Understanding Public Sentiment and Developing Effective Messaging About the Safety of Vaccines

Amy Pisani, MS
Executive Director, Every Child By Two
Presentation to Women In Government
November 19, 2015
25 Years of Dedicated Effort
ECBT Cofounders Carter/Bumpers
Vaccinate Your Baby Website
www.vaccinateyourbaby.org
Over 84,000 “likes” and approximately 6.4 million messages are viewed annually by our followers and their contacts.
Shot of Prevention Blog
www.shotooofprevention.com

- Receives approximately 739,000 views annually
Twitter: @ShotofPrev and @EveryChildBy2

- @ShotofPrev has sent over 2,500 tweets and has over 2,220 followers
- @EveryChildBy2 has sent almost 2,200 tweets and has over 1,000 followers including highly influential bloggers/reporters
IMMUNIZE ON TIME, EVERY TIME!

- All babies are at risk for serious, vaccine-preventable diseases.
- 2.1 million children in the U.S. are not immunized on time.
- Always ask your health care provider if your children are up-to-date with their immunizations.

Children’s vaccines are available free of charge if you can’t afford them. For more information, contact your health care provider, the Newark Department of Health and Human Services or Project Vaccinate at 1-866-213-6923.

Supported by a grant from Wyeth Vaccines.
Vaccinate Your Baby Print Campaign

Posters and Billboards

Vaccine-preventable diseases are just a plane ride away.

Not Vaccinated? No Kisses!
Get the adult whooping cough vaccine.
www.VaccinateYourFamily.org

www.VaccinateYourBaby.org

What did Jack bring back from the playground?
- earthworm
- pebbles
- tetanus

Vaccine-preventable diseases are still out there.
Learn how to protect your family at
www.VaccinateYourBaby.org

What did Emma bring back from school?
- artwork
- storybook
- pneumococcal meningitis

Vaccine-preventable diseases are still out there.
Learn how to protect your family at
www.VaccinateYourBaby.org

What did Hannah bring back from vacation?
- t-shirt
- snow globe
- measles

Vaccine-preventable diseases are still out there.
Learn how to protect your family at
www.VaccinateYourBaby.org

The very people who love your baby also have the power to protect him.

Most babies get whooping cough from a family member. Ask your friends and family to get the whooping cough vaccine.

www.VaccinateYourFamily.org

La misma gente que ama a tu bebé tiene el poder de protegerlo.

La mayoría de los bebés cogen la tosferina por un miembro de la familia. Hable con sus amigos y familias y pídale vacunarse contra la tosferina.

www.VaccinateYourFamily.org

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Vaccination coverage remained high: over 90 percent for measles-mumps-rubella (MMR); polio; hepatitis B; and varicella vaccines.

The percentage of children who do not receive vaccinations also remained low, at less than 1% in six states and greater than 4% in 11 states.

The median percentage of any exemptions† was 1.7%

2014 National Immunization Survey Data – CDC

http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6433a1.htm?s_cid=mm6433a1_e

http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6433a2.htm
In several states exemption rates are at a higher number:

- Idaho – 6.2
- Vermont – 5.9
- Alaska – 4.5
- Oregon – 5.9
- Colorado – 5.4
- Wisconsin – 4.9
- Arizona – 4.6
- Utah – 4.1
- Michigan – 5.0
- Montana – 3.6
- California – 2.5
Parents Support Vaccines, But Continue to Have Concerns

- In a typical month, 93% of physicians reported some parents of children <2 years requested to spread out vaccines

- 21% reported ≥10% of parents made this request


- 6% of survey respondents believed vaccines cause autism in children

- 52% were unsure

  Gallup Poll, 2015
Vaccine Preventable Disease Outbreaks

- In 2014, 667 cases of measles were reported to the CDC.

- In late 2014, a measles epidemic began at Disneyland, rapidly spreading throughout the U.S. and neighboring countries as exposed park goers returned to their homes, carrying the measles virus with them.

- In total 189 cases of measles have been reported in 2015 as of November.

- [http://www.cdc.gov/measles/cases-outbreaks.html](http://www.cdc.gov/measles/cases-outbreaks.html)
Outbreaks of pertussis, also known as whooping cough, have also plagued our country in recent years. In 2013 and 2014, nearly 57,299 cases were reported, and cases continue in 2015.

HPV is at epidemic proportions – 14 million new infections are acquired annually.

Influenza hospitalizes nearly 20,000 children annually. 145 families were destroyed in 2014-2015 when their children died.
Outbreaks May Result in Increased Acceptance of Vaccines, Reduced Safety Concerns

Since the recent measles outbreak, what changes have you observed in the willingness of families to accept vaccines?

- More acceptance of vaccines in general: 42%
- More acceptance of measles vaccine: 38%
- Fewer requests for delayed vaccines/alternate spacing: 18%
- More reluctance to get vaccines: 5%
- No change: 32%
- Other: 2%

July 2015 survey of 1577 physicians, nurse practitioners, and physician assistants in pediatrics, family medicine, and public health

Medscape Vaccine Acceptance Report: Where Do We Stand?
Susan B. Yox, RN, EdD; Laurie Scudder, DNP, NP; Laura A. Stokowski, RN, MS | August 26, 2015

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Outbreaks May Result in Increased Acceptance of Vaccines, Reduced Safety Concerns

What reasons are given by families who continue to refuse vaccines or request alternate schedules for vaccines?

- Worried about vaccine complications: 64%
- Fear of connection to autism spectrum disorder: 61%
- Concerns about added ingredients: 54%
- Fear of overwhelming child's immune system: 45%
- Child will get illness from vaccine: 31%
- Pain/distress from multiple injections: 31%
- Prefer naturally acquired immunity: 27%
- Doubt vaccine efficacy: 24%
- Will not accept government mandate: 17%
- Other/don't know: 8%

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What strategies have you found most successful in encouraging vaccine uptake?

- Provide evidence-based responses to concerns: 69%
- Share that your own children are vaccinated as recommended: 53%
- Use an individualized approach: 48%
- Provide data on morbidity/mortality of vaccine-preventable disease: 47%
- Offer an alternate vaccine schedule: 26%
- Refuse to accept families in practice who don’t adhere to schedule: 8%
- Have not had success in encouraging vaccine acceptance: 2%

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What do you think would be most helpful to encourage greater vaccine uptake generally?

- Better information from the media: 70%
- Eliminate non-medical vaccine exemptions: 61%
- Better parent education materials: 38%
- Parent education group: 36%
- Flexibility in vaccine scheduling: 26%
- Nothing will be effective: 5%
- Other: 3%

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- Parents were surveyed: What were their opinions about the benefits and safety of vaccines compared to one year ago.

  **BENEFITS:**
  - 34% believe vaccines have more benefit
  - 61% say they have about the same benefit
  - 5% of parents think vaccines have less benefit

  **SAFETY:**
  - 25% believe vaccines are safer than they believed one year ago
  - 68% say their perceptions of vaccine safety have stayed the same
  - 7% believe vaccines are less safe than they believed one year ago

The Public Supports Vaccination Mandates for Daycares

- Parents support daycare policies to get kids up to date
  - 59% of parents strongly agree & 22% agree that children in daycare should be vaccinated.

- Most parents (66%) think they should be informed of the number of children not up to date on vaccines.

- In scenario where 1 in 4 children in daycare were not up-to-date:
  - 74% would consider removing their own children.

- Parents preferred the following policies for children not up to date:
  - Exclude from daycare until vaccinated – 41%
  - Give grace period to get vaccinated – 28%
  - Require a waiver from doctor – 21%
  - Allow child to attend without a waiver – 10%

Nonmedical Vaccine Exemption Laws

- 47 states currently have laws that allow nonmedical exemptions from mandated school vaccinations (philosophical, religious exemptions)
  - Mississippi and West Virginia only allow medical exemptions
  - Several states sought/passed legislation to strengthen exemptions laws by requiring physician signatures, annual renewal, and/or education prior to approval
  - In 2015 California passed SB 277 eliminating all but medical exemptions
Developing Effective Educational Materials/Responding to Public

- National Academy of Science: Efforts have been made to counter anti-vaccination attitudes by providing scientific evidence refuting vaccination myths, but these interventions have proven ineffective.

- Study showed that highlighting factual information about the dangers of communicable diseases can positively impact people’s attitudes to vaccination.

- This method outperformed alternative interventions aimed at undercutting vaccination myths.
  - http://www.pnas.org/content/112/33/10321.abstract
Effective Messages in Vaccine Promotion: A Randomized Trial - Pediatrics

- Parents were randomly assigned to receive 1 of 4 interventions:
- (1) information explaining the lack of evidence that MMR causes autism from the Centers for Disease Control and Prevention; (2) textual information about the dangers of the diseases prevented by MMR from the Vaccine Information Statement; (3) images of children who have diseases prevented by the MMR vaccine; (4) a dramatic narrative about an infant who almost died of measles; or to a control group.
- None of the interventions increased parental intent to vaccinate a future child.

http://pediatrics.aappublications.org/content/early/2014/02/25/peds.2013-2365
Refuting claims of an MMR/autism link successfully reduced misperceptions that vaccines cause autism but nonetheless decreased intent to vaccinate among parents who had the least favorable vaccine attitudes.

Images of sick children increased expressed belief in a vaccine/autism link and a dramatic narrative about an infant in danger increased self-reported belief in serious vaccine side effects.

Current public health communications about vaccines may not be effective. For some parents, they may actually increase misperceptions or reduce vaccination intention. Attempts to increase concerns about communicable diseases or correct false claims about vaccines may be especially likely to be counterproductive.

Researchers suggest that rather than confronting parents about deeply held beliefs, doctors would do better to emphasize their shared concern for the child. “The first thing is to realize that parents believe they’re acting in the best interest of their child,”
Developing Patient/Public Education Materials
Diseases Prevented By Vaccines

PROTECT YOUR CHILD
IMMUNIZE ON TIME, EVERY TIME.

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<thead>
<tr>
<th>Disease</th>
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<td>Varicella (Chickenpox)</td>
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Check Out ECBT’s eBook

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Varicella Vaccine

**HUMAN PAPILLOMAVIRUS (HPV)**

About 79 million Americans are currently infected with HPV and another 14 million people become newly infected each year. Learn more about the diseases that can be prevented by vaccines at vaccinateyourbaby.org/eBook.pdf

**VARICELLA (CHICKENPOX)**

Before the varicella vaccine, the U.S. reported an estimated 4 million cases of chickenpox a year, leading to approximately 11,000 hospitalizations and 100 deaths.

Learn more about the diseases that can be prevented by vaccines at vaccinateyourbaby.org/eBook.pdf

**MEASLES**

In the U.S., roughly 1 in 5 people who develop measles require hospitalization for 1 or more complications from the disease. Learn more about the diseases that can be prevented by vaccines at vaccinateyourbaby.org/eBook.pdf
Developing An Elevator Response To The Most Common Vaccine Myths and Questions

- Vaccines Cause Autism
- Ingredients in Vaccines Are Unsafe
- Children Receive Too Many Vaccines Too Soon - Why Can’t We Space Out The Doses?
  - Some of the diseases are not even that dangerous/common.
Myth #1 – Vaccines Cause Autism

- **Question** “I’ve read that vaccines are the cause of the rise in autism, what are you doing to keep the children in our state safe?”

- **Facts:** The scientific evidence does not support a causal link. The CDC, the AAP, the NIH, the IOM (etc) all reviewed the data and all reached the same conclusion. Dozens of studies have been conducted. None show a link.

- The original publication (The Lancet) that printed the study retracted it due to fraudulent reporting by the researcher, Andrew Wakefield?

- Andrew Wakefield was eventually stripped of his medical license.
The Federal Vaccine Court denied all claims in the Autism Omnibus Hearings. The Special Masters wrote in their decisions:

- “This case is not a close case. The overall weight of the evidence is overwhelmingly contrary to the petitioners’ causation theories”.
- Plaintiffs were “misled by physicians who are guilty, in my view, of gross medical misjudgment”
- “To conclude that Colten's condition was the result of his MMR vaccine, an objective observer would have to emulate Lewis Carroll's White Queen and be able to believe six impossible things before breakfast.”

For more on the Omnibus Proceedings visit: www.ecbt.org
A one-hour tutorial on the latest Autism Science, view the following webinar to learn the latest research on:

- **Twin Studies**
  - Identical twins (58-95% concordance) vs. Fraternal Twins (21%-60%)\(^1,2\)

- **High Sibling Recurrence Risk**
  - ~20% chance of second child receiving ASD diagnosis if first child has been diagnosed with ASD; previously ~10%\(^3\)

- **Premature infants**
  - 3-8% prevalence of ASD\(^4\)

- **Males diagnosed four times more often than females.**\(^5\)
  - Do females have some protective factor?

- **Higher maternal and paternal age at conception confers added risk**\(^6\)

\(^1\) www.ecbt.org/index.php/strategies_and_resources/article/autism_101_webinar

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What strategies have you found most successful in encouraging vaccine uptake?

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Asking parents about their specific concerns, and answering those concerns with the evidence, was the strategy deemed most likely to succeed by respondents. Sharing that the clinician's own children are vaccinated on the recommended schedule is considered another powerful method of influencing vaccine acceptance.\(^{12}\) Confronting vaccine hesitancy is not a one-size-fits-all proposition,\(^{13}\) and different strategies might work with different parents, as evidenced by the number of clinicians who take an individualized approach to this issue. Furthermore, a parent's concerns may differ depending on whether the child is an infant or an adolescent.\(^{14}\)
Myth #1 - Develop Your Response

• Empathize: I can understand your concern as it does appear that autism rates are increasing. In fact, my good friend/family member/constituent has a child who is on the autism spectrum.

• Present Science: This is an important issue to me and I’ve spent time reviewing the science that is available. I’ve learned that autism is now better diagnosed leading to more cases. Genetics, parental age are also a known cause...

• Support the Science: Vaccines have been heavily researched and ruled out as a cause. It is important that autistic children are protected from vaccine preventable diseases…just as I protected my children/grandchildren by vaccinating them on time.
Some parents are concerned about ingredients contained in vaccines, specifically aluminum, mercury, gelatin and antibiotics. However, parents can be reassured that ingredients in vaccines are minuscule and necessary:

- **Formaldehyde**: may be used as an antimicrobial. Formaldehyde effectively inactivates the organisms and biological substances used in vaccines. Formaldehyde is present in the environment and is a byproduct of metabolism so it is already present in the human body.

- **Adjuvants**: Aluminum has been used in some vaccines for over 75 years to improve the vaccine's performance by helping to stimulate the body's immune system to produce antibodies. Without the use of an adjuvant we would need to administer more shots in a given vaccine series or face lower immunity and less protection from the disease. Aluminum is also commonly found in food, water, infant formula and even breast milk.
Myth #2 – Ingredients In Vaccines Are Harmful

- Thimerosal/ethylmercury

- In late 1990s thimerosal was phased out of most childhood vaccines in U.S.

- Dozens of studies were subsequently conducted worldwide showing **No Evidence of Causal Link Between Thimerosal in Vaccines and Harm To Children**

- SafeMinds study even confirmed no link – “Administration of thimerosal-containing vaccines to infant rhesus macaques does not result in autism like behavior or neuropathology”
  - Gdad, B. et al. PNAS (October 6, 2015)
  - http://www.vaccinateyourbaby.org/safe/research.cfm#01
Empathize: I can see where your concerns lie. It is your responsibility as a parent to ensure that everything you put into your child’s body is safe. Did you know there is less mercury in all the vaccines combined than in a glass of water?

Present Science: Vaccines are some of the heavily tested medical products in the world since they are given to healthy children. Pre-licensure studies are conducted to ensure the safety before authorizing licensure and there are numerous systems in place to ensure they stay safe after they are licensed.

Support Science: Because this issue is so important to me as a parent, legislator…I did research and feel confident that vaccines not only save the lives but are safe.
Myth #3: I want to spread out the shots so they won’t overwhelm my child’s immune system

- **Corroborate:** Kids today certainly get more shots than kids did years ago.
- **About Me:** My family follows the CDC schedule because it is carefully designed to protect children at the time they are most vulnerable to disease. I recently returned from a meeting, or I served on a committee that reviewed the schedule...
- **Science:** Although kids get more shots today, they actually receive fewer antigens than when they got fewer shots, because technology has enabled us to make vaccines that have only the part of the cell that induces immune response. Plus, the immunological challenge from a vaccine is nothing compared to what kids fight off every day. An ear infection is a bigger immunological challenge. “Drop in the ocean”
- **Explain:** We want all the children in our state to be immunized so that they have the greatest chance for a long, healthy life. My own children are fully vaccinated.
Every Child By Two is welcoming our newest addition:

**VACCINATE YOUR FAMILY**

Vaccinate Your Baby is expanding to include your whole family!

Check back in December

A program of Every Child By Two
VACCINATION CAN PROTECT EVERY MEMBER OF YOUR FAMILY.

Learn more about vaccines for all ages to protect yourself and your loved ones from infectious disease.
FOR GRANDPARENTS: FREQUENTLY ASKED QUESTIONS ABOUT VACCINES AND WHOOPING COUGH

WHY SHOULD I TALK TO MY HEALTHCARE PROVIDER ABOUT GETTING VACCINATED?

Vaccinations aren’t just for children. Getting vaccinated can help protect not only your own health but that of your family as well. This is especially important with a new grandchild or with one on the way! In fact, vaccines are important to help protect adults from getting and spreading serious diseases, such as whooping cough. Additionally, certain medical conditions may result in a higher risk for serious illness as a result of vaccine-preventable diseases.

AS A GRANDPARENT-TO-BE OR NEW GRANDPARENT, WHICH VACCINES ARE APPROPRIATE?

You and your healthcare provider or pharmacist should discuss which vaccines are right for you. Two of the vaccines recommended for adults who will be in close contact with infants are the flu vaccine and the hepatitis A vaccine, which helps protect against hepatitis A in adults and children. Hepatitis B vaccine is also recommended for health-care workers who may come in contact with blood. If family members and caregivers who plan to be in close contact with a newborn are not up-to-date with their whooping cough vaccinations, the CDC recommends they get vaccinated at least two weeks before meeting the new baby.

WHY SHOULD I BE CONCERNED ABOUT WHOOPING COUGH?

Whooping cough is a serious, highly contagious disease that can last up to 10 weeks or more. It is spread from person to person, usually by coughing or sneezing. The disease is generally not as severe in adolescents and adults. In fact, many people may not even be aware they have it. However, whooping cough can cause serious and even life-threatening complications in infants and young children, especially those who are not fully vaccinated.

With a new grandchild is the family or one on the way, it’s important to know that approximately 80% of infants who contract whooping cough are exposed to the disease by a family member. About half of all infants under the age of one who get whooping cough and up in the hospital. Sadly, 1 in 2 out of every 100 infants who get the disease will die.

SHOWERING THE PARENTS-TO-BE WITH LOVE & HEALTH

The arrival of a new addition to your family is a happy time, and one of the best ways to celebrate it with a baby shower. You may want to play host in honor of the parents-to-be so we’ve pulled together a few new spins on this decades-old tradition, including a creative way to start the conversation about vaccines! Who knows? You may even start a family tradition of your own?

In recent years, baby showers have become increasingly co-ed. In addition to the father-to-be, consider inviting close friends, male siblings and the spouses or significant others of the women invited. This allows for a more interactive and out-of-the-box shower. Remember, when inviting men, go easy on the pink and think of activities that both sexes will enjoy, like a baby changing relay, rose the baby picture game, the baby food game, or a diaper raffle.

If this isn’t your child’s first baby, it might be helpful to invite your older grandchildren and great-grandchildren to the shower. Incorporating the big brother or sister-to-be allows for the child to get excited for their sibling’s arrival and to become a part of the welcoming process, and inviting guests’ children saves them the trouble of finding a babysitter.

One simple way to update the traditional shower is to rethink the time of the party. Most baby showers are hosted in the afternoon; however, a morning brunch or “morn-kah!” hour shower puts a unique spin on the traditional shower. This allows for the host to plan a modern menu and personalize the shower to the couple’s tastes.

Before you ask your guests to shower the parents-to-be with ideas and gadgets, have a conversation with the parents about what would be most helpful when the baby is born. In some cases donations to a child’s college fund or to a charity in the child’s name would prove to be more prudent than a closet full of clothes or infant toys.

EVERY CHILD BY TWO IS WELCOMING OUR NEWEST ADDITION:

VACCINATE YOUR FAMILY

Vaccinate Your Baby is expanding to include your whole family!

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A PROGRAM OF ECBT