Childhood Immunizations: Theory and Reality

Part 1 of 3

Family Issues Paper

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As a society we are taught that vaccines save mankind from sweeping epidemics, and we often hear the claim "the benefits outweigh the risks." More recently, however, people are getting educated on the topic, investigating the reality behind vaccine efficacy and safety, and making their own decisions regarding what is best for the health and well-being of the private family despite what is being conveyed by the public health platform.

Today, children in the United States are recommended to receive one vaccine at birth, eight vaccines at two months, another eight vaccines at four months, nine vaccines at six months, and twelve additional vaccines between 12 and 18 months of age (*Centers for Disease Control and Prevention,* 2012). Therefore, each child is recommended to be dosed with 38 vaccine-drugs by time he or she is 1.5 yrs old (*Centers for Disease Control and Prevention,* 2012). The United States is the most vaccinated country in the world, spending more per capita on health care than any other country, yet 33 nations have better Infant Mortality Rates (Miller & Goldman, 2011). As new vaccines are added to the recommended vaccine schedule, the US infant mortality rate worsens. For example, in 1960, before mass vaccinations, the US had one of the best infant mortality rates in the world. By 1998, the US dropped to 28th place. By 2006, the US fell to 42nd place, worse than Cuba. (Miller & Goldman, 2011). Furthermore, according to a study published by the *Journal of Human and Experimental Toxicology*, a statistical analysis was performed via a scatter plot of each of the 30 nation's IMR versus vaccine doses. A linear relationship provided evidence of a positive correlation: Infant Mortality Rate and vaccine doses tend to increase together (Miller & Goldman, 2011).

Meanwhile, worldwide vaccine sales doubled between 2006 and 2010, from $11 billion to $21 billion (Blaylock & Miller, 2010). The United States is currently the largest market for vaccines which are "more profitable" than generic pharmaceutical drugs (Blaylock & Miller, 2010). Intricacies in the effective marketing of immunizations also lie in the hands of a number of stakeholders. These include government funding entities, health promotion organizations, nurses and doctors involved in public health and immunization programs, and vaccine developers and manufacturers (D'Souza et. al, 2011). Many of these companies and agencies adamantly deny a link between vaccines and neurological disorders such as autism, and argue that vaccines are one of the most important innovations in disease reduction in the 20th Century (Centers for Disease Control, 1999).

This paper will seek to investigate three research questions. The first question engages in the current theory behind childhood immunizations. Second, focus will be placed on the reality behind immunizations, delving into unbiased and pragmatic research on vaccine contents, safety and efficacy. Finally, we will address possible solutions to the challenge regarding parental choice and subsequent action.

Prior to delving into these research questions, let us first examine a 2008 case-study from *Time Health* regarding a situation that is not rare in the world of autism:

> Hannah Pooling, daughter of Terry and Jon, had an uneventful birth and seemed to be developing normally. She was a happy baby- smiling, babbling, engaging in imaginative play, and speaking 20 words by 19 months. And then, according to her mother who is a registered nurse, right after receiving a bunch of vaccines, she fell ill and it all stopped.

Hannah lost her words, her eye contact, and soon began exhibiting repetitive behaviors and social withdrawal that typify autism. "Something happened after the vaccines," states her mother, "She just deteriorated and never came back."

What is unique about Hannah's case is that a panel of medical evaluators at the Department of Health and Human Services concluded that Hannah had, in fact, been damaged by vaccines. The Department also recommended the family be compensated for the injuries. The federal vaccine court, which operates the National Vaccine Injury Compensation Program, has yet to award damages, as the Polings were originally part of a group of 5,000 families with autistic children seeking damages. Hannah is now a third grader, working in a special-ed classroom, continuing her struggle with seizures and the effects of autism. Hannah's father, a neurologist and PhD in biophysics urges pediatricians to take a hard look at the schedule in which vaccines are given. He states "I think we need a more grassroots movement among pediatricians to be more conservative, and to not give so many shots at once (Wallis, 2008).

What is the expectation of a parent(s) as it relates to immunizing their newborn child? What is the foremost message on vaccinations? A booklet currently offered and generally accepted by new parents at their pediatrician's office is a fitting indication of our current vaccine culture. It is entitled, *What to Expect Guide to Immunizations*, and is compiled by trusted author Heidi Murkoff of the popular book *What To Expect When You're Expecting*. On the first page, the book states "There is a reason why diseases are a distance medical memory, and why being a child today is safe. And that reason is vaccinations, one of the most important and successful

public health interventions in history." (Murkoff, 2008). The booklet claims "the immune system reacts to vaccines the same way it would if you were exposed to the natural disease." (Murkoff, 2008). Furthermore, when the question is posed "Do vaccines really work?" the booklet responds with "They are really good at what they do, working 90 to 100 percent of the time." (Murkoff, 2008). When asked who the best person is to advise you on which shots your child should receive and when, the booklet's answer is "Your doctor." (Murkoff, 2008). Finally, when inquiring "Will getting so many shots overwhelm my child's immune system?," the booklet answers with "research shows there is no need to worry" (Murkoff, 2008). The bottom line, states the booklet, "is vaccines are far safer than the diseases they prevent" (Murkoff, 2008). When questioned about vaccines causing developmental disorders, the booklet responds with "Numerous studies involving children have found no link between vaccines and developmental disorders such as autism. (Murkoff, 2008). Upon final perusal of the leaflet, the back cover reveals the party who funded this popular and widespread publication. It states *"The What to Expect Foundation has developed this vaccination guide with support from Glaxo Smith Kline, one of the world's leading research-based pharmaceutical companies, which manufactures vaccines"* (Murkoff, 2008).

It is apparent that within our culture, vaccines are explicitly promoted as life-saving, especially for babies. According to Neil Z. Miller, neuroscientist and well-known author, "The message is to take one vaccine, then another, and you will be protected… yet if only it were that simple"(Blaylock & Miller, 2010). Miller, who is also a medical doctor who has been investigating vaccines for over 20 years states, "When I attended medical school, vaccine reactions were rare. Like most people I was taught that vaccines saved mankind from mass

death during sweeping epidemics and pandemics afflicting the world over the millennia. It was one of those foregone conclusions implanted in our brains "(Blaylock & Miller, 2010). In addition, states Miller "There seems to be little concern as to the effects of multiple immunizations on the developing child's immune system. Pediatricians and public health authorities are of the opinion they can give an unlimited number of vaccines to babies and small children without risk" (Blaylock & Miller, 2010).

Given that a majority of our caretakers, family members and friends within our surrounding culture are dedicated to the immunization program, what is the message our governing bodies are communicating to the public? According to the National Institute of Health, vaccines work via the well established theory that antibodies are required for antiviral immunity. "Vaccines teach the immune system by mimicking a natural infection by signaling antibodies to eat the microbes." (*NAIAD*, 2011) The government entity further explains "a weakened form of the virus which doesn't cause disease or produce very well, is injected into the body. Human antibodies and microphages engulf the viruses as if they were dangerous, allowing for quick elimination. The mock infection is cleared, and the human is left with a memory of T and B cells for future protection" (*NAIAD*, 2011).

Having explored theory behind vaccinations, let us now investigate what studies and information has been presented in recent years regarding both efficacy and safety of childhood immunizations. First we will investigate current research on efficacy. According to a March 2012 article in Medical News Today, a new study from the journal *Immunity* by Cell Press "turns the well established theory that antibodies are required for antiviral immunity upside down and

reveals that an unexpected partnership between the specific and non-specific divisions of the immune system is critical for fighting some types of viral infections." (Medical News Today, 2012). The article further explains "the results show that the essential role of B cells against VSV (a particular virus) does not require adaptive mechanisms, but is instead directly linked to the innate immune system. Our findings contradict the current view that antibodies are absolutely required to survive infections with particular viruses." (Medical News Today, 2012).

Additionally, when it comes to efficacy of the vaccine program, Miller states "A major problem with the vaccine program is the lack of long-term protection as occurs with natural infections. Natural immunization is now quite rare in younger people. In the past, most people were protected against childhood infections by contracting them as children themselves. The protection was lifelong." (Blaylock & Miller, 2010). Evidence shows that when children are young and exposed to disease naturally, and then recover which is typical of a healthy immune system, the immune system is then stimulated and strengthened (Blaylock & Miller, 2010).

Regarding the concept of herd immunity, we are constantly told that herd immunity has prevented epidemics from occurring in modern America. "The problem with this", Miller states, "is that according to recent studies, most of the protection afforded by childhood vaccines waned many decades ago, so that most baby boomers, the largest percentage of the population, have no protection. In fact, vaccines for most Americans declined to non-protective levels within 5 to 10 years of the vaccine." (Blaylock & Miller, 2010).

When researching the question, "How likely is the vaccine to protect against the disease and reduce its incidence throughout society?", a multitude of immunity limitations become

apparent. For example, with the flu vaccine, a large gap exists between evidence of the flu vaccine's efficacy and policies established by health agencies. In fact, flu vaccines are shown to have little effect on influenza campaign objectives, hospital stay, time off work, death from influenza and complications (Blaylock & Miller, 2010). Similarly, the HPV vaccine theoretically offers "protection from cervical cancer." The reality is that there are numerous strains of the disease, the HPV vaccine is only 100% effective against 2 strains (Blaylock & Miller, 2010). The vaccines HIB and Pneumococcal also target some strains while excluding others (Blaylock & Miller, 2010). Prevnar, the pneumococcal vaccine offers protection against 7 of 90 strains (Blaylock & Miller, 2010). Scientists have discovered that while some strains are attacked, others gain prominence. "Consequently the disease becomes more virulent and people who are normally not susceptible to the ailment are affected" (Blaylock & Miller, 2010).

In order for one to understand the safety of a particular vaccine-drug and the cumulative exposure from multiple vaccine-drugs over a period of time, a base knowledge about the ingredients commonly found in vaccinations must be established. According to *The Vaccine Manual for Concerned Families and Health Practitioners*, vaccinations consist of viruses, bacteria, viral fragments and mycoplasma (Blaylock and Miller, 2010). Live vaccines such as MMR and flu shot must have live tissue with which the virus can adhere. "In the live polio vaccine, the live tissue remains monkey kidneys. Still other live viruses utilize aborted fetal parts and human stem cells with which to transport the live virus. Varicella, the chicken pox vaccine utilizes human embryonic lung cell cultures" (Blaylock and Miller, 2010).

Vaccines contain high amounts of aluminum, formaldehyde and thimerosal, a dangerous mercury derivative (Blaylock and Miller, 2010). In an article recently published in the journal, *Lupus*, the author states "Aluminum (Al) is highly neurotoxic and has been shown to impair both prenatal and postnatal brain development in humans and experimental animals. (Tomljenovic & Shaw, 2012). The authors continue:

> In addition to its neurotoxic properties, Al is a potent stimulator of the immune system, which is the very reason it is used an adjuvant. Given this, it is somewhat surprising that in spite of over 80 years of use, the safety of Al adjuvants continues to rest on assumptions rather than scientific evidence. For example, nothing is known about the toxicology and pharmacokinetics of Al adjuvants in infants and children. On the other hand, in adult humans long-term persistence of Al vaccine adjuvants can lead to cognitive dysfunction and autoimmunity. Yet, in spite of these observations children continue to regularly be exposed to much higher levels of Al adjuvants than adults, via routine childhood vaccination programs.
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> In spite of wide spread agreement that vaccines are largely safe and serious adverse complications are extremely rare, a close scrutiny of the scientific literature does not support this view. For example, to date, the clinical trials that could adequately address vaccine safety issues have not been conducted (i.e. comparing health outcomes in vaccinated versus non-vaccinated children). The lack of such controlled trials may be because historically, vaccines have not been viewed as inherently toxic by regulatory

agencies (as documented in the 2002 publication by the US Food and Drug Administration). (Tomlejenovic & Shaw, 2012).

It is no revelation that given the ingredients, cumulative vaccine usage is resulting in extensive and compelling evidence of vaccine hazards and numerous studies that link vaccines to debilitating and fatal diseases. Vaccine proponents continue to add another set of vaccines to the schedule, despite the growing list of neurological and other health disasters occurring in our children (Miller & Blaylock, 2010). "Every year more than 12,000 adverse reaction reports are filed with the federal government. These include emergency hospitalizations, irreversible injuries, and deaths. Numbers may be grossly underreported because the FDA estimates that 90% of doctors do not report reactions. Furthermore, injuries caused by vaccines disguised under different names: learning disability, attention deficit, hyperactivity, epilepsy and mental retardation" (Miller & Blaylock, 2010).

Some of the most devastating side effects of vaccines involve neurological damage, including encephalitis, transverse myelitis, peripheral nerve damage, autism, seizures, mental retardation, language delays, behavioral problems, multiple sclerosis and subaccute sclerosing panenchalitis (SSPE) (Blaylock, 2010). Systemic reactions such as fever, headache, respiratory infections, muscle ache, nausea, abdominal pain, diarrhea chills and fatigue, are not rare. For example, 10% of babies will vomit after receiving the Pneumococcal shot (Blaylock and Miller, 2010). Following the tetanus vaccine, 26% of recipients had systemic reactions. (Blaylock and Miller, 2010). Subsequent to the Meningococcal vaccine- 62% of 18-55 year old recipients had systemic reactions (Blaylock and Miller, 2010). The Guardasil shot resulted in 15,000 adverse

reaction reports including hepatitis B, autoimmune and neurological disorders (Blaylock and Miller, 2010). A cascade of reports of Guillian- Barre syndrome, a serious paralytic disease, is directly associated with the flu vaccine (Blaylock and Miller, 2010).

Russell Blaylock, MD (2010) explains that when it comes to the link between vaccinations and brain injury, the excitotoxic mechanism that is central to the process. He continues:

> The central immune system cells in the brain are called microglia. These normally sleeping immune cells become highly activated when a vaccination is given. Until activated they remain immobile, but after activation they can move around the brain like an amoeba, secreting very toxic amounts of inflammatory chemicals, called cytokins, and two forms of excitotoxins, glutamate and quinolinic acid. This puts the brain in a chronically inflamed state. When the brain is inflamed, it results in physical damage, something we recognize as sickness behavior. These behaviors include sleepiness, restlessness, headaches, and flu-like behavior. Other signs of an inflamed brain include a child's vomiting, passing out and irritability following vaccinations.
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> Seizures due to vaccines are due to two things happening in the brain. One is that many vaccines can cause a high fever, and this can trigger a seizure in seizure-prone babies, children (called febrile seizures) and some adults. Second, overstimulation of the immune system, which can occur with certain types of vaccines and especially when given multiple vaccines are given during one office visit, can cause seizures. The excess activation of the body's immune system leads to overactivation of the brain's microglia,

> and the subsequent release of the excitotoxins leads to seizure. This mechanism has been carefully worked out in a laboratory, it is not theory. Aluminum, mercury, and protein additives easily enter the brain, are stored for decades and can powerfully activate the brain's microglia, and do so for prolonged periods. There is evidence that the great number of vaccines given to our children, and adults, is causing injury to their nervous systems and that it reduces the ability of people to think, learn, behave and function as normal adults (p. 9)

As previously mentioned in the case study from *Time*, vaccines have also been researched and identified as potential causes of autism (Wallis, 2008). The incidence and prevalence data indicate the timing of introduction of vaccines and changes in the type and increasing number of vaccines given at one time implicate vaccines as a cause of autism (Ratajcak, 2011). The current recommended vaccine schedule in the US includes six vaccines at two months of age. The immune system of an infant is compromised at two months, with a blood-brain barrier that is not established until two years of age (Ratajcak, 2011). A challenge by so many vaccines while the immune system is compromised might contribute to the onset of autism. For example, the pertussis toxin in the DPT vaccine creates chronic autoimmune damage to the gut, altering immune function (Ratajcak, 2011). An increased spike in incidence occurred in 1995 when the chicken pox vaccine was grown in human fetal tissue (Ratajcak, 2011). Per the *Journal of Immunotoxicology*, the residual DNA in human fetal tissue can be randomly inserted into human genes, namely the X chromosome, accounting for autism primarily in boys. Many parents of autistic children cite normal development of their children until they receive vaccines at about the age of 18 months (Ratajcak, 2011).

Searching information from 1943 to the present on PubMed and Ovid Medline databases, Ratajcak summarizes that there is evidence that Mercury, once used as a vaccine preservative, has been implicated as causes of autism. (Ratajcak, 2011). Thimerosal, which is 49 % ethyl mercury is both neurotoxic and immune toxic, and is still being used in small amounts as an antibacterial agent in several vaccines (Ratajcak, 2011). Autistic brains show neurotransmitter irregularities that are virtually identical to those arising from mercury exposure. (Ratajcak, 2011). Due to the extensive parallels between autism and mercury poisoning, the likelihood of a causal relationship is significant. More evidence linking autism with mercury poisoning is the timing of inclusion of thimerosal in vaccines in the 1930's closely preceding the discovery of autism in 1943(Ratajcak, 2011).

In a case-control primate study from the Nencki Institute of Experimental Biology in Poland, infant macaques received the recommended pediatric vaccine regimen from the 1990's. (Hewitson et. al, 2010). Resulting changes to the brain via neuroimaging were examined. Compared with non-exposed animals, a significantly diminished pattern of maturational changes occurred in amygdala volume and amygdala binding following the MMR/ DTaP/ Hib vaccines. (Hewitson et. al, 2010). Prior to the vaccination, there was also evidence of greater total brain volume than post vaccination (Hewitson et. al., 2010).

Given the culturally accepted theory and incompatible reality surrounding the childhood vaccine campaign, what is the answer for parents? What is the optimal solution for the well-being of the precious child parents are entrusted to protect? With exception of forced vaccination mandates in certain locals, the decision whether or not to vaccinate a child remains

with the parents of the child. Decisions should be carefully made after examining evidence from multiple reliable sources. Some parents will automatically default to their child receiving every shot on the schedule. It is likely many of these children will not suffer a serious, long-term adverse reaction. Other's will. Some parents will opt for an amended vaccination schedule consisting of certain shots on a judicious timetable. Still others will choose to avoid vaccines altogether. Wisely, many parents who choose to minimize, delay or eliminate vaccinations altogether will place special focus instead on strengthening their child's immune system through proactive measure to avoid the onset of ailments from the beginning while developing life-long natural immunity to minor disease processes such as rotavirus and chickenpox.

As previously mentioned, the current U.S. vaccination program recommends each child be dosed with 38 vaccine-drugs by time he or she is 1.5 yrs old (*Centers for Disease Control and Prevention,* 2012). According to Miller, "What parents and doctors should know is that the human brain is different from the animal brain in that with humans the brain undergoes dramatic formation of its pathways long after birth. The brain is formed in humans during the first two years after birth and continue until age 25 to 27. Excess vaccination disrupts this critical process and can result in a malformed brain, manifesting as either subtle impairment in thinking, concentration, attention, behavior or language, or serious problems with these processes." (Blaylock & Miller, 2010).

Regardless of the choice, parents are not only entitled to the facts, but responsible for obtaining those facts in order to best protect and minimize their child from risk. "What parents need to understand", according to Miller," is that vaccines are drugs. Each vaccine contains a

proprietary blend of chemicals, pathogens, and other foreign matter, whereas the cumulative effects thereof can pose a significant risk to their child and should be taken seriously" (Blaylock and Miller, 2010).

Contributing to the challenge, a set of parents who may or not be fully informed can be polarized in their views. Generations of caretakers may also have opposing perspectives. Physicians and pediatricians often perpetuate a feeling of guilt or shame for not corresponding to the protocol, and often fervently urge the immunization schedule even after a serious reaction. For the protection of the child, it's a parents' duty to directly address one's physician, family and friends, and to appropriately face authority as necessary to best protect their child.

In addition to exploring whether or not a vaccine-drug is safe for their child, the initial emphasis and focus should be on whether or not a particular vaccine is even effective for short-term or long-term protection from a specific disease. Parents should seek to understand the risk of vaccinating and the potential risk of not-vaccinating on an individual vaccine and cumulative basis. Rather than basing a decision on cultural pressure and theory, factual benefits must be outweighed by the risks. In a dynamic environment, a well-rounded understanding is key before making such a weighty decision.

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