Childhood Immunizations: Population vs. Individual

Part 3 of 3

Synthesis Paper

Angela B. Perry

SY 518 (801) Advanced Family Studies

University of South Alabama

Nov 15, 2012

Abstract

Per the two preceding papers, it has been established that despite the public health platform, the family unit is seeking better answers regarding the efficacy and safety of childhood immunizations. Though it is collectively declared by pediatricians, public health officials and often members of our social network "the benefits outweigh the risks," this paper utilizes the sociological approach of the population vs. the individual to examine why a new wave of adults is beginning to take responsibility for the reality behind vaccine efficacy and safety. It is concluded that informed individuals will continue to utilize their legal right to make vaccine decisions according to the health and well-being of the private family despite what is being conveyed by the greater population, the public health platform.

Introduction

A powerful award-winning documentary film released in 2011entitled *The Greater Good,* takes an in-depth look at our governments vaccination policies. The film successfully reframes the emotionally charged issue and offers the opportunity for a rational and scientific view on how to create a safer and more effective vaccine program. In a recent online interview with host Daren McBreen, Leslie Manookian, writer and producer of the film states her perspective:

> It may be a surprise to many people that a vaccine debate is raging in this country and around the world. I was motivated to produce this film when approached with over 900 references to mainstream medical literature, studies published in peer reviewed medical literature, that show evidence of vaccine safety and efficacy concerns.

> I have been stunned to find out that we are actually in a situation where our kids are really sick. Over 50% of American children are chronically ill, 20% are developmentally disabled. And there is growing science that links this to vaccinations.
>
> Now who would have thought that was the case? I certainly wouldn't have ten years ago when I first started thinking about this issue, but the science is mounting, and we are now seeing that there is really serious cause for concern.
>
> The whole vaccination conversation is a conversation worth having. There is science out there that calls into question the safety of vaccines. We need to explore this further so we can get to the bottom of what is causing our kids to be so sick. We hope that more and more people will open their hearts and open their minds and understand there is something going on here that we should care about (Manookian, 2012).

In today's society, the film "The Greater Good" is a prominent example of a culmination of peer-reviewed and research-based information in which the average individual can easily gain access. Given the emergence of the informed patient, who is sociologically rooted in a theoretical base of utilitarianism and adaptation , and with the added benefit of modern-day access to the Internet, the social construction of childhood vaccination is changing.

According to a recent article published in the *Journal of Theoretical Biology*, "the pursuit of individual self-interest among vaccine skeptics is leading to vaccination levels that are suboptimal for a population "(Shim et al, 2011, p 194). "Parents have various reasons for refusing or delaying vaccinations, one of the most often cited is perception of low vaccine efficacy or high vaccine risk (Smith, 2010, p 195). Specifically, 25% of parents who refused or

delayed vaccination in the US questioned whether vaccines really worked, 25% cited worries that measles vaccines may cause autism, and 24% worried about side effects (Smith, 2010). One study found that 34% of parents believed that the measles vaccination is more dangerous than the childhood disease itself (Smailbegovic et al, 2003).

This paper seeks to utilize a single sociological approach to further explore the reality behind childhood immunizations. We will inquire as to what motivations and actions have resulted in our current state facing the vaccine debate. The ecological theory of population vs. the individual will allow us to focus on the adaptation of individuals to global change in the context of the public health platform vs. the private family.

Overview of Ecological Theory

The most basic notion in the ecological approach continues to be adaptation. This concept reaches down to our biological roots and up to large-scale interactive processes at the level of populations of organisms (White & Klein, 2008). The concept of adaptation can be applied to an individual organism's successful adaptation to a specific environmental niche or to global changes (White & Klein, 2008).

The recent phenomenon of the knowledgeable patient, with easy and consistent access to the Internet, is helping all parties to better adapt to our quickly changing environment. According to the scientific journal *Vaccine*, "A new generation of the internet (Web 2.0) and its emphasis on user-generated content has combined with characteristics of the current postmodern

medical paradigm, creating a new environment for sharing health information (Kata, 2012, p 3778). The Web facilitates health communication. "Users can engage and educate others by sharing medical histories, treatment successes and failures, or experienced side-effects, resulting in the increased participation of patients as 'active contributors' in their own care, and their subsequent empowerment, the emergence of online communities and social networking, the sharing and collaboration of knowledge, and the personalization of healthcare" (Kata, 2012, p. 3779). "This paradigm has developed new priorities for healthcare: an emphasis on values as well as evidence, focus on risks over benefits, and the rise of the informed patient" (Kata, 2012, p. 3779).

Barbara Loe Fischer, president and co-founder of the National Center for Vaccine Information, employs the ecological approach to illustrate key questions propelling the intensifying vaccine debate. She states "First, we must ask is it better to protect children against infectious disease early in life through temporary immunity from a vaccine or are they better off contracting certain contagious infections in childhood and attaining permanent immunity? And second, do vaccine complications ultimately cause more chronic illness and death than infectious diseases do? Both questions essentially pit trust in human intervention against trust in nature and the natural order, which existed long before vaccines were created by man." (Mercola, 2012, p. 3).

In utilizing the ecological approach's notion of adaptation, we witness the link between the dual nature of humans as constructions of both biology, surviving in environments in which

our needs can be met, and modern-day culture, where new information can bring about enhanced livelihood. We then witness the subsequent societal transformations that occur.

Ecological Theory: Population vs. Individual

According to the literature on Family Theories, "within the ecological theory, human behavior can be on understood on several levels "(White & Klein, 2008, p. 249). The two levels that are most often used are the population and the individual (White & Klein, 2008). For example, the failure of an organism to successfully adapt to a given environment, leading to that eventual organisms death, may seem a negative outcome at the individual level. "However for the population, the same outcome might represent the evolution of a healthier gene pool or the survival of the group faced with scarcity" (White & Klein, 2008, p. 249).

Connecting this ecological perspective with childhood immunization, is it apparent that families and health care providers differently construct the challenges of childhood disease and prevention. Public health, representing the population, is primarily concerned with the consequences of wide-spread infection. Alternatively, the family, representing the individual, is focused on the general and overall health outcome of their single child or few children.

Population vs. Individual on Efficacy

For the population and the individual, prior to considering whether or not a vaccine or combination of vaccines is safe, the group and the private entity should place primary emphasis on whether a respective vaccine or vaccines are effective.

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 regarding efficacy 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).

Let us now examine the current research on efficacy, research that easily available to both the population and the individual entity. 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, p. 12). 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, p. 12).

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, p. 13).

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).

Barbara Loe Fischer, president and co-founder of the National Vaccine Information Center illustrates the importance of efficacy amongst the population and the individual by stating "The fact that manmade vaccines cannot replicate the body's natural experience with the disease is one of the key points of contention between those who insist that mankind cannot live without mass use of multiple vaccines and those who believe that mankind's biological integrity will be severely compromised by their continued use" (Mercola, 2012, p 3).

In examining the rationale behind vaccines, what we find according to Dr. Lawrence Palevsky, a doctorate of pediatric medicine, is "what is missing in medical education is that vaccines are not the only thing that plays a role as to whether diseases come or go" (Nelson et. al, 2011). According to a December, 2000 article in the Journal *Pediatrics*, an annual summary of vital stats on the child mortality rate by age in the US between 1900 and 1998 discloses

foundationally significant information. This peer- reviewed article outlining key information from the US Bureau of the Census illustrates that death rates came down substantially before the DPT shot was licensed in 1949 (Bernard et al, 2000). Death rates also had been drastically lowered before the measles vaccine was introduced in 1963 (Bernard et al, 2000).

What is responsible for this decline in death rate? According to Dr Palevsky, "What has helped is state and local health measures and public education on hygienic practices" (Nelson et al, 2012). Several things improved during the decades in which vaccines were introduced. Drinking water became cleaner, sanitation improved, more people had better access to nutrition, and certain damaging pesticides such as DDT were no longer being sprayed on vegetation. These and additional improvements to public health effectively removed toxicity and collectively improved the function of the natural immune system (Nelson et al, 2012). Crediting vaccine-drugs with less occurrence of communicable disease is inaccurate, as history indicates that vaccines were introduced in each case *after* the rates of disease had already plummeted. "Thus vaccination does not account for the impressive declines in mortality seen in the first half of the century" states Dr. Palevsky (Nelson et al., 2011). "This doesn't say vaccines don't work, but that vaccines may not be responsible for the things we are taught they are responsible for" (Nelson et al, 2011).

As vaccines were introduced in many cases a decade after the rates of disease had already plummeted, we must inquire on the sociology as to how the practice of widespread vaccination schedules became institutionalized. A parallel can be drawn from the studies of Dr. Christopher Freed, who examines how medical definitions and practice became institutionalized via his

extensive work in addiction medicine and addiction psychiatry. Interestingly, Dr. Freed analyzes how drug addiction got labeled addiction, as "specialized knowledge generates *claims* to professional power" (Freed, 2010, p 159). Consequently, the development of addiction medicine then inadvertently contributed to the formation of addiction psychiatry (Freed, 2007, p111). A sharp parallel can be drawn to the development of how vaccination became mainstream medical practice, as the development of vaccine-drugs inadvertently contributed to the formation of the national vaccine schedule and the perceived need for mass vaccines despite the lack of complete and scientifically-grounded clinical research.

Population vs. Individual on Vaccine Safety

From the population's perspective, Dr. Miller states "the collectivist mind-set asserts that for the immunization "plan" to be successful it must override the wishes and even safety of the individual" (Blaylock & Miller, 2010, p.7). "Given this, doctors typically consider systemic negative reactions to vaccinations as 'normal.' Most physicians, especially pediatricians, think adverse reactions are 'rare' and must be accepted to gain the benefit of the vaccine" (Blaylock & Miller, 2010, p.8).

What could be the rationale for a preponderance of pediatricians, which represent the population, telling mothers, representing the individual, that their child's reactions to these vaccines are normal? According to Blaylock, this trend is based on at least two factors. "One, most pediatricians in my experience know absolutely nothing about a child's brain. The vast majority of physicians have never heard of excitotoxicity, despite the fact that it is the most

discussed mechanism in the field of neuroscience. Likewise, it is also the major mechanism in virtually all brain disorders, including strokes, neurodegenerative diseases, viral, bacterial and mycoplasmal infections of the nervous system, seizures, brain trauma and multiple sclerosis" (Blaylock & Miller, 2010, p.8). "The second reason pediatricians are telling mothers their child's reactions to these vaccines are normal is that they are trying to avoid a lawsuit. If the mother can be convinced that everything is well, they may avoid a trip to the courtroom, which would be damaging to their reputation." (Blaylock & Miller, 2010, p.8).

In fact, adverse reactions directly affecting the private family are not as rare as many would believe. In fact the journal *Pediatrics* published a study in which parents were specifically asked to observe any changes in their baby's behavior or physical condition after a shot. Only 7% reported no reactions at all" (Blaylock & Miller, 2010, p.13). Additionally, as previously discussed, medical authorities are utilizing clever tactics to hide and alter the data on vaccine injuries. "Problems are reclassified, denying a connection to the vaccine, and more often than not the reaction is brushed off as 'normal'. For example, one deception is to classify cases of polio as 'aseptic meningitis.' By doing so, vaccine proponents can give the illusion that the polio vaccine policy was more successful than it was (Blaylock & Miller, 2008, p.17).

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, pg .15).

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.
>
> 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.
>
> 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)

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 neuro-imaging 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).

When vaccine damage occurs, the individual damaged child is not the only victim, as both the individual and the population are dramatically affected. Parents undergo traumatic experiences when they discover their child was seriously hurt by one or more vaccines (Blaylock and Miller, 2008). Families are destroyed by overwhelming emotional responsibility associated with caring for a vaccine-damaged child. A large financial burden is typical, as well as a deep anger and guilt for consenting to the vaccine. Sadness or grief is experienced for the child who will forever be missing his or her rightful wholeness. There is also a strained relationship between husband and wife, as many marriages cannot withstand the stress. Grandparents grieve for their damaged grandchild and demanding family life their son or daughter is now destined to live. Undamaged siblings receive less time or attention from parents due to special needs of handicapped brother or sister. There is also a sizable communal cost, in the opportunity cost of the lack of contribution to society, as the vaccine damaged child will never be able to contribute in a meaningful way. Everyone suffers to some degree. Furthermore, studies how a disproportionate amount of violent crime is committed by individuals with neurological damage (Blaylock & Miller, 2008).

It is no surprise that collective trust in vaccine research is waning. According to a 2010 CDC report, 39% of parents surveyed in the U.S. said they either delayed or refused vaccinations for their children (DeNoon, 2011). Almost half of all parents surveyed in the U.S. question the validity of vaccine safety data because of the influence of pharmaceutical companies (DeLong, 2012). Over 40% believe the government is covering up information about vaccine safety (DeLong, 2012).

Not only parents but healthcare workers including new doctors are also raising considerable questions about vaccine safety. In a recent study, new doctors were found to be more skeptical about vaccine safety than their older peers (DeLong, 2012). Another study revealed that only 40% of health care workers received the recommended influenza shot. Refusal by health care workers included concern over not just safety but also efficacy (DeLong, 2012).

Population vs. Individual on Sociology of Vaccine Decisions

The ecological theoretical perspective of population vs. individual allows us to better understand the sociology of whether pediatricians are the right people to make decisions about what is best for the health of the private family. With population as a respective public social or medical organization, and the individual serving as the private entity or the independent, it is accepted and common practice in our culture for the individual to refer to the doctor and medical establishment to make weighty decisions about the individual. These decisions drastically affect the family unit yet the individual still relinquishes autonomy to the medical organization and places full trust in the practicing physician. Culturally, we assume the doctor has full knowledge and reliably acts in the best interest of the individual. For example, one American mother quotes "I didn't give vaccinations for my children a second thought because that is what my pediatrician recommended. As a non-medical person, I have to rely on their professional judgment when it comes to the health and well-being of my child" (M.H, personal communication, Sept 24, 2012).

However, with new generations of internet savvy and curious consumers, we are beginning to see a sociological movement away from the traditional model toward a new paradigm. "There has been a transition from the 'white coat ethos of the traditional physician' to the current environment of shared decision-making between patients and professionals "(Kata, 2012, p.3779). The web lets patients actively engage in their own care. "While medical knowledge was previously bound to textbooks and journals, the internet allows access to the 'school of lay medicine,' shifting the locus of power from doctors as sole directors of patients care to the patients themselves "(Forkner- Dunn, 2003). "Patients are depicted as consumers with access to information diversity, their choices no longer restricted by the higher status allocated to 'experts" (Hardey, 2001, p.388).

What is the statistical evidence of this movement? Research presents that 80% of internet users now search for health information online (Kata, 2012). Those most likely to do so are adults providing unpaid care for loved ones, such as children. Recent statistics show 16% of seekers searched online for vaccination information, and of this group, 70% say what they found influenced their treatment decisions (Kata, 2012). In fact, surveys indicate the internet now rivals physicians as the leading source of health advice (Sarasohn- Kahn, J., 2008). With the recent emergence of the Internet and the empowered patient, a shift away from the traditional model of outsourcing to the population is being offset with the individual exercising the privilege to take greater responsibility for their own future as well as for those they love.

Discussion

The culture of our society in general is heavily concentrated on the notion that vaccines are answers to the prevention of illness and disease. It is imperative as a society that we begin to think and act in terms of actual benefits from the vaccine versus the benefits we are socialized to believe we receive from vaccines.

In the end, comprehension of the dynamic sociological circumstances surrounding the vaccine debate can be better understood utilizing the dynamic sociological theory of population vs. the individual. Barbara Loe Fischer, founder and director of the National Vaccine Information Center, is striving to unite public policy and the individual by making vaccines and vaccine policies safer. She states:

> "It is absolutely essential that we find out, before we add one more vaccine to the mandatory vaccination schedule whether or not these vaccines are effective or safe. Until we have money that is committed to independent research by investigators who do not have ideological or financial conflicts of interest with either government or industry, we are not going to get the kind of science we need. Congress should be providing strong oversight on vaccine development, policy making and regulation in this country and they are not (*The Greater Good*, 2011).

Conclusion

To vaccinate or not is an individual right that should be legislatively guaranteed. It is critical to protect the individual's right to informed consent to vaccination and to expand vaccine

exemptions in state public health laws. Vast sums of money will continue to influence globally, and allow for distorted science, dismissed evidence and ignorance to the scientific approach. The legal right to make vaccine choices in America is currently threatened by lobbyists representing drug companies, medical trade association and public health officials.

Given the current reality of state government mandated and forced vaccinations, where coercive tactics are often used to intimidate wavering parents into vaccinating against their will, it is clearly in the best interest of parents to take an active stance in protecting not only the right to vaccinate, but in taking responsibility to decide whether or not their children will be vaccinated. Indeed parents should not rely on their pediatrician, government or other public institutions to make this call… as the individual is the only one who must live with the long-term consequences of his or her actions regarding vaccination, and the direct implications those actions assert on the private and public family.

References

Bernard, G., Freedman, M.A., Strobino, D.M., Sondik, E.J. (2000). Annual summary of vital statistics: Trends in the health of Americans during the 20th century. *Pediatrics*, 106, 6, 1307-1328.

Blaylock, R. & Miller, N.Z. (2010). *Vaccine safety manual for concerned families and healthpractitioners* (2nd ed.). Santa Fe, New Atlantean Press.

DeLong, G. (2012). Conflicts of interest in vaccine safety research. *Accountability in Research*, 19, 65-88.

DeNoon, D. (2011). WebMD survey: Safety biggest vaccine worry for parents. WebMD Health News. Retrieved on Sept 22 from: http://children/webmd.com/vaccines/news/20110329/webmd-survey-safety-biggest-vaccine-worry-parents.

Freed, C.R. (2007). Addiction medicine and addiction psychiatry in America: The impact of physicians in recovery on the medical treatment of addiction. *Contemporary Drug Problems*, 34, 111-135.

Freed, C.R. Ph.D. (2010). Addiction medicine and addiction psychiatry in America: Commonalities in the medical treatment of addiction. *Contemporary Drug Problems*, 37, 139-163.

Forkner- Dunn, J., (2003). Internet-based patient self-care: the next generation of healthcare delivery. Journal of Medical Residency, 5(2).

Hardey, M., (2001). E-health: the internet and the transformation of patients into consumers and producers of health knowledge. *Inf Community Sociology*, 4(3), 388-405.

Hewitson, L., Lopresti, B., Stott, C., Mason, M., Tomko, J. (2010). Influence of pediatric vaccines on amygdale growth of and opioid ligand binding in rhesus macaque infants: A pilot study. *Acta Neurobiologiae Experimentalis,* Polish Neuroscience Society, 70: 147-164.

Kata, A., (2012). Anti-vaccine activists, Web2.0, and the postmodern paradigm- An overview of tactics and tropes used online by the anti-vaccination movement. *Vaccine* 30, 3778-3789.

Manookian, Leslie. (Speaker) (2011). *Interview with Leslie Monookian*. [Recorded by Darren McBreen]. Infowars.com. Retrieved November 5, 2012 from http://www.youtube.com/watch?v=diCVYneJ164

Medical News Today. (2012, Mar 3). No antibodies required for immunity against some viruses. Retrieved Sept 5, 2012, from www.medicalnewstoday.com/printerfriendlynews.php?newsid=242403

Mercola, J. PhD (2012, November 13). To stem mumps outbreak, doctors recommend a third vaccination despite ineffectiveness of MMR vaccine and lawsuit claiming fraud. Retrieved on November 13, 2012from: http://articles.mercola.com/sites/articles/archive/2012/11/13/mmr-vaccine-ineffectiveness.aspx

National Institute of Allergy and Infectious Diseases. April19, 2011. *How Vaccines Work*. Retrieved Sept 4 from www.naiad.nig/gov/topics/vaccines/understanding/pages/howwork/aspx

Nelson, K. (Director/Producer), Manookian. L. (Writer/Producer), Pilaro, C. (Director/Producer). (2011). *The Greater Good* [Motion Picture]. United States. Retrieved November 5, 2012 from http://www.thegreatergoodmovie.org

Ratajcak, H.V. (2011). Theoretical aspects of austism: Causes- A review. *Journal of Immunotoxicology*; Vol8; No 1: pp. 68-79.

Sarasohn- Kahn, J. (2008). The wisdom of patients; healthcare meets online social media, Retrieved Sept 18, 2012 from http://www.chcf.org/~/media/MEDIA%20LIBRARY%20Files/PDF/H/PDF%20HealthCareSocialMedia.pdf

Shim, E., Grefenstette, J.J., Albert, S.M., Cakouros, B.E., burke, D.S. (2012). A game dynamic model for vaccine skeptics and vaccine believers: Measles as an example. *Journal of Theoretical Biology*. 295, 194-203.

Smailbegovic, M.S., Laing, G.J., Bedford, H. (2003). Why do parents decide against immunization? The effect of health beliefs and health professionals. Child Care Health Dev. 29, 303-311.

Smith, P.J., (2010). Pediatric Academic Societies Meeting, Vancouver, British Colombia, May 1-4, 2010.

Tomljenovic, T., Shaw, C.A. (2012). Mechanism of aluminum adjuvant toxicity and autoimmunity in pediatric populations. *Lupus*, 21, 223-230.

Wallis, C. (2008, Mar 10). Case study: autism and vaccines. *Time Health*. Retrieved Sept 6, 2012, from www.time.com/time/health/article/0,8599,1721109,00.html

White, J.M., Klein, D.M. (2008). *Family Theories*, Third Edition. Sage Publications, Inc.. 246-250.