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# The Provider's Approach to Addressing Vaccine Hesitancy

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## INTRODUCTION

Heralded as one of the greatest innovations in medical science was the discovery and implementation of vaccines to prevent illness. It is why our society is no longer plagued with diseases such as smallpox and polio on a large scale. In recent years though, society has faced a new emerging threat in the form of vaccine skepticism and avoidance. Different terms have been used to describe this distrust in vaccines. The current preferred term of vaccine hesitancy is associated with refusal or postponement of vaccination despite vaccine accessibility and availability. This term is preferred over previous labels such as anti-vaxers, in order to remove the pro vs anti nature which presents the issue as a debate with two sides.[2] But as most health care providers would agree, there is no vaccine debate. Vaccinations are proven to be effective and safe on the grand scale.[3] The issue lies with society's recognition of this information and the different factors that influence vaccine hesitancy.

There are a multitude of reasons parents may choose to decline vaccines for their children. The primary and most common cited reason for declination is concern for safety. Literature also suggests this concern is rooted in a sense of mistrust. The mistrust is sometimes directed at pharmaceutical companies who profit from vaccines and even at institutions that recommend vaccinations such as the Center for Disease Control (CDC). [4] Historically, there were concerns of a link between certain vaccines, such as the measles, mumps, and rubella (MMR) vaccine, and autism. While it may be common knowledge by medical professionals that any research that suggested a correlation has now been redacted, the rest of society may not be as well informed on the facts.[5] This misinformation created a cloud of suspicion and doubt about what else might be hidden in vaccine formulations, which has been perpetuated and further

dispersed on social platforms.[6] It can be difficult for parents to navigate the flood of information they receive on this topic to make an educated decision based on reliable sources.

Currently in the United States, there is no federal law requiring vaccination. Each state regulates vaccine requirements for children prior to entering public school. There are allowances to avoid vaccinations based on medical, religious, or personal exemptions, which vary by state. These state regulations are helpful for health care providers as it necessitates vaccination even when a parent has some disinclination. The issue for providers lies in areas where there is liberal granting of personal exemptions as well as for all children younger than school age when most vaccines are most needed and most effective.[7]

Ultimately, the burden of ensuring patients are vaccinated falls to the primary care provider. This can be a daunting task in light of the fact that many health science schools or programs do not train professionals on changing the opinions of their patients. The motto taught is to present all options in an unbiased manner, outlining the pros and cons of every medical treatment in order to obtain informed consent. Secondly, there is limited evidence to support any one specific modality to achieve this goal. In this paper, current literature is reviewed and discussed to investigate what is the most effective approach for medical providers to apply toward vaccine hesitant parents in order to increase vaccination rates.

## DISCUSSION

While there are no current guidelines for how to address vaccine hesitancy, there are some major groups health care providers look to for advice on the matter. This includes the Strategic Advisory Group of Experts (SAGE) Working Group on Vaccine Hesitancy and the World

Health Organization (WHO). Per their summit in 2014, they have three overall recommendations: increase understanding of vaccine hesitancy, its causes and emerging challenges; promotion of further investigation and then implementations strategies of new tools; and to change organizational structures as needed to increase acceptance of vaccines. Overall, they did not feel that there was any one strategy vastly superior, thus advised tailoring strategies based on specific community needs.[8]

### *PATIENT EDUCATION STRATEGIES:*

A major theme in most strategies is patient education, as a large influencer of vaccine hesitancy is rooted in limited or incorrect information. One study chose to take a population of largely vaccine hesitant college students (future parents), and had the participants conduct interviews. These interviews were either of a family affected by vaccine preventable disease (VPD) or an autoimmune disease as a control group. Surveys measuring vaccine attitude were given before and after the interviews. Students were also separated into different classes for education. One class emphasized vaccine safety, while the other class focused on the diseases themselves. At the end it was seen that participants who interviewed families affected by VPD were 68% more likely to support vaccination, and that students educated on preventable diseases were more likely to support vaccination than students taught about vaccine safety.[9] The key take away of this study is that people are less swayed by safety reassurance, and more impacted by learning about the actual disease and outcome being prevented.

This is a tactic health care providers should utilize. The discussion with parents should be focused around the facts that these diseases have severe symptoms and side effects that

vaccines will prevent their children from experiencing. Personalization has been seen to have an immense impact on parents. Rather than reading numbers of cases per year, patients are more likely to end up vaccinating after hearing personal stories of provider's patients affected by VPD and knowing that the provider's own children are immunized. One resource to aid providers is the website www.immunize.org/reports which gives access to hundreds of patient stories that can be shared with vaccine hesitant parents.[2]

### *PROVIDER TRAINING/ANNOUNCEMENT STRATEGIES:*

Although many providers may wish to utilize specific techniques, the lack of training is a barrier. One study took 83 primary care providers and trained them on one of two dialogue methods for patients eligible for the HPV vaccine. Providers were randomized to be trained to use announcements that assume the parents are going to agree to the HPV vaccination or conversation training that promotes discussion about vaccination pros and cons. Although it would have been preferred to know if patients had any vaccine hesitancy prior to the visit and to obtain quantitative changes in vaccine rates pre and post study, this study's metric for the efficacy of these strategies were based on provider perceptions. The results though did demonstrate increased vaccine coverage with either training. By simply having any type training, providers perceived these visits as being more successful. Additionally, providers trained in announcements noticed it decreased visit time and resulted in higher rates of HPV vaccine coverage. [10]

The superiority of the announcement approach is further supported in a study conducted with parents of infant to toddler age. During this investigation, provider style was

observed via videos of 111 patient encounters. It was seen that presumptive or announcement start to the discussion led to significantly higher vaccine acceptance rates. Using a conversational dialogue approach was shown to have a higher rate of parents voicing resistance. Furthermore, when parents did resist, about half of the providers returned to their original recommendations stating the need for the vaccine, which resulted in 47% of the resistant parents to ultimately consent to vaccination.[11] These findings further demonstrate the success of presumptive approaches and the need to challenge a parent's objections if they are not creditable. One study even reported that the information and reassurance offered by the provider was the primary factor in changing the mind of a parent who initially intended to refuse or delay vaccination.[12]

### *MARKETING STRATEGIES:*

While the dialogue techniques have demonstrated their value in increasing vaccination coverage, they still have limitations. Not only is provider education a barrier, but the time it takes to have these discussions with patients is another impediment. An option is to schedule longer appointment times or set additional appointments for parent education visits. But these are not feasible in many clinic settings. Thus, other strategies should be implemented for further provider support. These can be in the form of written communication, advertisements, telephone reminders, and social media campaigns. Some providers choose to give out educational information prior to vaccine administration or prior to the visit itself. This can be done via paper handouts, emails, or even referral to educational websites such as the Center for Disease Control (CDC). One study demonstrated parental preference to receiving vaccine information prior to the first immunization visit.[2]

A tool that has been implemented for further patient education prior to the visit is social media. Although social media may get blamed for exacerbating much of the false information regarding vaccines disseminated to parents, it has been difficult to utilize it as a tool to help promote vaccine coverage and reassure vaccine hesitant individuals. There have been many social media campaigns targeted at increasing overall awareness of recommendations and highlight the value of immunizations with some success. Data comparing the vaccination rates before and after the campaigns are limited though, but there is some promising data that it is beneficial in targeting adolescence that have already started a vaccination schedule. [13] [14] While social media may have a role in the evolving nature of health care education, it is a difficult tool for providers to utilize as this one size fits all approach cannot address the different facets that lead to vaccine hesitancy.[13]

### *INCENTIVE STRATEGIES:*

Other tactics providers may employ include incentives, whether they be positive or negative. Examples of positive incentives include food or food vouchers, gift cards, lottery prizes, baby products, and reimbursement or free vaccine administration. A meta-analysis of studies that offered incentives concluded that these sources could not be reliably utilized for predicting changes in vaccination rates or hesitancy. Although these options may be effective, they are associated with a high degree of bias which makes them difficult for recommendation.[12] Another issue with these types of incentives, is that they can be costly, thus not always feasible for every provider.

Reversely, negative incentive strategies are also implemented. The most common of this category being dismissal of the patient from the practice. Providers utilizing this strategy site the legal risk and safety of their other patients as the primary influencing factors. Usually dismissal is after a dialogue approach with the parent fails. It must be noted that the provider who dismissed a patient due to vaccine refusal must still follow state laws regarding patient dismissal. Ultimately this may not even be an option for many providers working at large health care organizations or in rural areas where there is limited pediatric care. While some parents have stated that a strict vaccinate or be dismissed policy did lead them to vaccinate their children, there is no published evidence at this time reporting what the eventual vaccination status is of children that have been dismissed.[2]

## CONCLUSION

Overall the literature supports that the optimal measures of combating vaccine hesitancy utilize multiple modalities. As this is a complex issue with many factors influencing a parent's decision to delay or refuse vaccination, different methods must be employed to address each of these factors. In meta-analysis reviews, it was seen that interventions that had the highest success rates for vaccine coverage included some of the following characteristics: target population was unvaccinated or under vaccinated groups, provided education, increased access or convenience, included laws or regulations that promoted vaccination, and were promoted by religious or community leaders. Secondly, multiple studies have supported that education is the key to changing parents attitudes and misconceptions and the best way to promote that education is through the provider.[14]

## LIMITATIONS:

Current research into specific modalities addressing vaccine hesitancy does have some significant limitations. For example, they are often limited in scope or region for their target population. This is a global issue, but patient information may be limited to that researcher's country. The data collected is often qualitative in nature rather than quantitative, which makes it difficult to make specific conclusions of efficacy as well as to compare similar approaches.[2] Additionally, the specific approaches may be tailored to a regional problem, which make them difficult to reproduce in other locations. Strategies like social media campaigns may have the opposite problem of being too broad and not specific enough confront local issues. Furthermore, it is difficult to quantify vaccination attitudes prior to and after the advertisements.[13] Incentive strategies have been implemented globally but are frequently met with biases that skew the data. In some instances, the incentives overlap with other clinical health maintenance goals, or in impoverished places the incentives of food and basic life essentials are in too high of demand to evaluate if vaccine outlook was truly changed.[12]

## FURTHER RESEARCH:

Further research is needed to better answer the question, provide further analysis of the different strategies, as well as find novel approaches. Additionally, more data is needed on creating strategies that are adapted to different socio-economic and regional populations. Much data is lacking in success rates of these strategies over long periods of time as well. It is expected that as the attitude and factors influencing vaccine hesitancy change, the research and strategies will have to evolve as well.

## END MATTER


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