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RESPONDING TO PARENTAL CONCERNS ABOUT VACCINATION

ONE OF THE greatest achievements of public health during the last century has been the reduction of vaccine-preventable diseases, due in large part to an expanding arsenal of effective vaccines.<sup>1</sup> During the early 1950s, polio paralyzed an average of 16,000 children per year in the United States. Polio caused by wild-type virus now has been eliminated in the Western Hemisphere and is soon to be eliminated in the world. Measles is perhaps the most contagious disease known to man, and worldwide, has killed millions of children. During outbreaks in 1989–1991, more than 55,622 measles cases with 123 deaths were reported in the U.S.<sup>2</sup> Now with higher vaccination rates, measles is uncommon in the U.S.

Success stories aside, many vaccine-preventable diseases like measles still are circulating worldwide and continue to threaten the public's health, and in particular that of children. Recent outbreaks of pertussis in southern Oregon serve as reminders of the importance of immunization. In fact, vaccinations are among the most effective, safest, and most thoroughly tested medical agents we have.

**SCHOOL IMMUNIZATION LAWS**

School immunization laws have played a key role in reducing vaccine-preventable diseases by increasing immunization rates and decreasing the chance of spread.<sup>3</sup> In 1980, Oregon legislators passed the school immunization law, which requires documentation of specified vaccinations for children attending daycare facilities, preschools, public and private schools, and Head Start programs.\* However, both physician-signed medical exemptions and parent-signed religious exemptions, the latter of which can be

based on a parent's personal belief, are allowed. Physician-signed medical exemptions are rare compared to religious exemptions.

During the last few years in Oregon, the number of communities with high rates of religious exemptions has been rising. This threatens to erode Oregon's recent progress in protecting children from vaccine-preventable diseases. For the school year 2000–2001, 2.7% of all Oregon children had parent-signed religious exemptions. Ashland had the highest exemption rate at 12.4% for public-school kids in grades K–12; among preschool kids it was 18.8%. Ashland's high exemption levels exceed the critical levels of susceptible children needed to sustain an outbreak,

given usual disease characteristics. In fact, if measles were ever introduced, the disease would likely spread in most of Ashland's schools.

**2002 ASHLAND COMMUNITY VACCINATION SURVEY**

To understand better the reasons for parents signing exemptions in Ashland, Jackson County Health and Human Services, the Ashland School District, and the State Immunization Program conducted a vaccination survey in Ashland during 2002.† We randomly selected 648 parents from public school enrollment lists for elementary and middle schools during the 2001–2002 school year and oversampled parents of children with religious exemptions on file. We asked parents

Factors associated with parents signing religious vaccine exemptions, Ashland Community Vaccination Survey, 2002				
Factors	Signed vaccine exemption			
	N	%	RR <sup>a</sup>	95% CI
<b>Perceived risk of vaccination</b>				
People should be more concerned about vaccine safety				
Agree	225	18.0	4.2	(2.7, 6.6)
Disagree or uncertain	163	4.3	1.0	referent
Knowledge of children hurt by vaccine <sup>b</sup>				
No knowledge	71	3.9	1.0	referent
Heard or read only	148	7.2	1.8	(0.8, 4.0)
Knew	58	13.1	3.3	(1.5, 7.2)
Both heard/read and knew	81	27.6	7.1	(4.1, 12.4)
<b>Perceived benefits of vaccination</b>				
It is important for kids to get all recommended vaccines				
Agree	219	2.6	1.0	referent
Disagree or uncertain	170	25.4	9.8	(6.4, 15.0)
Vaccination is effective at preventing disease				
Agree	320	6.9	1.0	referent
Disagree or uncertain	68	37.5	5.5	(4.0, 7.4)
<b>Type of providers that your child usually goes for health care</b>				
Traditional providers only <sup>c</sup>	311	6.8	1.0	referent
Alternative providers <sup>d</sup>	74	40.9	5.8	(4.3, 7.7)
<b>Sources of health information</b>				
Healthcare providers only <sup>e</sup>	56	2.6	1.0	referent
Healthcare providers and at least one other category <sup>e</sup>	294	13.4	5.2	(2.1, 12.8)
Other category only <sup>e</sup>	35	18.8	7.3	(2.8, 19.2)

a. Rate ratios were from the univariate analyses.  
 b. "Hurt by vaccine" was not further defined in the survey.  
 c. "Traditional providers only" refers to "pediatrician, family practitioner, and nurse practitioners" only.  
 d. "Alternative providers" refers to consults with only a "naturopath, homeopath or other" (22 families) and consults with both traditional and alternative providers (52 families).  
 e. Other sources include "family, co-workers, newspapers, internet, library, magazines, radio, friends and television".

\* Oregon Revised Statute 433.235–433.284  
<http://www.healthoregon.org/imm/law/schllaw03.pdf>

† At: <http://www.healthoregon.org/imm/law/ashland.cfm>



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about perceived vaccine risks and benefits, types of healthcare providers caring for their children, their sources of vaccine information, and whether they considered getting exemptions for their children. The response rate was 62% and did not differ by exemption status. We weighted the results to account for oversampling and unequal response rates from schools so that the final results would be generalizable to all children in Ashland public schools.

Overall, 26% of surveyed parents in Ashland considered getting a religious exemption; 13% actually had one. The table shows characteristics of parents most likely to have one signed exemption. Parents who 1) thought that people should be more concerned about vaccine safety; 2) had both heard of and knew children allegedly hurt by a vaccine; 3) did not agree that it is important for children to get all recommended vaccines; 4) did not agree that vaccination is effective in preventing disease; 5) usually used alternative providers; and 6) got their health information from sources other than their healthcare providers alone were most likely to *get* an exemption. (These factors were the same as for those for parents who had *merely considered* a religious exemption.)

#### COMMUNICATING INFORMATION ABOUT VACCINES

These results suggest that parents' perceptions about risks and benefits of vaccination, and their sources of health information influence whether parents sign school exemptions. So what can YOU do?

Understandably, it may be difficult for those who believe in the benefits of immunization to discuss the topic with parents who are either skeptical or strongly opposed. Nonetheless, most parents expect their child's healthcare providers to be knowledgeable sources of reliable, science-based evidence. Providers should be visible, but respectful, advocates for immunization. Effectively communicating with parents about vaccines involves determining how, when, and what information parents need and tailoring the messages to meet these needs. We suggest the following:

- Directly ask parents if they have any concerns and fears about vaccinations;
- Listen to and acknowledge parents' concerns;
- Address those concerns specifically and briefly; and
- Make sure to give parents the key message that, to be fully protected, children need to receive all vaccines on the recommended schedule.

Providers should be persistent and keep open the lines of communication with parents so as to counsel the doubtful. To avoid vaccine delays and allow time for discussions, think about talking about vaccines well before the shots are due if there are indications that parents have concerns or questions about immunizations.

#### RESOURCES AVAILABLE

To quickly find current information about vaccine safety, benefits, and how to talk with parents about these issues, please go to our website: <http://www.healthoregon.org/imm>. The website has links to the following: the Children's

Hospital of Philadelphia; the National Network for Immunization Information; the American Academy of Pediatrics; the Centers for Disease Control and Prevention; the Immunization Action Coalition; the National Partnership for Immunization; and the Immunization Safety Review Committee at the Institute of Medicine (<http://www.healthoregon.org/imm/opic/resources.cfm>).

These two books are good references for parents:

- *Vaccine: What You Should Know*, 3<sup>rd</sup> Ed., by Paul Offit and Louis Bell, John Wiley and Sons, 2003.
- *Vaccinating Your Child: Questions and Answers for the Concerned Parent*, 2<sup>nd</sup> Ed., by Sharon Humiston, Cynthia Good and William Atkinson, Peachtree Publishers, 2003.

For more information, call the State Immunization Program at 503/731-4020. If you are interested in obtaining "Q&A" tear sheets published in English and Spanish by the Children's Hospital of Philadelphia, send a fax to 503/373-0829; they can be delivered to you free of charge. We welcome your unique perspectives on how to lower the exemption rates in Oregon.

#### REFERENCES

1. CDC. Ten great public health achievements—United States, 1900–1999: impact of vaccine universally recommended for Children—United States, 1900–1998. *MMWR* 1999;48:243–8.
2. CDC. Measles. In: *Epidemiology and Prevention of Vaccine-Preventable Diseases*. Atkinson W, Hamborsky J, Wolfe S, eds. 8<sup>th</sup> ed. Washington DC: Public Health Foundation, 2004: 120.
3. Orenstein WA, Hinman AR. The immunization system in the United States—the role of school immunization laws. *Vaccine* 1999;17:S19–24.