, the doctor's response will always be, "Yes, yes, that's normal." And he said, "That's absolutely not normal.

Additionally, they are troubled by the fact that some vaccines contain multiple components and worry about the strain this might put on young bodies. They point out that in China, children are not vaccinated until they are four, and they find it interesting that Chinese children seem to face fewer health issues compared to their American counterparts. Amber asserted during the interview,

And one vaccine can have up to 7 different things in it. Like the one, they were going to give my two-month-old like eight vaccines. They were going to give her eight vaccines at two months. All at one time.

and,

In China, they do not allow their kids to be vaccinated at all until the age of 4. Coverage Yeah. And they say it's because, as babies, their bodies can't handle that many vaccines. Overall, Amber and Chris hold strong reservations about the safety and efficacy of vaccines, leading them to question the prevailing narrative about their benefits.

Informed Decisions. Amber and Chris emphasized the importance of healthcare professionals and parents doing thorough research on vaccines. They believe professionals should understand each vaccine in detail, including its components, potential effects, and statistics. This way, they can provide parents with a balanced view of the pros and cons, allowing them to make an informed decision for their family. Amber shares,

Honestly, I feel like these healthcare professionals need to do their own research. They need to learn about each vaccine individually. What's in it, what it can do? All the statistics on them. They need to know these vaccines front to back so that way they can tell you the pros; they can tell you the cons they can tell you exactly everything from front to back that could or could not happen.

Amber feels there is a push for vaccinations without giving parents the full choice and information they need. She conveyed,

With Kale, I remember the only reason why I gave him the flu shot that day was because I kept questioning the doctor about it that day, too, but she did the same thing. She pretty much just said, "Well, you don't want him to get the flu. He could die. And we're just going to give them the flu shot today." And it's like they're very, very pushy rather than giving you all the information and letting it be your choice.

Subsequently, this mother and grandmother underscore the importance of parents conducting their own research on vaccinations. Chris contends,

Do your homework, especially when it comes to your babies. Don't trust just because somebody says something. Do your homework, that's my final. And then you come up with your decision. If you choose to go along with it when you did your homework, and that's how you came up with your decision. You know I have no right to; I don't judge people for their decisions. But I do have a problem when they're not doing their homework. And I don't want to see babies' lives destroyed. And I don't ever want to see people go through what we had to go through.

They advocate not solely relying on a doctor or healthcare professional's opinion but for parents to gather and critically evaluate information independently before deciding about vaccinations. Both women are proponents of transparency and believe that doctors should share legitimate studies and outcomes related to vaccines with parents. Ultimately, Amber and Chris believe that the decision to vaccinate should be left to the parents based on comprehensive information.

Lack of Trust in Vaccines. A substantial lack of trust in vaccines was the derivative conclusion arrived at by both Amber and Chris after their tragic loss. Amber shared, I guess just seeing that you can't really trust what's being given to you. And you can't really trust what's truly in that vaccine. And actually, after learning what is in them because there's aluminum, like high, heavy metals, formaldehyde, like crazy stuff that should never, ever be in your body. That's what these vaccines are made up of.

They are skeptical about the chemicals in vaccines and find it conflicting when doctors advise against consuming processed foods but promote vaccines with chemicals. Chris asserts,

and,

And you know, really, I mean, if we start looking at things of all the chemicals and stuff. I mean oh, sure, some of them will say, you know, that are doctors will say, "Oh, well, don't eat processed foods. But take this vaccine. It's conflicting to me that you would be okay with us not doing that but with the vaccines that we know have a lot of chemicals in them.

This experience has led them to lose trust in vaccines in general. They also question the necessity of certain vaccinations, like chickenpox, measles, and mumps, and wonder if some medical treatments might do more harm than good. They express a preference for seeking information from homeopathic practitioners rather than traditional medical professionals.

**Skepticism About Vaccine Research and Trials.** This mother and daughter express skepticism about the effectiveness and safety of vaccines. Amber questions the claims that vaccines provide complete protection against viruses and doubts that the symptoms will be milder even if you get infected. She states,

You need to get these vaccines because they'll protect you from these viruses, and you won't get "la dee da dee da." But the truth is, they're not protecting you at all; you can still get it. But they say, "Oh, well, you'll still get it, but your symptoms will be less." I don't even think that's even true.

They also criticize the lack of comprehensive vaccine studies or clinical trials, particularly for babies and children. Amber shared her concerns,

Also, there are no trial studies on these vaccines. They say, "Oh, there's limited information on this," but that means there have been zero studies done. So, they're just giving these babies and kids these vaccines with no clinical trials, no studies, no nothing.

It's like you can't argue that. Because even people who are for vaccines can't provide information on studies being done on vaccines before they are given since there's literally no information on it. You can't find it anywhere.

Additionally, Amber raises concerns about the shedding of viruses by vaccinated individuals, potentially putting others at risk. She contends,

These vaccines also shed. So then that's always worried me a little bit, but like if a kid went and got the MMR, let's say, they shed for like 72 hours. So, anybody that comes in contact with them could end up with the measles, mumps, or rubella.

Finally, both women express strong reservations about the rushed development and widespread push for COVID-19 and other vaccines without thorough testing.

# Evaluation - Questioning Vaccines

This story holds significance in shedding light on vaccinations' complexities and uncertainties. It begins with Amber's intuition and concern about Kale's health during a routine checkup. The subsequent events deepened Amber's eventual research into vaccines, revealing a narrative that challenged conventional perspectives. The accounts of others, like a family friend who believed her child's sudden and severe health problems were attributable to vaccinations, further underscore the adverse experiences and viewpoints surrounding vaccinations. This story provides a window into a parent's emotional and intellectual journey grappling with vaccination decisions in the face of personal loss and external pressures. It highlights the need for open dialogue and informed decision-making in healthcare choices, particularly regarding vaccines. The themes, concerns about vaccine ingredients, distrust in vaccines and the medical establishment, personal experiences and anecdotal evidence, and spirituality and coping mechanisms were derived from evaluating the study narrative.

Concerns About Vaccine Ingredients. In vaccines, harmful substances like aluminum, heavy metals, and formaldehyde greatly concern Amber and Chris. They argue these are dangerous and should not be introduced into the body. They also point out the contradiction of advising against consuming mercury through fish like tuna while simultaneously administering substances containing mercury to children. Chris contends,

I mean, when they have different things in it, like mercury, and then they tell you not to eat tuna because of all of mercury, but yet they are shooting them in our kids. No way. I don't agree with that.

The speaker firmly disagrees with including such potentially harmful elements in vaccines. They believe it amounts to administering poisons to people, a practice they strongly oppose. Amber shares,

I guess just seeing that you can't really trust what's being given to you. And you can't really trust what's truly in that vaccine. And actually, after learning what is in them because there's aluminum, like high, heavy metals, formaldehyde, like crazy stuff that should never, ever be in your body. That's what these vaccines are made up of.

Chris echoes,

We're putting poisons in people, and I don't agree with it.

Both women strongly object to the presence of harmful substances in vaccines, contending that such components can potentially endanger individuals, specifically children, a practice they firmly reject.

**Distrust in Vaccines and the Medical Establishment.** Amber acknowledges having heard negative things about the MMR vaccine and feeling some concern about it. However, she contends that she did not question vaccinations before her heart-wrenching experience because

conveyed,

they were told it was important. She hesitated about the flu shot but acquiesced to the doctor's persuasion and had them administer it to her young son anyway. Additionally, Amber conveyed a growing distrust in vaccines, mainly due to concerns about their composition, such as the presence of substances like aluminum and heavy metals. Both Amber and Chris touch on the issue of doctors pressuring parents to vaccinate without providing comprehensive information. Amber shares,

They just pretty much say, "Okay, well, if you don't do this, your kid is going to die."

Like they go through their whole spiel of, "I have to tell you that if you don't vaccinate and they get this and they can die."

Upon refusing the vaccination for her new daughter, Amber shared that the doctors conveyed,

"Okay, well, then, we don't need to see you back until she has a sickness." So they didn't

even do her monthly wellness visits or anything. So, she never even went to the doctor

for the whole first year of her life. So, actually, she's never really had a wellness visit.

This mother and grandmother ultimately emphasize their decision not to vaccinate, citing a lack

of trust in the system and a belief that vaccines may be linked to various health issues. Amber

I will not vaccinate now. Mainly because I don't trust what's in the vaccines. Chris also shared,

So immediately after that [Kale's harrowing experience], I was like absolutely no vaccine. No vaccines.

They also expressed skepticism about the COVID-19 vaccine and raised questions about its development and potential side effects.

Personal Experiences and Anecdotal Evidence. Both mother and daughter search the internet and other digital sites to gain information and insight into the safety and efficacy of vaccines. Amber relies on a couple who produce documentaries about vaccines to gather information. These documentaries feature medical professionals, including doctors and nurses, as well as individuals with personal experiences related to vaccine injuries. These healthcare workers are sharing their insights and revealing the truth about vaccines. The speaker emphasizes that many in the medical field are realizing they were misled and are now speaking out about the actual effects of vaccines. The information obtained from this documentary series has significantly influenced Amber's decisions regarding vaccinations. She regrets her experience of having a strange feeling about hesitating in vaccinating Kale but ultimately going through with it. She reflects upon how Kale fell ill shortly after receiving the vaccine. Amber shared,

He was healthy when we went in and got the vaccine. I just had a really weird feeling that day, you know, like I shouldn't do it. And so I ignored that feeling and did it anyway.

And four days later, he was sick with this fever and came down with everything.

Chris points out that they know individuals who have opted not to vaccinate their children, and as adults, these individuals have been remarkably healthy. She asserts,

And I actually know people that have never given their kids vaccines, and when the kids were adults, they were far healthier than kids that had been vaccinated. So, explain that. They contrast this with cases they know of where serious health issues or autism have been linked to vaccinations. This highlights this mother and grandmother's skepticism about the benefits of vaccines.

**Spirituality and Coping Mechanisms.** During this challenging time, Amber and Chris turned to their faith in God for support and comfort. They felt a strong connection to God and

believed He communicated with them more profoundly during this period. The hospital experiences were filled with what they describe as spiritual incidents. One notable instance was when they believed they encountered an angel who prayed with them. Additionally, Amber recalls praying for her child, Kale, while surrounded by doctors who looked astonished. Surprisingly, Kale's vital signs normalized amidst this prayer. She shared,

looking up, and everyone was like staring at me like, "Oh, my God!" Like I lost my mind. But, his vitals completely normalized in the midst of it. It was the craziest thing.

This experience left a deep impression on the young mother. Amber also mentions that initially, she was angry with Jesus and wanted to distance themselves from the situation. However, she

and Chris eventually found solace in turning to God for support. Amber conveyed,

I started praying in tongues over Kale with a room full of doctors. And I remember

I pretty much turned to God over the whole thing and started seeking him and his comfort, and that was pretty much how I coped. And thinking back on it, I feel like God was speaking to me more and revealing things to me more back during all that. So, we had like a lot of incidences in the hospital that were spiritual incidences.

### Chris concurred,

I coped spiritually. I went to God.

The two found solace and healing in their faith, undergoing significant personal growth and spiritual revelations in the process.

#### Coda

Presently, you can find Amber tending to her home and two daughters, who arrived after Kale's departure when she met and married her now husband, Casey. Amber and Chris sometimes revisit their harrowing ordeal involving Kale's vaccination, medical crisis, and

subsequent loss, even though significant healing has taken place in the years following his passing. They now firmly oppose vaccinations, citing concerns about harmful substances, lack of trust in vaccine information, and skepticism about their overall effectiveness and safety. Their faith played a pivotal role in coping with the tragedy, and they believe it provided them with guidance and strength during their darkest moments. This experience has left a lasting mark on their perspectives on healthcare decisions, particularly regarding vaccinations.

**Table 1**Narrative Analysis

Labov's Five Principles	Sub-Categories	References	Sample Excerpt
Abstract Vaccination Hesitancy & Regret	None	2	"He was going in for his two-year-old vaccinations. I had a feeling, and so did my daughter. She knew that he was going to do the flu vaccine. And immediately, I didn't feel right about it; she didn't feel right about it. We discussed it and for the day the day before, and I told her that probably the best thing to do would be to talk to the doctor and tell them your concerns and make your final decision with that. So that's what ended up happening. I did not feel good about it all night, and by the next day, I wanted to tell her to call her before she went in there to tell her not to let them do it because I just didn't feel right about it. Well, when I called her at 10:30 because that's what her appointment was when I remembered (to call) because I was busy at work, she told me that they just did it. They gave him that vaccine."
Complicated Action	3	17	
Medical Crisis & Coping Strategies	Doubts & Misinformation Surrounding Vaccination		"So I just had a really bad feeling about this flu shot, and I kept telling them, "I think this is the flu shot." And they're like, "No, it's not a live virus." And I'm like, "Well, I don't believe that. I don't believe that."
	Emotional & Spiritual Coping Mechanisms		"I actually left the room and went to pray for him, and when I came back, the doctors were rushing around him."
	Medical Misdiagnosis & Delayed Intervention		"And in the ER, they kept trying to send us home. They just kept telling us it was the flu, too. And I just knew that it wasn't, you know. And so I kept refusing."
Orientation	None	2	"Well, I am a mother, too. I am married to my husband, Dan.
Narrative Setting			I have three grandbabies, and I have a fourth who is in heaven. So and, I'm also a realtor. And my husband, he is a truck driver slash farmer."
Resolution	4	41	
Vaccine Hesitancy Due to Lack of Trust & Information	Concerns About Vaccine Effectiveness & Safety		"And so any vaccine given to them that first year pretty much does no good. It wears off very quickly because they can't form an immune memory. And so, they're given all these vaccines, but yet it's not actually protecting them from that virus."

	Informed Decisions	"I would pretty much just say that you need to give the parents all the information. If you have studies, legitimate studies, that you performed when you created these vaccines, we want to know them, and what the outcomes there were and what happened, and how well it actually protects against the virus."
	Lack of Trust in Vaccines	"Mainly because I don't trust what's in the vaccines."
	Skepticism About Vaccine Research Trials	"Also, there are no trial studies on these vaccines. They say, "Oh, there's limited information on this," but that means there have been zero studies done. So, they're just giving these babies and kids these vaccines with no clinical trials, no studies, no nothing."
Evaluation	4 22	_
Distrust & Skepticism Toward Vaccines	Concerns About Vaccine Ingredients	"I mean, when they have different things in it, like mercury, and then they tell you not to eat tuna because of all of mercury, but yet they're shooting them in our kids. No way. I don't agree with that."
	Distrust in Vaccines in the Medical Establishment	"I always heard bad things about the MMR, and so I was a little concerned about that one. But mainly, I just figured, "Oh, they tell you to vaccinate your kids. We did when we were kids." So, I just never thought about it at all, really, I just did it."
	Personal Experiences &	"I know people that have gotten the serious, serious flu from the flu vaccine. I know so many people. I know people that
	Anecdotal Evidence	their kids are autistic today because of it or other serious side effects from them. I know that for a fact."  "I pretty much turned to God over the whole thing and

## **Online Journal**

The data in the online journal was analyzed using thematic analysis as it was not conveyed in narrative form. A general theme of skepticism and concerns toward vaccines emerged from the information. The information provided generally pointed to specific websites concerned with vaccinations' safety, efficacy, and necessity. Amber questions the motivations of government and pharmaceutical entities and expresses a broad distrust of their intentions, suggesting a potential profit motive in keeping the public unwell. There is also a touch on concerns related to COVID-19, including suspicions of population control. The data encourages further research on the topic, particularly emphasizing the comparison between the vaccine schedule and infant mortality rates in the United States. The potential correlation between strict

vaccine regimens and adverse outcomes, including instances of Sudden Infant Death Syndrome (SIDS), is briefly mentioned, drawing attention to the need for critical examination.

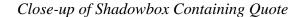
Including information from the online journal has significantly enriched the depth and value of the study's data. This valuable source brought unique perspectives and insights into the study and contributed valuable details that might have otherwise remained undiscovered. The perspectives shared in the online journal provided distinct nuances and real-world experiences that enhanced the comprehensiveness of the research. Without tapping into this resource, the study would have missed valuable data, limiting the scope and richness of the findings. The online journal was pivotal in broadening the study's perspectives and ensuring a more comprehensive exploration of the subject matter.

## **Material Data**

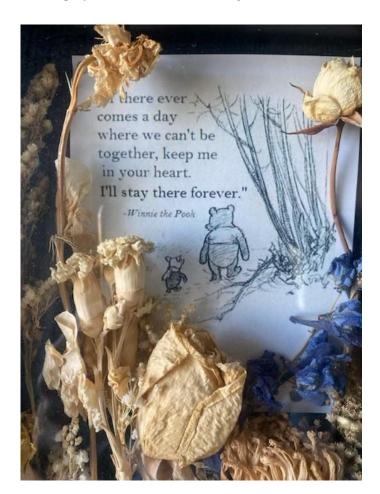
Material data is valuable as it provides the ability to provide a contextual understanding of the study. Tangible elements offer a rich context that complements interviews and journal entries. Material data contributes to triangulation, enhancing the credibility and reliability of findings. It deepens analysis, providing tangible evidence to support and enhance study findings. Participants may express themselves through material in a way that is impossible through mere words alone, which adds to a holistic understanding of the study. The material data provided in this study offered a depth of understanding of the participants' perspectives on loss and vaccine hesitancy. Chris provided a photograph of a shadowbox containing dried flowers, a ribbon, and a quote by Winnie the Pooh (See Figures 2 and 3).

Figure 2 Figure 3

Shadowbox Containing Quote







This touching quote beautifully conveys a lasting connection and enduring remembrance in the face of separation and loss. In the context of a study, the verse holds symbolic significance as it speaks to the enduring emotional bond the grandmother had with Kale and conveys that despite the inability to be physically together, the memories and love endure. The quote resonates with the notion that this precious little boy persists in the hearts and thoughts of his grieving family.

# **Discussion**

The narrative of Kale's medical crisis unveils a complex web of factors influencing vaccine hesitancy within the family. From initial doubts surrounding vaccines, particularly the flu shot, to the challenges faced during misdiagnosis in the emergency room, the family's journey

reflects the multifaceted nature of their experiences. The persistent doubts, exacerbated by the dismissal of concerns by healthcare professionals, contribute to a profound lack of trust in vaccines. This skepticism extends to the perceived lack of transparency regarding vaccine composition and potential side effects. The family emphasizes the importance of informed decision-making, advocating for comprehensive knowledge among healthcare professionals about each vaccine's components, effects, and statistics. Their narrative also gives voice to their concerns about the absence of comprehensive studies and clinical trials for vaccines, particularly in the context of infants and children. Overall, Kale's tragic experience becomes a poignant illustration of the intricate interplay between personal experiences, medical crises, coping strategies, and the enduring impact on vaccine perspectives.

## Limitations and Future Work

While this study sheds light on the intricate factors contributing to vaccine hesitancy within a specific family context, it is essential to acknowledge its limitations. The narrative is based on a singular, albeit deeply impactful, case, and generalizing findings to broader populations may be constrained. Moreover, the retrospective nature of the study introduces the possibility of recall bias, as participants recount events that occurred in the past. The reliance on the perspectives of two family members, the mother and grandmother, might also present a subjective lens, and including additional viewpoints could enhance the study's comprehensiveness. Future research could benefit from a more extensive sample size, encompassing diverse family dynamics and perspectives. Additionally, a longitudinal approach would allow for a deeper exploration of how vaccine hesitancy evolves over time within families. Furthermore, investigating the role of cultural and social contexts in shaping vaccine attitudes would contribute to a more comprehensive understanding of this complex phenomenon.

Despite these limitations, this study is a poignant starting point for future inquiries into the nuanced interplay between personal experiences, medical crises, and vaccine perspectives.

## **Conclusion**

This study explored the intricate narrative of a family's experience and revealed the profound impact of a medical crisis on vaccine hesitancy. Through the lens of personal tragedy, the family's doubts and concerns surrounding vaccination emerged as significant themes, shaping their perspectives on vaccine effectiveness, safety, and trust. The emotional and spiritual coping mechanisms employed during the medical crisis added a layer of depth to their journey. While this study offers valuable insights into the complex dynamics of vaccine hesitancy within this particular family context, it is important to acknowledge its limitations and the necessity for additional research. This narrative adds to the ongoing conversation about vaccine hesitancy, underscoring the intricate connections among personal experiences, interactions with healthcare, and belief systems that influence attitudes toward vaccines. This singular yet emotional story underscores the importance of nuanced, family-centered approaches in understanding and addressing vaccine hesitancy within broader societal contexts.

### References

- Andrews, M., Squire, C., Tamboukou, M., & Patterson, W. (2013). Narratives of Events:

  Labovian Narrative Analysis and its Limitations. In *Doing narrative research*. Essay,

  Sage.
- Barrett J. R. (2005). Thimerosal and Animal Brains: New Data for Assessing Human Ethylmercury Risk. *Environmental Health Perspectives*, 113(8), A543–A544.
- Bhagianadh, D., & Arora, K. (2022). COVID-19 Vaccine Hesitancy Among CommunityDwelling Older Adults: The Role of Information Sources. *Journal of Applied Gerontology: The Official Journal of the Southern Gerontological Society*, 41(1), 4–11.

  https://doi.org/10.1177/07334648211037507
- Börner, N., Mühlberger, N., & Jelínek, T. (2006). Tolerability of multiple vaccinations in travel medicine. *Journal of Travel Medicine*, 10 2, 112-6.
- Boyd, R. L., Blackburn, K. G., & Pennebaker, J. W. (2020). The narrative arc: Revealing core narrative structures through text analysis. *Science Advances*, 6(32). https://doi.org/10.1126/sciadv.aba2196
- Centers for Disease Control and Prevention. (2020, April 2). *Possible side effects from vaccines*. https://www.cdc.gov/vaccines/vac-gen/side-effects.htm
- Centers for Disease Control and Prevention. (2022, July 14). What's in vaccines? Ingredients and vaccine safety. https://www.cdc.gov/vaccines/vac-gen/additives.htm
- Centers for Disease Control and Prevention. (2023a, February 10). 2023 recommended immunizations for children from birth through 6 years old.

  https://www.cdc.gov/vaccines/parents/downloads/parent-ver-sch-0-6yrs.pdf

- Centers for Disease Control and Prevention. (2023b, April 24). Fast facts on global immunization. https://www.cdc.gov/globalhealth/immunization/data/fast-facts.html
- Centers for Disease Control and Prevention. (2023c, July 19). *Deciding to vaccinate your child:*Common concerns. https://www.cdc.gov/vaccines/parents/why-vaccinate/vaccinedecision.html
- Charron, J., Gautier, A., & Jestin, C. (2020). Influence of information sources on vaccine hesitancy and practices. *Medecine et maladies infectieuses*, *50*(8), 727–733. https://doi.org/10.1016/j.medmal.2020.01.010
- Choo, S., & Finn, A. (1999). Pediatric combination vaccines. *Current opinion in pediatrics*, 11(1), 14–20. https://doi.org/10.1097/00008480-199902000-00004
- Creswell, J. W., & Poth, C. N. (2018). Qualitative inquiry and research design: choosing Among five approaches (4th ed.). Los Angeles: SAGE Publications.
- Crotty, M. (2015). The foundations of social research: meaning and perspective in the research process. London: Sage.
- Davis, M.M., & Kemper, A.R. (2003). Valuing childhood vaccines. *The Journal of Pediatrics*, 143 3, 283-4.
- De Clavijo I.V., & Weart, C.W. (1994). Update on childhood immunizations. *Annals of Pharmacotherapy*. 1994;28(5):633-642. doi:10.1177/106002809402800514
- Delong G. (2011). A positive association found between autism prevalence and childhood vaccination uptake across the U.S. population. *Journal of toxicology and environmental health. Part A*, 74(14), 903–916. https://doi.org/10.1080/15287394.2011.573736

- Deng, J., Chen, J., Lin, X., Huang, C., Tung, T., & Zhu, J. (2023). Parental hesitancy against COVID-19 vaccination for children and associated factors in Taiwan. BMC Public Health, 23(1). https://doi.org/10.1186/s12889-023-15158-0
- DeStefano, F., Price, C. S., & Weintraub, E. S. (2013). Increasing exposure to antibodystimulating proteins and polysaccharides in vaccines is not associated with the risk of
  autism. *The Journal of Pediatrics*, *163*(2), 561–567.

  https://doi.org/10.1016/j.jpeds.2013.02.001
- Dubé, È., Gagnon, D., MacDonald, N.E., Bocquier, A., Peretti-Watel, P., & Verger, P. (2018). Underlying factors impacting vaccine hesitancy in high-income countries: a review of qualitative studies. *Expert Review of Vaccines*, *17*, 1004 989.
- Duong, A., Steinmaus, C., McHale, C. M., Vaughan, C. P., & Zhang, L. (2011). Reproductive and developmental toxicity of formaldehyde: A systematic review. *Mutation Research/Reviews in Mutation Research*, 728(3), 118–138. https://doi.org/10.1016/j.mrrev.2011.07.003
- Facciolà, A., Visalli, G., Orlando, A., Bertuccio, M.P., Spataro, P., Squeri, R., Picerno, I.A., & Di Pietro, A. (2019). Vaccine hesitancy: An overview on parents' opinions about vaccination and possible reasons of vaccine refusal. *Journal of Public Health Research*, 8.
- Fischbach, L., Civen, R., Boyd, H., Flores, D. M., Cloud, J., Smith, L. V., ... & Kuo, T. (2022).

  Factors influencing COVID-19 vaccine acceptance in the workplace: results from a rapid survey at two corporations in Los Angeles County, California, 2021. Public Health Reports, 137(6), 1207-1216. https://doi.org/10.1177/00333549221118086

- Fletcher, M.A., Fabre, P., Debois, H., & Saliou, P. (2004). Vaccines administered simultaneously: directions for new combination vaccines based on a historical review of the literature. *International journal of infectious diseases: IJID: official publication of the International Society for Infectious Diseases*, 8 6, 328-38.
- Getman, R., Helmi, M., Roberts, H., Yansane, A., Cutler, D., & Seymour, B. (2017). Vaccine hesitancy and online information: The Influence of Digital Networks. *Health Education & Behavior*, 45(4), 599–606. https://doi.org/10.1177/1090198117739673
- Goldman, G. S., & Miller, N. Z. (2012). Relative trends in hospitalizations and mortality among infants by the number of vaccine doses and age, based on the Vaccine Adverse Event Reporting System (VAERS), 1990-2010. *Human & experimental toxicology*, *31*(10), 1012–1021. https://doi.org/10.1177/0960327112440111
- Goldman, G. S., & Miller, N. Z. (2023). Reaffirming a Positive Correlation Between Number of Vaccine Doses and Infant Mortality Rates: A Response to Critics. *Cureus*, *15*(2), e34566. https://doi.org/10.7759/cureus.34566
- Green, M. S. (2023). Rational and irrational vaccine hesitancy. *Israel Journal of Health Policy Research*, 12(1). https://doi.org/10.1186/s13584-023-00560-1
- Greene, M. (2014). On the inside looking in Methodological insights and challenges in conducting qualitative insider research. *The Qualitative Report*, *19*(29), 1–13. https://doi.org/10.46743/2160-3715/2014.1106
- Institute of Medicine (US) Immunization Safety Review Committee, Stratton, K., Wilson, C. B.,
  & McCormick, M. C. (Eds.). (2002). Immunization Safety Review: Multiple
  Immunizations and Immune Dysfunction. National Academies Press (US).

- Kestenbaum, L.A., & Feemster, K.A. (2015). Identifying and addressing vaccine hesitancy.

  \*Pediatric annals, 44 4, e71-5.
- Kindig D. A. (2020). The (Still) Limited Contribution of Medical Measures to Declines in Mortality. *The Milbank Quarterly*, 98(4), 1053–1057. https://doi.org/10.1111/1468-0009.12483
- Koskan, A., LoCoco, I. E., Daniel, C. L., & Teeter, B. S. (2023). Rural Americans Covid-19 vaccine perceptions and willingness to vaccinate against Covid-19 with their community pharmacists: an exploratory study. Vaccines, 11(1), 171.
  https://doi.org/10.3390/vaccines11010171
- Kuru, O., Chan, M., Lu, H., Stecula, D., & Jamieson, K. (2022). Religious affiliation and philosophical and moral beliefs about vaccines: a longitudinal study. Journal of Health Psychology, 27(13), 3059-3081. https://doi.org/10.1177/13591053221082770
- Lazarus, R., Klompas, M., Harvard Pilgrim Health Care, I., & Bernstein, S. (2010). (rep.).

  Electronic Support for Public Health–Vaccine Adverse Event Reporting System (ESP: VAERS) (pp. 1–7).
- Levin, J., & Bradshaw, M. (2022). Determinants of COVID-19 skepticism and SARS-CoV-2 vaccine hesitancy: findings from a national population survey of U.S. adults. BMC Public Health, 22(1). https://doi.org/10.1186/s12889-022-13477-2
- Low, J. M., Soo, C. W. T., Phuong, T., Zhong, Y., & Lee, L. Y. (2022). Predicting vaccine hesitancy among parents towards COVID-19 vaccination for their children in Singapore. Frontiers in Pediatrics, 10. https://doi.org/10.3389/fped.2022.994675

- MacDonald, N. E., & SAGE Working Group on Vaccine Hesitancy (2015). Vaccine hesitancy: Definition, scope and determinants. *Vaccine*, *33*(34), 4161–4164. https://doi.org/10.1016/j.vaccine.2015.04.036
- McKinlay, J. B., & McKinlay, S. M. (1977). The questionable contribution of medical measures to the decline of mortality in the United States in the Twentieth Century. *The Milbank Memorial Fund Quarterly. Health and Society*, *55*(3), 405–428. https://doi.org/10.2307/3349539
- Maman, K., Zöllner, Y.F., Greco, D., Duru, G., Sendyona, S., & Rémy, V. (2015). The value of childhood combination vaccines: From beliefs to evidence. *Human Vaccines & Immunotherapeutics*, 11, 2132 - 2141.
- Mawson, A. R., & Croft, A. M. (2020). Multiple Vaccinations and the Enigma of Vaccine Injury. *Vaccines*, 8(4), 676. https://doi.org/10.3390/vaccines8040676
- Meng, S. (2022). What influence Chinese people's attitude and hesitancy toward COVID-19 vaccination? A national survey study., pp. 188–194. https://doi.org/10.2991/978-2-494069-89-3\_22
- Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation* (4th ed.). Jossey-Bass.
- Miller, N. Z. (2021). Vaccines and sudden infant death: An analysis of the VAERS database 1990–2019 and Review of the Medical Literature. *Toxicology Reports*, 8, 1324–1335. https://doi.org/10.1016/j.toxrep.2021.06.020
- Mirola, W., Emerson, M., & Monahan, S. (2016). *Religion Matters* (1st ed.). Taylor and Francis. https://www.perlego.com/book/1562119/religion-matters-what-sociology-teaches-us-about-religion-in-our-world-pdf

- Mitchell, E., Stewart, A., Clements, M.S., & Ford, R.P. (2006). Immunisation and the sudden infant death syndrome.
- Nagar, S. & Ashaye, T. (2022). A shot of faith—analyzing vaccine hesitancy in certain religious communities in the United States. *American Journal of Health Promotion*, *36*(5), 765—767. https://doi.org/10.1177/08901171211069547
- National Childhood Vaccine Injury Act, Pub. L. No. 99-660, 100 Stat. 3755 (1986).
- Nuwarda, R. F., Ramzan, I., Weekes, L., & Kayser, V. (2022). Vaccine Hesitancy:

  Contemporary Issues and Historical Background. *Vaccines*, *10*(10), 1595.

  https://doi.org/10.3390/vaccines10101595
- Price, S.S. (2021). Talk to Patients About Vaccines and SIDS. Texas Medicine, 1172, 43.
- Reno, C., Maietti, E., Di Valerio, Z., Montalti, M., Fantini, M. P., & Gori, D. (2021). Vaccine Hesitancy towards COVID-19 Vaccination: Investigating the Role of Information Sources through a Mediation Analysis. *Infectious disease reports*, *13*(3), 712–723. https://doi.org/10.3390/idr13030066
- Rutjens, B. T., Sutton, R. M., & Lee, R. v. d. (2017). Not all skepticism is equal: exploring the ideological antecedents of science acceptance and rejection. Personality and Social Psychology Bulletin, 44(3), 384-405. https://doi.org/10.1177/0146167217741314
- Scheffler, G. (2013). The Effect of Childhood Vaccine Exemptions on Disease Outbreaks.
- Shah, P., Thornton, I., Turrin, D., & Hipskind, J. E. (2023, June 5). *Informed consent statpearls NCBI bookshelf.* National Library of Medicine.
  - https://www.ncbi.nlm.nih.gov/books/NBK430827/

- Stasiuk, K., Maciuszek, J., Polak, M., & Doliński, D. (2021). Profiles of vaccine hesitancy: The relation between personal experience with vaccines, attitude towards mandatory vaccination, and support for anti-vaccine arguments among vaccine-hesitant individuals.
- Sun, R., Wang, X., Lin, L., Zhang, N., Li, L., & Zhou, X. (2021). The impact of negative emotional reactions on parental vaccine hesitancy after the 2018 vaccine event in China:
   A cross-sectional survey. Human Vaccines & Immunotherapeutics, pp. 17, 3042–3051.
- Tomljenovic, L., & Shaw, C. A. (2011). Aluminum vaccine adjuvants: Are they safe? *Current medicinal chemistry*, *18*(17), 2630–2637. https://doi.org/10.2174/092986711795933740
- Vaccine Adverse Event Reporting System. (n.d.). VAERS Home. VAERS Vaccine Adverse Event Reporting System. https://vaers.hhs.gov/about.html
- Vennemann, M., Höffgen, M., Bajanowski, T., Hense, H., & Mitchell, E.A. (2007). Do immunisations reduce the risk for SIDS? A meta-analysis. *Vaccine*, 25 26, 4875-9.
- Veronese, G., Mahamid, F., & Bdier, D. (2023). Concerns, perceived risk, and hesitancy on COVID-19 vaccine: a qualitative exploration among university students living in the west bank. Epidemiology and Infection, p. 151. https://doi.org/10.1017/s0950268823001267
- Yang, Y., & Shaw, J. (2018). Sudden infant death syndrome, attention-deficit/hyperactivity disorder and vaccines: Longitudinal population analyses. *Vaccine*, *36* 5, 595-598.