

2-4-2011

Understanding Factors Contributing to Suboptimal Rates of Childhood Vaccinations in Vermont

Adam Bensimhon

Kuang-Ning Huang

Paul Jarvis

Jonathan Jolin

Catherine Kelley

See next page for additional authors

Follow this and additional works at: http://scholarworks.uvm.edu/comphp_gallery

 Part of the [Community Health and Preventive Medicine Commons](#), and the [Health Services Research Commons](#)

Recommended Citation

Bensimhon, Adam; Huang, Kuang-Ning; Jarvis, Paul; Jolin, Jonathan; Kelley, Catherine; Schaberg, Kurt; Velazco, Cristine; Burke, Marianne; and Finley, Christine, "Understanding Factors Contributing to Suboptimal Rates of Childhood Vaccinations in Vermont" (2011). *Public Health Projects, 2008-present*. Book 58.

http://scholarworks.uvm.edu/comphp_gallery/58

This Article is brought to you for free and open access by the Public Health Projects, University of Vermont College of Medicine at ScholarWorks @ UVM. It has been accepted for inclusion in Public Health Projects, 2008-present by an authorized administrator of ScholarWorks @ UVM. For more information, please contact donna.omalley@uvm.edu.

Authors

Adam Bensimhon, Kuang-Ning Huang, Paul Jarvis, Jonathan Jolin, Catherine Kelley, Kurt Schaberg, Cristine Velazco, Marianne Burke, and Christine Finley

Understanding Factors Contributing to Suboptimal Rates of Childhood Vaccinations in Vermont



Adam Bensimhon¹, Kuang-Ning Huang¹, Paul Jarvis¹, Jonathan Jolin¹, Catherine Kelley¹, Kurt Schaberg¹,
Cristine Velazco¹, Marianne Burke¹, Christine Finley²

¹ University of Vermont College of Medicine Burlington, VT; ² Vermont Department of Health, Burlington, VT



Introduction

Nationally, childhood immunizations have proven themselves invaluable in preventing contagious diseases and their associated morbidity and mortality.^{[1][2]} Nonetheless, vaccines have become increasingly controversial, with a growing number of parents refusing to vaccinate their children.^[3] Primary reasons given for vaccination refusal include fears of side effects and the belief that the target diseases are not harmful.^[4] Those parents who refuse to vaccinate their children generally have higher levels of education and income.^[5] An additional population of under-vaccinated children who have received limited recommended vaccinations has been identified and often comes from a lower socioeconomic level.^[5] Unimmunized children have been associated with recent disease outbreaks, placing other individuals at risk and increasing the controversy about childhood vaccinations.^[6] Nationally, Vermont has one of the highest rates of unvaccinated children with recent data showing these rates are continuing to increase.^[5,7]

Objectives

- To assess parents' attitudes and behaviors about immunizations to identify possible strategies to increase childhood vaccination rates.

Methods

- 1,614 surveys were mailed to caregivers of children ages zero to five in the Women Infant and Children's Program at the Barre and Morrisville district health offices.
- Caregivers ranked their confidence or concern about:
 - knowledge of children's healthcare
 - health benefits of immunizations
 - the risk their child may contract an infectious disease
- Caregivers were asked about vaccination safety concerns
- Caregivers were asked if their child was current on vaccines, reasons why not, and intent to vaccinate in the future.
- Results were summarized as percentages and analyzed using multivariate regression (SPSS v. 19) to assess predictor-outcome relationships ($\alpha=.05$).

Results

- 386 surveys were returned
- 82% of respondents said their child(ren) had received all the recommended vaccinations for their age.
- As single predictors, younger respondent age (≤ 30) and lower education level (some college or less) were more likely to report their children as current on vaccinations ($p=.01$ and $p<.01$, respectively).
- Having children current on vaccinations was significantly associated with high rating of child healthcare knowledge ($p=.01$) and confidence about the safety of the immunizations ($p<.01$).
- Intent for future vaccination was predicted by high knowledge about child healthcare ($p=.005$) and confidence about the safety of immunizations ($p=.019$).



Discussion

- Our study supports previous literature that vaccine safety and the effect of multiple vaccinations administered during a single visit are primary reasons why caregivers choose not to vaccinate.^[4,8]
- The link between vaccination and autism was a common concern among respondents despite numerous studies indicating no relationship.^[2]
- Respondents whose child was less likely to be current on vaccinations primarily sought information from the internet and/or literature.
- For respondents whose child was current on vaccinations, the major sources of information were primary care providers and family.

Conclusions and Implications

- Caregivers reporting younger age and lower education level are associated with being up-to-date on their child's vaccines. Those who reported higher confidence in child healthcare knowledge and/or safety of vaccinations were associated with higher rates of current vaccinations and intent to vaccinate in the future.
- Health campaigns to improve Vermont vaccination rates should counter misinformation concerning autism and safety with primary care providers playing a key role.
- These findings can be used for further inquiry to implement measures to improve immunization rates in Vermont.

References

- Omer, S.B., et al., *Vaccine refusal, mandatory immunization, and the risks of vaccine-preventable diseases*. N Engl J Med, 2009. **360**(19): p. 1981-8.
- Taylor, B., et al., *Autism and measles, mumps, and rubella vaccine: no epidemiological evidence for a causal association*. Lancet, 1999. **353**(9169): p. 2026-9.
- Park, A. (2008) *How Safe Are Vaccines?* Time.
- Fredrickson, D.D., et al., *Childhood immunization refusal: provider and parent perceptions*. Fam Med, 2004.**36**(6):p.431-9.
- Smith, P.J., S.Y. Chu, and L.E. Barker, *Children who have received no vaccines: who are they and where do they live?* Pediatrics, 2004. **114**(1): p. 187-95.
- N Cocoros, R.H., N Harrington, (2010) *Notes from the Field: Measles Transmission Associated with International Air Travel --- Massachusetts and New York, July--August 2010*. Morbidity and Mortality Weekly Report (MMWR).
- Vermont Immunization Program Goal Tracker*. August 2010, Vermont Department of Health
- Kennedy, A.M., C.J. Brown, and D.A. Gust, *Vaccine beliefs of parents who oppose compulsory vaccination*. Public Health Rep, 2005. **120**(3): p. 252-8.

“I hear a lot about immunizations causing autism. I'm not quite sure what to believe. I also feel that giving so many all at once may tax the immune system too much.” –Caregiver

“I strongly support childhood vaccinations and believe we should do everything possible to protect this vulnerable segment of our population.” –Caregiver

