



Vaccine efficacy, risk, and benefit perceptions of Oregon health care providers

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INTRODUCTION

Vaccination is a public health benefit, conferring both individual and community immunity to vaccine-preventable diseases (VPDs), and saving millions of lives each year. Health care providers (HCPs) exert a significant influence on decisions to vaccinate children. In the state of Oregon, parental personal vaccination exemptions for elementary school-aged children are rising and outbreaks of pertussis and measles occur periodically.

Objective: Perceived vaccine efficacy, benefits, and risks were studied in this qualitative study of 15 health care providers (chiropractors, midwives, nurses, and physicians).

METHODS

- **Purposive sample** of health care providers (HCPs): both traditional HCPs (physicians, n=4; nurses, n=2) and alternative (chiropractors n=5; midwives, n=4).
- **Semi-structured** hour-long interviews.
- **Data analysis** using NVivo® software and standard qualitative methods.
- **Key relationships** were examined between perceptions of vaccine efficacy, risk, and benefit and the major outcome of vaccine support or opposition..
- *Main independent variables:* Perception of vaccine risk, vaccine efficacy, and vaccine benefits. *Dependent variable:* The level of support for recommending childhood vaccines (fully supportive, hesitant, or opposed).

RESULTS

- **Antecedent beliefs** of personal salience, professional group norms, immunology beliefs, and conspiracy theory mediate HCP perceptions of the efficacy, benefits, and risks of vaccination.
- **A full range of positions** from full vaccine support (20%) to full opposition (33%) was observed among both traditional and alternative HCPs, with most providers hesitantly supporting vaccination (47%).
- **Misperceptions concerning immunology and vaccine efficacy** as well as various conspiracy beliefs are held by hesitant supporters as well as those providers opposed to vaccines. Opposers express strong beliefs regarding the risks of vaccines.
- An **“unholy alliance”** between the government and pharmaceutical companies was a belief expressed by 80% of chiropractors interviewed.
- **Hesitant vaccine supporters (47% of the sample)** saw some vaccines as highly efficacious and the diseases they prevent as extremely serious; however, these providers did not support vaccines of unproven efficacy (i.e., HPV) or if they believed that the disease was not serious (i.e., varicella). In other words, preventing diseases that pose low threat to the population was no justification for the risk from vaccines; therefore, risks are not outweighed by related efficacy/benefits.
- **Vaccines were seen as efficacious, beneficial, and posing little if any risk** for practitioners who strongly supported vaccines (20%).



(Hesitant midwife, female, age 38)

PRO: “I felt the **benefits (of the H1N1 vaccine)** outweighed the risks because I was a provider to pregnant women who were, in general, declining the H1 vaccine, and (I was) home with a middle school teacher (sick with H1N1) and a baby. So I felt like it was reasonable to offer (the vaccine) to pregnant women. . . .”



(Hesitant physician, male, age 44)

CON: “I don’t see (**human papillomavirus**) as the same thing as measles, mumps, rubella. . . . I don’t see it as (in) the same realm of the others. It’s a vaccination —don’t get me wrong—but it’s different, it is a different animal. So yeah, will my kids get (the vaccine)? *Yeah*, but is it something I’m going to rush and go do it right now? No. . . . We’re not going to have a whole populace wiped out by HPV. And HPV is always going to be with us.”

CONCLUSIONS

A HCP’s **direct experience of caring for an ill child** or watching helplessly as the disease affects a loved one is more likely to lead her to advocate vaccination for others. **But this first-hand experience is increasingly unlikely**, as VPDs decline in prevalence and incidence. In the absence of personal emotional experience, education beyond the recitation of facts is needed to fill the information void. The present work identified possible influences on pediatric vaccine recommendations. The findings suggest an educational pathway for intervention (e.g., immunology instruction in medical schools, videotapes showing VPDs in children) to address HCP misconceptions and reduce negative attitudes toward vaccines.

