Immunization Safety: Addressing Parental Safety Concerns

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Immunization Safety: Addressing Parental Safety Concerns

Hardwick Area Health Center

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October-November 2017

Faculty Mentors: Dr. LeClerc, Dr. Sher, Dr. Buckley
Problem Identification

- Rumors and misinformation regarding vaccine safety have circulated since 1998, when a study published by Andrew Wakefield alleged a link between autism and vaccines. The study had no “control” groups, only studying twelve children with autism who had been vaccinated as children. The paper was retracted by publishing journal as well as the majority of the co-authors. Later, Wakefield was found guilty of fraud, as it was discovered he had falsified data and received payments from law firms seeking to sue vaccine manufacturers.

- A study published in 2011 found that parents’ top vaccine-related concerns included the number of vaccines during the first 2 years of life, administration of too many vaccines in a single doctor visit, and a possible link between vaccines and autism.

- More than 10% of parents of young children refuse or delay vaccinations, with most believing that delaying vaccine doses is safer than providing them in accordance with the Centers for Disease Control and Prevention’s recommended vaccination.

- Even among parents who do vaccinate, more than a quarter believe that delaying vaccines is safer.

- In Vermont, while parents can no longer claim Philosophical Exemption for their children, they are still able to claim Religious Exemption to op-out of vaccinations.

- In Vermont in 2015:
  - 89% DTaP vaccine (≥4 doses) in children 19-35 months old
  - 95% MMR vaccine (≥1 dose) in children 19-35 months old
  - 87% Varicella vaccine (≥1 dose) in children 19-35 months old
Public Health Cost

- In the US, the rates of both measles and pertussis are on the rise. Measles, once declared eradicated from the United States, has recently resurfaced, with 667 cases in 2014 and 189 in 2015, according to the CDC. Pertussis dropped to fewer than 2,000 US cases for several years in the 1970-80s before increasing to 48,000 cases in 2012, a 60-year high, according to the CDC.

- Costs to families: during a pertussis outbreak in New York during 1995-96 and found costs to families were $2,822 per ill infant (4044 in 2017 dollars) and did not include cost to insurers or costs of possibly infecting others

- Costs to insurers: with congenital rubella syndrome over his or her lifetime is estimated to be about $143,000 in 2014 dollars

- Costs of containment: in one instance during the 2005 measles outbreak cost of containment for ONE individual costs public health authorities $62,216

- Cost to society: illness and lost productivity from unvaccinated individuals, 18 years and older, is estimated to be $7.1 billion in 2015
Community Perspective on Issue

Community Interviews:
- Dr. Mackalyn LeClerc MD, Family Medicine Physician, Hardwick Area Health Center
- Martha Marshfield FNP, Family Medicine Nurse Practitioner, Hardwick Area Health Center

Important Themes:
- Anecdotally, fairly low vaccination rates, anti-vaccination sentiment present in area which tends to be vocal about believes
- Patients may not fully understand risks, especially with diseases avoided by vaccines are difficult to comprehend, as they are not currently in community
- Patients do not see mumps, measles, and polio; therefore, the threat seems remote, may not grasp severity of diseases
- Provider Goals: Education on the true risks and benefits of vaccination, but respect the rights of parents to make health decisions for children
- Area of contention, difficulty walking the line between education and confrontation
- Epidemic certainly possible here, especially in pockets where vaccination rates can be below average
Intervention and Methodology

- Create patient education materials regarding:
  - Past and current research
  - Common misconceptions
  - Current guidelines

- Supply reading materials in Waiting Room
- Post copies in Exam Rooms to read while waiting for clinician
- Make copies for patients wishing to take information home
- Provide further resources to patients and parents
Educational materials, entitled, “Vaccines and Safety: Your Questions Answered” complied and distributed in waiting and examination rooms

- Aim to educate parents while waiting for the doctor
- Help physicians point to data about vaccine safety
- Allow physicians to distribute materials for at-home reading
- Staff and clinicians made aware of informative materials
Evaluation of Effectiveness and Limitations

- **Effectiveness:**
  - May need to be evaluated over time
  - Data could be collected regarding vaccination rates at the clinic before and after educational materials provided
  - Patients could be surveyed about their beliefs about vaccine safety before and after reading educational materials

- **Limitations:**
  - Limited data has been collected previously on a county by county, clinic by clinic basis to assess significant impacts
  - Intervention is reliant on distribution of information and parents willingly reviewing materials
  - Small population would be reached
Recommendations for Future Interventions

- Public health studies have found that parents who delayed or refusing vaccinations because of safety concerns were significantly more likely to seek additional information about their decision from the Internet (11.4% vs. 1.1%), and significantly less likely to seek information from a doctor (73.9% vs. 93.9%). Therefore, this may indicate that vaccine safety education before and during pregnancy could be an effective intervention.

- Continued research can focus on which interventions and educational resources would most effectively encourage parents to vaccinate their children.

- Refine and update educational materials.

- Distribute educational materials to other offices.
References

- Davis MM. Toward high-reliability vaccination efforts in the United States. (Editorial) JAMA 2016 Mar 15;315(11):1115-7
- Lee LH, Pichichero MA. Costs of illness due to Bordetella pertussis in families Archives of Family Medicine 2000, 9 (10): 989-960
- Images:
  - Vermont Immunization Program 2016 Annual Report, Vermont Department of Health
  - Vermont Immunization Program 2015 Annual Report, Vermont Department of Health
  - Vermont Immunization Program 2014 Annual Report, Vermont Department of Health
Interview Consent Form

- Thank you for agreeing to be interviewed. This project is a requirement for the Family Medicine clerkship. It will be stored on the Dana Library ScholarWorks website. Your name will be attached to your interview and you may be cited directly or indirectly in subsequent unpublished or published work. The interviewer affirms that he/she has explained the nature and purpose of this project. The interviewee affirms that he/she has consented to this interview.

- Yes ___X___ / No ______