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## Increasing Vaccination Rates in Children of Vaccine-Hesitant Parents

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# VVCU

## Increasing Vaccination Rates in Children of Vaccine-Hesitant Parents

Keegan Edgar

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### Introduction

Immunization is a key part of health on both an individual and societal level because it has led to the near eradication of many dangerous diseases. A number of outbreaks have been traced back to non-immunized children, and the number of parents refusing vaccination for personal belief reasons (as opposed to religious or health-related reasons) is increasing (Omer, 2009). Elective non-immunization poses a great risk to those who have allergies or other medical reasons for being unable to receive vaccinations, as they have no help in defending against the disease. It is crucial that we find a way to decrease rates of non-immunization stemming from personal belief reasons to not only protect the health of those children, but the health of all children.

### Methods

#### Cause-and-Effect Approach

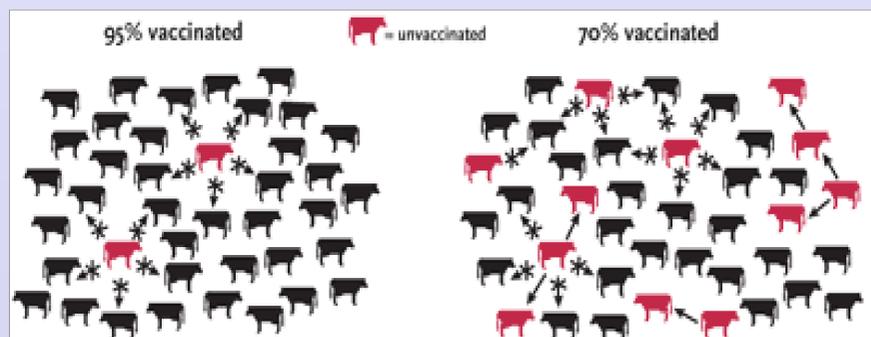
Previous approaches have failed to target the causes of vaccine-hesitancy and seek to make vaccines more appealing rather than making vaccine refusal unappealing. I wanted to know why vaccine-hesitant parents refused vaccination, and what steps could be taken to fix the problem by targeting the causes of their hesitancy.

#### Causes

Trends in vaccine-hesitancy were identified by examining statements from interviews, online posts and statements from vaccine-hesitant organizations.

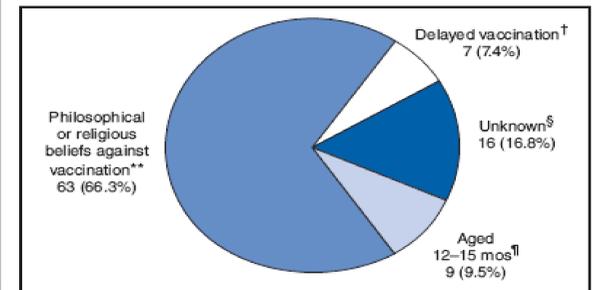
#### Increasing Immunization Levels

Current methods of increasing immunization were evaluated, including experimental results and how effective each would be at increasing vaccination rates in children of vaccine-hesitant parents.



Herd Immunity, [http://employees.csbsju.edu/hjakubowski/classes/Chem%20and%20Society/Influenza/Vaccines\\_The%20Scientist.htm](http://employees.csbsju.edu/hjakubowski/classes/Chem%20and%20Society/Influenza/Vaccines_The%20Scientist.htm)

FIGURE 2. U.S. residents with measles who were eligible\* for vaccination against measles, by reason for not receiving measles vaccine — United States, January–July 2008



\* N = 95. Does not include infants aged <12 months, persons born before 1957, foreign visitors, and persons who were vaccinated.  
† Includes children aged 16 months to 4 years who had not been vaccinated.  
§ Includes persons who were age eligible for vaccination but whose vaccination status was unknown or who were unvaccinated for unknown reasons.  
¶ Includes eight children eligible for vaccination, but not yet vaccinated, and one child whose vaccination status was unknown.  
\*\* Includes persons who were unvaccinated because of their own or their parents' beliefs. This category includes 61 persons aged ≤18 years and two persons aged 20–50 years. None of the persons in this category cited medical reasons for not having been vaccinated.

U.S. residents with measles who were eligible for vaccination against measles, by reason for not receiving measles vaccine, <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5733a1.htm>

### Results

There are currently two main ways that have been implemented to increase vaccination rates overall:

- 1. the use of tailored intervention between the health care worker and the parent
- 2. the use of incentives

Incentives were shown to increase vaccination rates overall, but did not have a significant impact on vaccination rates of children of vaccine-hesitant parents.

Tailored “interventions,” in which a health care worker conversed with the parent about the benefits and risks of vaccination as well as the risks of not being vaccinated worked significantly better, and in many cases were able to change the parents’ mindsets about vaccination.

### Conclusion

The use of incentives as a catch-all solution for problems with low vaccination rates is not an effective solution, especially when dealing with areas with a high concentration of vaccine-hesitant parents. Parents who are vaccine-hesitant, in most cases, have done a lot of research and formed a strong opinion on the subject, one that is unlikely to be swayed by a relatively small incentive, such as not having to fill out extra forms, or receiving monetary aid if their children are vaccinated. Although having a health care worker explain the intricacies, risks and rewards of vaccination is not always going to work, it is much more effective than incentivizing vaccination. In order for tailored treatments to be effective at increasing the vaccination rate, health care workers must have sufficient knowledge and charisma to be seen as trustworthy by parents and to be able to offer a sufficient amount of information. Currently, many health care workers lack the knowledge needed to articulate the reasons why vaccines are beneficial. Education of health care workers needs to ensure that they have this knowledge. Otherwise, tailored treatments will not be as effective. An effective way to ensure that all parents get this treatment is to block enrollment in schools unless parents have been counseled by a health care worker. This is an excellent solution as it will both incentivize vaccination by making it more of a hassle for parents to not vaccinate their children (Diekema, 2014), as well as ensuring that vaccine-hesitant parents have heard recommendations from a health care professional.

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