On Vaccine Refusal and Vaccine Hesitancy: Successfully Communicating with Parents

... and how Oregon Senate Bill 132 will affect your practice

Jennifer Bevacqua RN MS CPNP-AC CPNP-PC
Pediatric Nurse Practitioner, Hospitalist team
Randall Children's Hospital

Objectives

1. Describe 2-3 common reasons for vaccine refusal or hesitancy
2. Formulate 2 new ways you can communicate with parents in your practice about vaccines

Immunization is a safe and effective preventive health measure heralded as one of the greatest medical triumphs of the last century.

Immunization has enabled the global eradication of smallpox and elimination of polio from the Western hemisphere. Other diseases have seen major reductions due to vaccines.
Online resources regarding vaccines and vaccine safety

- American Academy of Pediatrics Childhood Immunization Support Program (www.aap.org/immunization)
- Infectious Diseases Society of America (www.idsociety.org)
- CDC (www.cdc.gov/vaccines)
- For specific questions on vaccine safety, this is a good website: http://www.cdc.gov/vaccinesafety/Vaccines/Index1.html
How about in Oregon?

- Oregon has the third highest rate of unimmunization and underimmunization in the nation, behind Utah and Montana (Smith, Chu, and Barker, 2004; Gaudino & Robison, 2012).

- Between 2005-2011, Rates of 2 year old children with up-to-date vaccines has ranged from 59% to 79% — may or may not intentional [http://public.health.oregon.gov/PreventionWellness/VaccinesImmunization/Documents/county/OregonPBB.pdf]

Oregon, cont.

- What is "exemption"?
  - In Oregon, a child must be fully vaccinated to attend school. However, there are exemptions: medical, religious, or immunity (already documented to be immune). In Oregon, 'religious exemption' has come to encompass personal-belief or philosophical concerns.

- There are some communities in Oregon with especially high rates of 'religious' exemptions
  - Ashland has 18.8% exemption in daycares and 12.3% in schools (prompting visit from CDC in 2008) [http://www.cdc.gov/mmwr/preview/mmwrhtml/ss6004a1.htm]
  - Overall in Oregon, kindergarten 'religious' exemptions are ~6% and have been uptrending over past few years (some schools exceed 75% while national exemption rates average ~0.5%). [http://www.oregonlive.com/politics/index.ssf/2013/06/oregon_house_approves_bill_tig.html; CDSummary, 2013, Gaudino & Robison, 2012]

Why un- or under-immunization is undesirable

- Un- or undervaccinated children are unprotected from these diseases
- Lack of herd immunity leaves vulnerable populations at risk (newborns (45,000 in 2011), elderly (lots!), immunocompromised (example: 181 children w/ cancer in Oregon between 2006-2010))
- Immunization-preventable diseases account for significant amount of healthcare $$$ in Oregon (pneumonias/other invasive pneumococcal infections, pertussis, influenza, h. flu, meningococcemia)

Example: Pertussis in Oregon  328 cases in 2011  910 cases in 2012

Why un- or under-immunization is undesirable, cont.

Oregon Senate Bill 132

- Under Oregon Senate Bill 132, parents opting out ("exempting") from immunizations for non-medical reasons would need to obtain the signature of a health care practitioner certifying that the parents received immunization education or provide a certificate confirming they have watched an approved online educational video. [http://gov.oregonlive.com/bill/2013/SB132/](http://gov.oregonlive.com/bill/2013/SB132/)

- Signed into law June 26, 2013 (to go into effect March 2014)... so between March and September, expect to hear from some families about this!

- (Jenny to give update from Oregon Public Health Authority)

Common reasons for vaccine refusal or hesitancy

- Safety/side effect concerns
- Religious objections (immunizations are a violation of God's will)
- Philosophical objections (immunization is 'not natural')/better to be naturally infected
- Belief vaccines don't work
- Belief vaccines overload the immune system
- Concerns about medical contraindications ("Johnny had a runny nose, so he can't get his shots today")
- Antigovernment sentiment
- Belief their child is not at risk. (Sigh. This is a consequence of the success of childhood immunization programs)
- Cost

- Purpose of study: to identify risk factors for ‘exemptors’ and evaluate risk factor differences among communities
- Retrospective cohort study of parents of elementary school-aged children, N = 2900, response rate was 55%

Some Results:
- Exempting parents had more markers of lower socioeconomic status than non-exemptors (e.g. households with >4 people; working less than full-time; working more often as homemaker; annual family income < $25,000; etc). This may be different than in other parts of the country.
- Exemptors more likely to prefer naturopathic healthcare for themselves (48.9% vs 13% for non-exemptors) and their youngest child has received naturopathic (23.8% vs 2.8%) or chiropractic care (27.1% vs. 3.3%).
- Exemptors more likely to report no/little trust in health information provided by 10 govt agencies or distrust of local doctors (24.2% vs 3.8%)

- Exemptors more likely than non-exemptors to have had ≥ 1 childbirth at a non-hospital setting
- Exemptors were more likely to report knowing someone with a perceived vaccine-hurt child (56.4% vs 15.4%)
- Exemptors more likely to express “strong concerns” about vaccines than non-exemptors on likert-scale questions.
- Fewer exemptors stated they relied on print materials for health information (28.8% vs 47.6% of non-exemptors)
- Other factors that may influence decision to exempt include (1) convenience to exempt, (2) community norms.

Communicating with vaccine hesitant or vaccine refusing parents
- Recognize this is an emotional issue (and respond with emotional intelligence)
- Acknowledge their concerns, respectfully listen, be nonjudgmental and nonconfrontational
- Ask permission to discuss their concerns and offer your knowledge
- Acknowledge that despite the rigorous approval process for vaccines, no vaccine has a 0% adverse event profile and no vaccine is 100% effective for all children.
- Avoid using medical jargon
- Address their concerns (be familiar with latest updates on immunizations!), while avoiding scare tactics
- Maintain the provider-patient relationship
- May use a “modified” schedule if parents would otherwise refuse vaccinations entirely ... though recognize this is suboptimal (Boom J.A., et al, 2012).
How do we respond to concerns?

- **Side effects.** The majority of side effects are minor (redness at site, transient low grade fever). Serious adverse events occur rarely. The risk of encephalopathy following natural measles is 1:1,000, whereas risk of encephalopathy following measles vaccine is 1:1,000,000. (Healy & Pickering, 2011; www.cdc.gov/vaccinesafety )

- **Concern for link to autism.** 1990’s concern for a link – findings of 1 particular study (Wakefield) unable to be replicated. Concerns for fraud, conflicts of interest raised. Large-scale studies have since disproved links between MMR vaccine & autism, thimerosal & autism (oodles of references at http://www.cdc.gov/vaccinesafety/Concerns/Autism/index.html and many of articles cited at end of presentation review this)

How do we respond to concerns?

- **Vaccines overload the immune system/are given too young.** No evidence that timing spacing of current recommended schedule presents risks for healthy patients. Note that infants/young children are challenged with many antigens everyday in their environment. In fact, advances in protein chemistry have allowed us to decrease the number of antigens in vaccines. For instance, in 1960, children were exposed to 3217 antigens in 5 vaccines. In 2000, children were exposed to 123-127 antigens in 11 vaccines. (Offit, et al, 2002).

Responding to concerns, cont.

- **Vaccines weaken the immune system.** Studies show that vaccinated children are not at greater risk of subsequent infections with other pathogens than unvaccinated children (multiple studies cited in Offit, 2002).

- **Too painful.** Consider escalating methods to reduce pain (use ice or topical anesthetics; have 2 people administer vaccines simultaneously to lessen anticipation; apply pressure at site 10sec before injection(s); sucrose for babies; pinwheels/distraction for older children (Fernbach, 2011)

- **Cost.** Use clinic resources as available. Could refer to a public health clinic w/ VFC program.

- **Vaccines may cause allergic or autoimmune diseases.** No causal relationship discovered in many well-controlled large epidemiologic studies (Offit & Hackett, 2003)
Responding to concerns, cont.

- **Vaccines contain harmful preservatives/additives.**
  - Thimerosal was removed from most vaccines in 2001 as a precautionary measure. As of 2012 the following still contain thimerosal: tetanus toxoid alone; 3 of the 6 influenza vaccines available (Afluria, multi-dose vial only; Fluzone; Fluvirin, multi-dose vial only; Fluzone, multi-dose vial only); 1 of the 2 Japanese encephalitis vaccines; 1 of the 3 meningococcal vaccines (Menomune). [http://www.vaccinesafety.edu/thi-table.htm](http://www.vaccinesafety.edu/thi-table.htm)
  - Aluminum content in vaccines: 125-850mcg (vaccines in 2003). In comparison, breastmilk contains aluminum at ~40mcg/L and infant formulas ~225mcg/L. Also exposed in air and water. ATSDR (Agency for Toxic Substances Disease Registry) lists minimum risk level of aluminum at 2000mcg/kg/day. Bottom line: aluminum intake in vaccines is comparable to daily exposure rates in normal life.

Responding to ‘Vaccines contain harmful preservatives/additives’ concern, cont.

- Gelatin causes immediate-type hypersensitivity reactions at rate of 1 per 2,000,000. All gelatin of porcine origin in 2003 vaccines. Defer gelatin-containing vaccines if history of serious reaction to gelatin. Patients with severe egg allergies require special considerations for influenza and yellow fever vaccines since they contain egg protein ([algorithm at http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6132a3.htm#fig2](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6132a3.htm#fig2))
  - Albumin. No viral disease have ever been associated with use of human serum albumin, likely secondary to screening and safety of manufacturing process
  - ...More in article (Offit & Jew, 2003)

(Revisiting) Objectives

1. Describe 2-3 common reasons for vaccine refusal or hesitancy
2. Formulate 2 new ways you can communicate with parents in your practice about vaccines
Journal References


Journal References, cont.


