Against medical advice: The anti-consumption of vaccines

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Abstract

Much anti-consumption behaviour is motivated by the belief that rejecting certain acts of consumption may be beneficial to society. This conceptual article explores the Anti-vaccination Movement (AVM) and accomplishes three outcomes: first, reviewing material on the AVM we outline the main reasons (religion, freedom of choice, risk, and uncertainty) driving the anti-consumption of vaccines. Second, although the reasons for the AVM are similar to those motivating other acts of anti-consumption, we elaborate on an important difference. We argue that the AVM is a unique and paradoxical form of anti-consumption, where the rejection of vaccines is actually made easier when mainstream consumption is high. Third, we show that not all anti-consumption behavior has clear-cut benefits for society.

Keywords: Anti-vaccination movement, anti-consumption, free-riding.

Paper type: Conceptual paper

Introduction

To date, linkages between anti-consumption and social marketing focus on encouraging anti-consumption of undesirable behaviours, such as excessive drinking and smoking (Peattie and Peattie, 2009, Piacentini and Banister, 2009, Shiu et al., 2009). Extant literature also indicates that researchers favour contexts where anti-consumption is driven by moral and ethical reasons (Lee et al., 2009b; Kozinets and Handelman, 2004; Sandickci and Ekici, 2009; Varman and Belk, 2009). However, existing work fails to consider instances where anti-consumption may have detrimental consequences for society, despite originating from an equally moral place. We conceptually address this gap in three ways. First, we explore the AVM revealing reasons similar to those driving the anti-consumption of commercial products. Second, we show that the AVM is a unique/different form of anti-consumption, which can only thrive under certain paradoxical circumstances. Third, we argue that whilst the AVM is driven by good intentions, it is not necessarily beneficial to society. Overall, unlike previous work in the area, our research intersects the boundaries of commercial interests (pharmaceutical companies versus alternative therapies), societal interests (communal well-being versus parents freedom of choice), and medical interests (confidence in science/medicine versus uncertainty), thereby showing that the understanding of anti-consumption behavior can be applied to contexts beyond business.

Literature Review, Methodology, and Background

Being an exploratory article, the literature review formed the basis of our methodology. We began by examining many online sources. Although a large proportion of material originated from upset parents or concerned doctors, where blogging was a method of venting (e.g. "vaccines have crippled my son"; "parents that don't vaccinate are selfish bastards"), for the purposes of this study, we focussed on less emotionally laden sources. As is the case with any literature review/qualitative research, a judgement call was made regarding the sources on which to focus. We did this by considering the popularity of sources as they were mentioned in other blogs and arguments, and/or if the information came from what we deemed to be credible sources. The eventual data set comprised: 37 blogs, e.g., Ask Dr. Sears; 17 Online News Articles, e.g., Wired; 12 medical journals, e.g., American Journal of Epidemiology; and nine Business/Social Science Sources, e.g., The Economic Journal.

The literature suggests that vaccine opposition originated in the 1800's when the small pox vaccine was first introduced (Wolfe and Sharp, 2002), so vaccinations and the AVM have gone hand in hand from the beginning. With an exponential increase in the number of vaccines, the AVM has continued to gain momentum, particularly over the last decade (Gill, 2009). In 2009, 10,000 American kindergarteners started school with vaccine exemptions, an increase from 8,300 exemptions during the previous year and more than double since 1997, where only 4,318 vaccine exemptions were recorded (Lin and Poindexter, 2009). This growth is mainly attributable to the Internet where thousands of websites, blogs, and arguments circulate. The debate is split into two main groups: the medical community (pro vaccine) and the AVM. Much of the previous work in this area has been bi-polar, conducted by medical professionals, pharmaceutical companies, and population health scientists; or conversely, by people within the AVM and alternative therapies community. Each side has a vested interest views the argument through their own ideological lenses and vehemently defends their position against the opposing group. This conflict of information and lack of balance

regarding the benefits and risks of vaccines may create an atmosphere of uncertainty, which favours the AVM, since the inaction of not vaccinating is easier to bear for some parents than the thought of actively injecting a potentially dangerous substance into a child. Furthermore, rather than being naive and misinformed, parents who practice the anti-consumption of vaccines are more likely to be well educated and possess a high socioeconomic status (Wallace, 2009). Ironically, parents and health workers, on either side of this debate, all share the primary concern of doing what's best for children.

Findings

After thematic analysis of the literature, we discover four main themes/reasons motivating the AVM, despite the medical establishment's argument that immunization is: crucial to children's health, safe, effective, and free in most countries. We overlay these AVM themes with existing theory in anti-consumption, thereby linking the two areas together.

Religion: Ideological Opposition

Religion is one of the oldest reasons behind the AVM. Mary Eddy, Church of Christ Scientist founder wrote "A calm, Christian state of mind is a better preventive of contagion than a drug or than any other possible sanative method" (Purrington, 1899). Whilst all Christians do not share this idea, there are a number who believe that taking vaccines is an admission of spiritual weakness. Similarly, some Muslims refuse the H1N1 vaccine because it may contain pork gelatin (Benson, 2009). Religion aside, other AVM groups also express ideological opposition to vaccines, perceiving them to be 'unnatural'. This opposition is also compounded by a deep cynicism of both the government, who strongly encourages vaccines, and pharmaceutical companies, who seem to possess much economic and regulatory influence. Linking back to consumer research theory we see that ideological opposition to vaccines share similarities with other ideologically motivated forms of anti-consumption (Lee et al., 2009b; Kozinets and Handelman, 2004; Sandickci and Ekici, 2009; Varman and Belk, 2009).

Freedom of Choice: Freedom from Harm

The AVM debate touches on two ethical issues, freedom of choice versus freedom from harm (Campbell, Busse, and Injeyan, 2000). Pro-vaccinators argue that mandating vaccines will keep community and individuals (for whom vaccines do not work) free from harmful diseases. In contrast, the AVM feel that vaccines are harmful and therefore freedom of choice should take precedent. Most governments try to persuade citizens that vaccines are good for their health and strongly recommend vaccination, rather than taking away people's freedom of choice. However, Miller (2009) states that employers and the educational sector are concerned at the increasing governmental pressure to mandate vaccinations.

Freedom of choice also relates to a parent's ability to choose specific diseases to immunize their children against, rather than having to accept all of the prescribed vaccines. Pharmaceutical companies increasingly adopt a 'one-size-fits-all' approach to vaccinations. For example, pharmaceutical giant Merck will stop the production of the individual measles, mumps and rubella (MMR) vaccines at the end of 2010, which means that parents must choose to use the combination MMR vaccine or nothing (Sears, 2009). Whilst the 'official' goal is to prevent a number of diseases simultaneously, a commercial reason also exists. Combination vaccines provide an easy solution to the low demand and profitability in individual vaccines that deviate from the official vaccine schedules (Milstien et al., 2003).

Whilst combination vaccines are 'officially' safe, they take away an informed parent's freedom of choice to design a vaccine schedule that best suits their needs and/or beliefs. From a consumer research perspective, anti-consumption arises when consumers feel choice being taken away by a hegemonic entity (Thompson and Arsel, 2004, Lee et al., 2009a, Kozinets and Handelman, 2004, Cromie and Ewing, 2009).

Risk: Cost to benefit trade-off

The medical establishment defends the safety of vaccines and argues that there is no causal link between vaccines and adverse side effects. However, as with any medical procedure, vaccines are not 100% risk free, and this fact must be balanced with the risk of the diseases themselves. One paradoxical problem for pro-vaccinators is the fact that some vaccines have been very successful (Orac, 2009). Before the measles vaccination in 1957, measles contributed to 48,000 hospitalisations, 7000 seizures, 1000 cases of permanent brain damage or deafness, and 450 deaths. In 2009 only 50 cases were reported in the United States (CDC, 2009). Therefore, in the past, remaining unvaccinated was considered a high risk since the chances of catching a disease, such as measles, was much greater than experiencing a vaccine side effect. Post 2009, proponents of the AVM perceive vaccinations as being riskier than the diseases themselves. Ironically, vaccines have become a victim of their own success. Modern parents are now disconnected from a time when vaccine-preventable diseases were common, thus assessing the risk of vaccination is now more complicated. For some parents, the low risk of their child experiencing a vaccine side effect is being weighed up against the low risk of catching certain diseases. Risk is an important driver of the AVM, and operates in a similar way as the cost to benefit trade-off that motivates other forms of anti-consumption (Lee et al. 2009a). Naturally, parents want to do what is best for their family, by employing high benefit/low risk strategies to their child's health. The difficulty, however, is that much uncertainty surrounds this debate and the exact risk to benefit trade-off is hard to surmise.

Uncertainty: Confusion and Contradictions

Whilst vaccinations may have improved the wellbeing of society, there is still uncertainty surrounding their adverse side effects. Compounding this uncertainty is the fact that since 1983, many countries have increased the number of vaccinations by 260% (GenerationRescue, 2007). Currently, American children receive up to 36 vaccines by the time they finish school; 30 of these vaccines are administered before turning six, and some are administered at birth or before six weeks of age. AVM proponents believe that children are receiving too many unnecessary vaccines too soon, and argue that when Japan raised their vaccination age from two months to two years in 1975, the rate of Sudden Infant Death Syndrome (SIDS) dropped from 13th in the world to becoming the lowest (Phillips, 2001).

In contrast, the medical establishment argues that a US$5.3 million study by the Center for Disease Control and Prevention (CDC) should offer parents confidence that vaccines are safe. The study followed 1,047 infants, concluding that there was no evidence of neurologic problems in children exposed to mercury-containing vaccines (Thompson et al., 2007). However, Sallie Bernard, of the anti-mercury advocacy group SafeMinds, who helped design the study and review the results, criticized the research claiming that the results were 'biased', owing to the low (30%) compliance rate of the study, which introduces the problem of selection bias (Novella, 2007). SafeMinds, a non-profit organization investigating the risks of mercury-based vaccines, highlight a phenomenon known as synergistic toxicity. They suggest that toxicity levels and adverse side effects increase exponentially when exposed to multiple

toxins simultaneously, as opposed to when individual toxins in vaccines are tested in isolation. They argue that in some susceptible sub-groups, the risk of an autism related vaccination injury is as high as one in seven (Laster, 2008). Yet, Thimerosal, a mercury-containing organic compound used in vaccines since the 1930's (Ball, Ball, and Pratt, 2005), has not been shown to harm patients. Nevertheless, owing to controversy and uncertainty, vaccine manufacturers took a pro-active approach by eliminating mercury as a 'precautionary measure' (Sharma, 2007). Ironically, by removing mercury from some vaccines, and stating that vaccines are now safer, the medical establishment unwittingly committed a public relations blunder. Their pro-activity raised some doubts over the safety of initial vaccines, thereby sowing the seeds of skepticism and cynicism into an already controversial area.

Although a causal link between adverse side effects and vaccines can never be fully established, neither can they be fully discredited. Causal studies on humans involving randomized control and experimental groups are unethical from all perspectives. Thus, despite the medical establishment's claims, the long-term safety and efficacy of vaccines can never be proven. With so much uncertainty and conflicting information available, we see how complicated, contradictory and, indeed, confusing the vaccination debate is.

Discussion and Implications

The previous section presented the main reasons for the anti-consumption of vaccines (religion, freedom of choice, risk, and uncertainty). Where relevant, we highlight the AVM's reasons that are similar to those driving the anti-consumption of commercial products. However, there is an important distinction between the AVM and anti-consumption, which relies on the assumption of herd immunity and the efficacy of vaccines.

Herd immunity occurs when the majority of a population is immune to a disease (often through effective vaccination). A high proportion of immune individuals prevent the disease from spreading as it cannot find new hosts easily (Fox *et al*., 1971). The concept of herd immunity makes the anti-consumption of vaccines paradoxical. It is an act of anti-consumption that actually becomes easier to practice as mainstream consumption increases. While the risk of a vaccine will remain constant (unless a vaccine is reformulated) the risk of catching a disease fluctuates depending on the level of herd immunity. If a majority of people practice the anti-consumption of vaccines there could be a re-emergence of some diseases. As the risk of catching a disease increases, the low risk of vaccine side effects should appear more acceptable in a relative sense, even though the actual risk has remained constant. So even though the AVM believe what they are doing is the optimal decision for their own child; widespread acceptance of their reasons would actually make individual anti-consumption harder to practice. It is common for consumers to form communities/tribes based on shared consumption and anti-consumption preferences. However, we argue that the AVM is a unique situation where large numbers of people sharing the same anti-consumption attitudes/behaviours are actually incompatible with, or even harmful to, one another.

Free-riding occurs when individuals enjoy the benefits of a group's action, without incurring the cost/hardship of group effort (Alison, 1985). Herd immunity requires a certain percentage of the group to be vaccinated, so those not vaccinating are arguably free-riding on herd immunity. Kidwell and Bennett (1993) suggest that members of large groups perceive their actions to have an insignificant impact on the group outcome. Thus, AVM members in large communities may believe that their actions only have a minimal effect on the greater group. However, when vaccination levels fall below a certain herd immunity threshold, the potential

exists for an epidemic. Free-riders (people practicing anti-consumption of vaccines) may then become detrimental to the health of the community. Thus, another important difference exists between AVM and other forms of anti-consumption. Normally, a personal choice against consumption does not impact negatively on others (for instance, parents against fluorinated water, or brand avoidance of McDonald's), but in the case of AVM, there is the potential for personal anti-consumption choices to adversely affect other people.

A compromise must therefore be reached. Voluntary vaccinations may not be enough to maintain herd immunity, especially if the AVM's arguments gain popularity. But mandating vaccines are not appropriate either as it breeches an individual's freedom of choice, and since the side effects of vaccines can never be fully discredited, people should retain the right of refusal. Furthermore, work in psychology, politics, and consumer research suggests that coercion incites even greater resistance. Pharmaceutical companies and governments should also realise that the debate is not black and white. Informed parents may wish to vaccinate their children against only one or two diseases at a time, rejecting the one-size-fits-all approach offered by combination vaccines. They are not 'anti-vaccinations' but merely want the freedom to design a schedule that they feel best balances the risk and benefits of vaccines for their children. Such parents are more likely to reject a one-size-fits-all approach that is offered by combination vaccines and mainstream vaccination schedules. Thus by ensuring that freedom of choice remains, these parents are still able to contribute something, rather than nothing, to herd immunity.

Pro-vaccinators should continue to vaccinate but be respectful of the AVM's choices, while AVM parents, whose children are more likely to become carriers of vaccine-preventable diseases, should be careful if coming into contact with children too young to be vaccinated. Overall, both groups should realise that the debate is more complicated than what the medical community or the AVM suggest. Vaccines have been/are undeniably beneficial in the cases of some serious diseases such as small pox, polio, and tetanus, however, the number of vaccines has increased (GenerationRescue, 2007). Even though adverse side effects and vaccines can never be causally linked, nor can their absolute efficacy and safety be proven. Pediatricians, advisory centers, and general practitioners should take the concerns of parents seriously, offer unbiased information, and avoid alienating, or being dismissive of parents choosing not to vaccinate. As this paper shows, the only certainty in this complex debate is uncertainty.

Conclusion

Unlike the majority of previous work, this conceptual article uses the AVM to show that not all well-intentioned anti-consumption behavior benefits society. The complex anti-vaccination debate puts parental freedom of choice against community well being. Although arguments about the true efficacy of vaccines and the risk of their side effects are far from being resolved, we were still able to outline the main reasons driving the AVM. At a thematic level we see the AVM is driven by similar reasons motivating the anti-consumption of products (religion, freedom of choice, risk, and uncertainty). More importantly, we further understanding in the area by arguing that unlike other forms of anti-consumption, the AVM is unique, in that the anti-consumption is made easier when mainstream consumption is high. Ironically, as vaccines become better at eradicating diseases, and the occurrence of vaccine preventable diseases decreases in a society, the risk of vaccination begins to outweigh the benefits of immunization, for some parents. This is a unique phenomenon where individual anti-consumption is easier to practice if wide spread anti-consumption has not yet occurred.

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