When Parents Refuse or Delay Childhood Vaccines: Plotting a Course for Practice and Policy

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Research focus: Empirical and normative issues of parental vaccine refusal

• Empirical
  • How do we identify parents who are hesitant about vaccines?
  • What can a pediatric provider say to a parent who wants to delay or refuse vaccines that is effective in changing the parent’s mind?
  • What community-level factors influence parental vaccination behavior?

• Normative
  • Should we eliminate personal belief exemptions for required school-entry vaccines?
  • What criteria should be used to evaluate vaccines for inclusion in mandatory school immunization programs?
  • What are the implications of a national research agenda on the safety and efficacy of alternative childhood immunization schedules?
Background

- Vaccine hesitancy is on the rise
- The most important influence on a parent’s immunization decision-making is their child’s health care provider
- Yet, the vaccine conversation with a parent who has vaccine concerns is often a difficult one, and evidence suggests it can be improved
  - Parents report feeling alienated and find it difficult to have an open discussion
  - Providers say little to parents about vaccines, infrequently validate parental concerns, discredit parent information sources

Reasons parents gave for changing their mind (%)

Information or assurances from child's doctor

Gust et al., Pediatrics 2008
Pediatrician: So, we missed his 1 year old vaccines. Do you want to do those today? Parent: I’m really on the fence right now with vaccinations. I have a lot of friends, mothers, who get things all the time about vaccinations, how they don’t vaccinate, and I don’t know. I really haven’t researched it enough on my own to feel confident in saying I’m not going to do it, but I don’t know, I’m mixed about it. Pediatrician: Um, I certainly don’t want you to do the vaccines if you want to read more about them and we can give you information if, are there questions I can answer for you about them? I can certainly give you my opinion. Parent: So what is he due for? Pediatrician: The MMR, chicken pox, and hepatitis A. He’s almost 15 months though so there’s boosters also of vaccines that he’s already gotten that he would be due for. Parent: Mm hmm. Pediatrician: So I will just tell you from my experience. So we have a slightly higher rate of vaccine refusal in our state. I’ve already diagnosed about, it’s been about 2 cases of whooping cough in the last 3 weeks.
Typical Vaccine Discussion

Parent: Mm hmm.
Pediatrician: So, he is partially vaccinated, he’s had three rounds of the whooping cough vaccine. He, um, he’s at a little higher risk for having, you know, complications of that just ‘cause he’s got smaller airways and smaller lungs. So that would be certainly one I would consider doing seeing that he’s had that before.
Parent: Mm hmm.
Pediatrician: He could also get Hib.
Parent: What’s that for?
Pediatrician: So that’s the one that he’s also he’s had three doses of before. It is for a bacteria that causes, um, pretty serious infections in children, like blood infections, meningitis. I actually don’t see a lot of these compared to whooping cough.
Parent: Mm hmm.
Pediatrician: I, I can totally respect wanting to space out, um...
Parent: So, but um, (sighs), why don’t we do the whooping cough. I feel okay about that one. The other ones, I don’t know. Are those something we really need to do?
Research objectives and approach

• There are minimal data regarding what constitutes effective provider communication with vaccine-hesitant parents, and therefore, there is no standard clinical approach to provider-parent vaccine discussions
  • **Objective 1**: develop and evaluate a survey tool for validly identifying the target population of interest (vaccine-hesitant parents)
  • **Objective 2**: characterize provider-parent vaccine communication to identify potential communication behaviors that positively influence parental vaccination behavior

• Mixed methods
  • Qualitative
    • used parent and provider focus groups to identify candidate items in development of vaccine-hesitancy survey
    • used qualitative technique of conversation analysis to analyze videotaped provider-parent vaccine discussions
  • Quantitative
    • assess survey psychometrics: e.g. construct and predictive validity
    • assess the association of provider communication behaviors with parent outcomes: e.g. multivariate regression models
The Parent Attitudes about Childhood Vaccines (PACV) Survey

- 15 items under 3 domains

**Behavior**
- *Example item:* “Have you ever delayed having your child get a shot for reasons other than illness or allergy?”

**Safety and Efficacy**
- *Example item:* “How concerned are you that your child might have a serious side effect from a shot?”

**General Attitudes**
- *Example item:* “It is better for my child to develop immunity by getting sick than to get a shot.”

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**Percent Days Under-Immunized**

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<tr>
<th>Tier PACV Score</th>
<th>Percent Days Under-Immunized</th>
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<tbody>
<tr>
<td>0-9 (ref) N=74</td>
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<tr>
<td>10-19 N=53</td>
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<td>20-29 N=48</td>
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<td>90-100 N=3</td>
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Opel et al. *JAMA Pediatr* 2013
Opel et al. *Vaccine* 2011
Opel et al. *Human Vaccines* 2011
Who initiated the vaccine discussion/plan specifically? (N=111)

- No plan verbalized (3%; N=3)
- Parent (13%; N=15)

Provider (84%; N=93)

Presumptive (74%; N=69)

Participatory (26%; N=24)

How does the PROVIDER initiate the vaccine discussion/plan? (N=93)

“It’s time to start all those vaccines...we’re going to be doing two live vaccines today: the MMR and the chicken pox.”

How does PARENT respond to the provider’s initiation?

Accepts (74%; N=51)

Resists (26%; N=18)

Accepts (4%; N=1)

Provides own plan (13%; N=3)

Resists (83%; N=20)

P<.001; Adjusted OR (95% CI): 17.5 (1.2, 253.4)

Opel et al. Pediatrics 2013
The Paradox of Taking a Participatory Approach

Mutually exclusive outcomes?

Increased odds of having a parent rate their visit experience highly

17.3
(1.5, 200.3)*

Decreased odds of having a parent accept all vaccines at the end of the visit

.04
(.01, .15)*

*Adjusted Odds Ratios with 95% CI
Impact of Scholarship/Research

- Notable Grants Received
  - K23HD069467 (PI); 8/6/2011 – 6/30/2016

- Notable Presentations
  - “Findings on Alternative Immunization Schedule Practices” to the Institute of Medicine Committee on Assessment of Studies of Health Outcomes Related to the Recommended Childhood Immunization Schedule (2012)
  - “The Parent Attitudes about Childhood Vaccine (PACV) Survey: Development, Evaluation, and Future Directions” to the National Vaccine Advisory Committee (2013)

- Peer-reviewed Publications

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<tr>
<td>2013</td>
<td>9</td>
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Future Directions

• Test interventions to reduce parental hesitancy
  • R21 (submitted 6/16/14): “Use of a Novel Parent-Report Measure to Improve Childhood Vaccine Uptake”, NICHD
  • R01 based on K23 data (2016): design and evaluate an RCT of a communication-based intervention for pediatric primary care providers

• Normative implications of my empirical research findings
  • Faculty Scholars Program in Bioethics, Greenwall Foundation (to submit LOI October 2014): “When Parents Refuse or Delay Childhood Vaccines: Implications for Shared Decision-Making”

• Broaden focus to other clinical contexts
  • E.g. Informed consent and provider-parent communication in the pre-anesthesia setting (Gentry)
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