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## Efficacy of Elder Support and Education on Measles Vaccination Rates in Amish Communities

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## ABSTRACT

<b>Background</b>	Proposed study within Amish community to increase 1. Measles vaccinations 2. Education about measles: etiology and transmission, aseptic techniques, and quarantine/isolation.
<b>Significance</b>	The majority of Amish people are unvaccinated. Massive outbreaks of measles (363 cases in Ohio) within Amish communities.
<b>Method</b>	- Non-random, convenience sampling of participants in two Amish communities: Indiana and Illinois. - Target population: 3,646 in Indiana and 3,669 in Illinois. - Both groups will receive from a mobile clinic: - Education about measles - Vaccine - Experimental group using the support of the elders. - Pre-and post-test to determine the effectiveness of elder support.
<b>Analysis</b>	- Closed-ended questions with nominal data. - Biological measurements with integral data. - Qualitative analysis, chi square and statistical analysis used to determine outcome and results.
<b>Protection of human subjects</b>	- Adverse effects information to identify signs and symptoms of a reaction, either immediate or delayed. - All participants will be required to sign two informed consent forms, one for the study, the other for vaccine information release. - All documents will be protected - HIPPA protocols will be followed to ensure privacy and confidentiality.

## INTRODUCTION

- Initial symptoms: fever, malaise, cough, inflammation of nasal mucous membranes, conjunctivitis, and a maculopapular rash (Kutty et al., 2014).
- Unvaccinated travelers entering the United States from Western Europe and India were identified as the source of importations (Kutty et al., 2014).
- Amish population were mostly affected by the 2011 and 2014 outbreaks (CDC, 2017).
- This aim of the study is to measure the effect of a mobile clinic providing education and vaccines, along with elder involvement in the Amish community and their effect on measles vaccination rates and outbreaks.
- It is hypothesized that education regarding prevention of measles in the Amish community will decrease the incidence rate of the measles virus. Mobile education and vaccination clinic paired with elder support in the Amish community will increase the rate of measles vaccinations.

## BACKGROUND & SIGNIFICANCE

- Measles outbreaks on the rise
  - Decline in vaccination rate due to fear of adverse effects
  - Affecting unvaccinated communities lacking herd immunity
  - Majority of outbreaks have occurred in Amish communities
- Propose to increase vaccination rates among the Amish
  - Provide education and access to vaccinations
  - Study the effect of elder support on vaccination rate
- Only 11% of the Amish population are vaccinated.
- Increase of vaccinations after outbreak in 2014
- Church elders are influential in health-care decisions
- Hypothesized that elder support will lead to higher vaccination rates

## MENTAL HEALTH INPUT

- Describe history, symptoms and treatment of measles
- Reduce fear, anxiety, and worry associated with the therapist and medical team
- Work with therapist to develop a plan for coping with medical decision and the stress associated with decision
- Counselors will provide the Amish empathy and mental support.
- Counselors will assist the Amish community with developing coping skills post-vaccinations.



## METHODS

- Participants**
  - Will be recruited from two clinical sites. One is in Montgomery, Indiana and the other is in Arthur, Illinois. Both sites have 27 active districts/churches and over 3600 possible unvaccinated classes.
  - Publicity will be executed via an advertisement in the community newspaper.
  - To determine sample size: 10% for each unvaccinated population in Indiana (n=365) and Illinois (n=367) leading to a total of n = 732.
  - The experimental group in Indiana will be recruited via nonrandom, convenience sampling with the assistance of networking through the Elders and their influence on the Amish community (EI).
  - The control group in Illinois will be recruited through nonrandom, convenience sampling without utilizing the influence of the Elders' leadership influence (WEI).
  - Inclusion criteria: Amish culture & no measles vaccination record
  - Exclusion criteria: no involvement with the Amish community, having immunocompromised status, Amish people who have already had vaccinations, and infants under one-year-old.
- Materials**
  - A pretest and posttest questionnaire assessing vaccination knowledge, advertising efficacy, demographics, etc.
- Procedures**
  - Recruitment will be done via newspaper advertising to both experimental and control groups. The experimental group will also have additional recruitment through the Elders of each church/district.
  - Informed consent and education will be provided for all subjects via informative pamphlets emphasizing the benefits of vaccination, risks of measles outbreaks as well as any possible side effects of vaccination.

## ANALYSIS

- Descriptive and Inferential Statistics
- Chi Square Testing for Variable Associations

## EXPECTED RESULTS

- The measles vaccination rate will increase in the Amish communities due to exposure to education and vaccination availability.
- Expected that the community in Indiana with Elder support will have a higher vaccination rate than the community in Illinois
- This research proposal aims to increase measles immunity to prevent future outbreaks in specific communities that lack herd immunity.



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