Public Perception of Vaccination: Importance in New Vaccination Strategies

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Outline of presentation

• Background
• Issues in risk perception/communication
• Global effects of vaccine safety concerns
• What can we do about public perception?
Modern vaccines

- Modern vaccines are safe and effective
- However, they are neither perfectly safe nor perfectly effective
  - Some persons who receive vaccine will have adverse event
  - Some persons who receive vaccine will not be protected
- As disease incidence declines, real/alleged adverse effects become more prominent

Evolution of Immunization Program and Prominence of Vaccine Safety
Features of postmodern society

- Distrust of science
- Greater attention to risk
- Readiness to refer to the judiciary
- Better access to real-time information
- Physicians as knowledge managers rather than knowledge repositories


Postmodernism – Public Health

- Scientists must take care not to treat fear and reservation as ignorance and then try to destroy them with a blunt “rational” instrument.

Risk Communication

- Risk has technical and cultural components
- Technical – hazard
- Cultural – “outrage”

\[ \text{Risk} = \text{Hazard} + \text{Outrage} \]

Source: Sandman 2002

Outrage Factors

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Parents’ beliefs about immunizations - 1

- Imm one of safest medicines 78%
- Imm getting better & better 89%
- Imm always proven safe before use 71%
- I have access to information 92%
- Imm requirements protect my child 84%
- Parents should be allowed to send unimmunized kids to school 14%

Parents’ beliefs about immunizations - 2

- Kids get more shots than are good for them 23%
- Immune system could be weakened by too many immunizations 25%

Source: Gellin et al, Peds 2000;106:1097-1102
Reasons for lack of support for immunizations

- Ignorance
- Fear
- Contraindication
- Religion
- Philosophy
- “Informed” opposition

Unvaccinated vs undervaccinated


- Unvaccinated more likely to be white, have married mother with college degree, live in house with income 75,000, and have parents with concerns about vaccine safety
- Undervaccinated more likely to be black, have unmarried mother without college degree, live in house near poverty level, and live in a central city
Children entering kindergarten with vaccination personal belief exemptions, 2006

Number PBEs
- 0 – 49
- 50 – 99
- 100 – 199
- 200 - 1102

Percent PBEs
- 0.00 – 0.99
- 1.00 – 2.99
- 3.00 – 4.99
- 5.00 – 14.37

Suspicions about the safety of vaccines
Campion. NEJM 2002;347:1474-1475

“Objective data are not likely to put an end to the controversy. Strongly held beliefs are difficult to change. We live in an era in which the public does not have a high degree of trust in the vaccine manufacturers, the government, or the medical establishment. Consumers have become highly sensitive about safety..."
Suspicions about the safety of vaccines
Campion. NEJM 2002;347:1474-1475

Unsubstantiated accusations that a vaccine causes harm can have serious consequences
- Some people avoid vaccination
- Costly legal action follows
- Manufacturers associate vaccines with adverse economic effects
- Vaccines may be withdrawn from the market
- It becomes harder to run vaccination programs
How Safe Are Vaccines?

Parents worried that vaccines trigger autism are increasingly declining the shots for their kids. That's raising fears that long-dormant diseases could return. What the science says about the real risks—and what you should do

By Alice Park

Understanding Autism

Why More Kids & Families Are Facing the Challenge of ‘Mindblindness’

By Geoffrey Cowley

Parents Wonder: Is it Safe to Vaccinate?

Many families of autistic kids blame the MMR shot for the disorder. Experts say they shouldn't
8 things your baby would tell you
(if she could)

SPECIAL REPORT
BEHIND THE VACCINE
CONTOVERSY

Panic-proof your
pregnancy

Best tot-tested toys
14 winners they'll drool over!

PRESIDENT BUSH

Why is mercury
toxic here...

and not here?

On 1995, the United States Government advised the American children not to receive any doses of mercury in their measles vaccinations. The USFDA also noted the dangers of mercury from childhood vaccines. But the first steps toward a successful and the does toward the modern vaccine, children to receive toxins much later. Mercury,
also known as thimerosal, is a harmful chemical that can be toxic to the brain, heart, and kidneys. Moreover, the effects of mercury on the brain and kidney can lead to neurological damage and other health problems. In contrast, the main component of most vaccines is a protein and a sugar.

GIVING MERCURY TO CHILDREN
ON PURPOSE IS STUPID.

Call President Bush and Congress today to demand that mercury be removed from vaccines.
In recent years, the number of children diagnosed with autism has risen from 1 in every 500 children to 1 in 68—and science has not discovered a reason why. Jenny says she believes that childhood vaccinations may play a part...What number will it take for people to stop listening to what the mothers of children who have seen autism have been saying for years; which is, "We vaccinated our baby and something happened?"

Jenny says even before Evan received his vaccines, she tried to talk to her pediatrician about it. "Right before his MMR shot, I said to the doctor, I have a very bad feeling about this shot. This is the autism shot, isn't it?" And he said, "No, that's ridiculous. It's a mother's desperate attempt to blame something..." and he swore at me, and then the nurse gave him the shot," she says, "And I remember going, Oh, God, I hope he's right. And then he was himself—Boom—the cloud's gone from his eyes..."

Despite her belief, Jenny says she is not against vaccines. "I am all for them, but there needs to be a safer vaccine schedule. There needs to be something done. The fact that the Centers for Disease Control and Prevention lets us know that vaccines are one size fits all is just crazy for me..."

CDC statement

"CDC places a high priority on vaccine safety and the integrity and credibility of its vaccine safety research...The vast majority of science to date does not support an association between thimerosal in vaccines and autism. But we are currently conducting additional studies to further determine what role, if any, thimerosal in vaccines may play in the development of autism. It is important to remember, vaccines protect and save lives..."
### Vaccine Website

**The greatest threat of childhood diseases lies in the dangerous and ineffectual attempts to prevent them through mass immunizations... There is no convincing scientific evidence that mass inoculations can be credited with eliminating any childhood disease.**

Dr. Robert Mendelsohn, M.D.

### Think Twice

**Get The FACTS**

Uncensored information about vaccines and how they affect our children...

Welcome to the ThinkTwice Global Vaccine Institute.

We offer an extensive selection of uncensored information on childhood shots and other immunizations.

Because this is such an important topic, we believe that parents are entitled to a full disclosure of all pertinent data and the freedom to choose whether or not to vaccinate their children.

### Important Information

[New Vaccine Book!]

**Vaccine Safety Manual**

For Concerned Parents and Health Professionals...
Vaccinations... Too Many, Too Often?

As time goes on, new recommendations will be made by the veterinary profession. Be sure to consult with your own veterinarian regarding his issue of vaccinations for dogs and cats because updated protocols can change as new knowledge is gained.

Read Dr. T.J. Dyce’s column in the October 2006 issue of DOG WORLD MAGAZINE
"Does Stress Harm The Immune System?"

Vaccinations, vaccinations, vaccinations. Dog and cat owners have been told by veterinarians and pet health care providers for years that annual vaccinations for Rabies, Distemper, Parvo, and Leukemia and so on are required yearly. Annual vaccinations also called annual boosters have certainly played a major role in disease prevention in dogs and cats. Nevertheless, the question many ask is, Do these vaccines have to be given every year? And is it second and equally important question is, are we vaccinating dogs and cats too much? Are we actually causing harm by over-vaccinating our pets?

Are our decisions relating to vaccines are being made based on scientific and statistical evidence? After reading this article on vaccinations in dogs and cats, you, as the pet’s health care advocate, will be better equipped to answer the question, Vaccinations... Too Many, Too Often?

I put this article together in the hope that viewers, no matter what their stance is regarding the vaccination topic, will have a resource from which to assemble scientifically verifiable information for people and groups who truly have the most knowledge of this subject. These are changing and evolving protocols are changing. Do owners need more frequent vaccinating their pets because of unproved theories, anecdotal horror stories about vaccines causing widespread of health among pets, or information that starts as conjecture and gradually gains a life of its own and becomes a "fact" merely through repetition? The truth is, that some dogs, cats, and humans do have severe and life-threatening complications from vaccine administration. The truth is, as well, that vaccines have prevented untold deaths and decades of life from diseases such as hepatitis, rabies, and parvo in humans. In dogs, we rarely see a distemper case today as we nearly 40 years ago, and in cats, we have saw some feline leukemia cases but mostly in cats that are not vaccinated.

If you have any questions about vaccinations, please consult with your veterinarian.
22 Antivaccination Web Sites

- 100% - vaccines cause idiopathic illness
- 95% - vaccines erode immunity
- 95% - adverse reactions underreported
- 91% - vaccine policy motivated by profit
- 81% - vaccines produce temporary imm.
- 77% - mandatory vax violate civil liberties
- 73% - diseases declined w/o vaccines
- 50% - multiple vax increase risk

Source: Wolfe et al JAMA 2002;287:3245-3248

Subtexts in anti-immunization articles
- Cover-up
- Excavation of the facts
- Unholy alliance for profit
- Towards totalitarianism
- Us and them
- Poisons
- Vaccines as the cause of idiopathic ills
- Back to natures
Global effect of concerns

• Unfounded concerns about the possible harmful effects of thimerosal in vaccines have led to the introduction of legislation in 35 states to ban the use of thimerosal-containing vaccines.

• As a result of controversy about the safety of thimerosal (used in multi-dose vaccine vials as a preservative) some developing countries are now considering requesting thimerosal-free vaccines.

Global effect of concerns

• Concern about the possible role of MMR (measles-mumps-rubella) vaccine in causing autism was first raised in the United Kingdom but soon spread to the United States, where it features in several thousand claims or lawsuits filed by parents of autistic children. Recently there have been high-profile television appearances in the United States by parents who feel their children’s autism was caused by vaccines.
Global effect of concerns

• The United Kingdom is experiencing outbreaks of measles due to the drop in immunization rates resulting from concerns about the safety of measles vaccine. There are increasing numbers of parents who are claiming philosophical exemptions from immunization requirements in the United States.

Global effect of concerns

• A rotavirus vaccine (Rotashield) in the United States was found to have a probable causative role in intestinal intussusception (at a rate of approximately 1/10,000 vaccinees).

• Withdrawal of Rotashield in the United States effectively meant that the vaccine would not be licensed for use in other countries where the morbidity/mortality burden of rotavirus infections was much higher than in the United States and where the balance of benefits and risks was quite different.
Global effect of concerns

- False assertions that oral polio vaccine (OPV) was contaminated with HIV or contraceptive drugs led to a one-year suspension of polio vaccination in northern Nigeria in 2003.
- Suspension of polio vaccination in Nigeria led to exportation of poliovirus and reintroduction of polio to 19 countries that had been free of polio with re-establishment of ongoing transmission in six of them.

Institute of Medicine Report on MMR and Autism - 2001

“...the committee has concluded that the evidence favors rejection of the causal relationship at the population level between MMR vaccine and ASD...its conclusion does not exclude the possibility that MMR vaccine could contribute to ASD in a small number of children...”
Institute of Medicine Report on MMR and Autism - 2004

“The committee concludes that the body of epidemiological evidence favors rejection of a causal relationship between the MMR vaccine and autism...[and] between thimerosal-containing vaccines and autism...potential biological mechanisms for vaccine-induced autism...are theoretical only.

“...available funding for autism research [should] be channeled to the most promising areas.”

Achieving / Maintaining Communication Credibility

- Respond quickly
- Get the facts right, repeat them consistently
- Express empathy and caring, acknowledge uncertainty
- Provide competent spokespersons with expertise
- Provide honest, open responses even if they are not positive
- Follow through, do what we say we will
Vaccine-related Communications: Challenging Media Conventions

- Length – journalists and editors try to retain the truthfulness of a story while condensing it.
- Media create and present “stories”
  - Good stories require conflict – and conflict usually requires “victims,” “villians” and “heroes”
  - Colorful quotes
  - “Balance” (e.g., stories generally need more than one point of view)
  - Nuance and context are often lost in the process
- Headlines must grab attention

Things to Keep in Mind

- Reporters are not “court” reporters
  - They are not transcribing your comments
  - They paraphrase and can alter context
  - “Translation” and interpretation are viewed as key roles
- Reporters are not the only people involved in the final story and its presentation
  - Editors play significant roles
  - Reporters don’t write the headlines
- Nuances and fine distinctions rarely translate
AAP and parental refusal

- 79% of pediatricians have had ≥1 instances of parents refusing to allow child to be vaccinated
- ~10% of pediatricians report ≥10% of parents avoiding vaccines because of safety concerns

Responding to parental refusals of immunization of children

Peds. 2005:115:14281431

- 3 distinct issues
  - Do parents who withhold immunizations risk harming children sufficiently that this is actionable medical neglect that should be reported to child protective services
  - Do parental decisions put other individuals at risk of harm sufficient to justify public health intervention
  - How should pediatrician respond to parents who refuse immunizations for their children
Responding to parental refusals of immunization of children

Peds. 2005:115:1428-1431

• Listen carefully and respectfully to parent’s concerns
• Share honestly what is and is not known about risks and benefits of the vaccine
• Assist parents in understanding that risks of immunization should be considered in comparison of risk of not being immunized
• Discuss concerns about specific vaccines
• Discuss concerns about multiple shots
• Explore whether cost is a reason
• Respect (and document?) continued refusal
• Generally avoid discharging patients because of refusal
• The loudest voices and most visible faces addressing immunization are often those attacking the safety of specific vaccines or generally opposing immunizations rather than those who support the benefits of vaccination. Many of the allegations made are not supported by science but they nonetheless receive wide media coverage.

• That the overwhelming majority of Americans continue to support immunizations is evident in the high levels of immunization coverage in children as well as in the results of surveys of attitudes. Americans’ views on vaccines are heavily affected by what their health care provider says, and overwhelming majorities of clinicians support immunizations. Regrettably, this is not the impression conveyed by media coverage of immunization issues. False information is ubiquitous on the internet.
Voices For Vaccines is a new, independent, non-profit organization whose mission is to provide science-based, accessible, and clear information about the benefits and risks of vaccines and vaccine-preventable diseases to the public, health professionals, political leaders, and their organizations. To ensure its credibility as an independent voice, Voices For Vaccines will not accept funding from the federal government or from companies that manufacture or distribute vaccines.

Fighting for the reputation of vaccines: Lessons from American politics

“We need our academy, along with other groups...to be more potent when arguing as to why vaccines are safe, effective, and necessary. They can do this by getting behind a clear and assertive campaign... Images and stories...bear much more emotional weight than graphs...We also need to craft effective language when we address antivaccine groups’ accusations against the medical community. In short, we need to defend our beliefs and ourselves more strongly.”

Source: Parikh RK, Pediatrics 2008;121:621-622
Summary

- Vaccines have had a major impact on disease incidence
- Immunization coverage at record high
- Concerns about vaccine safety are increasing
- Modern communication media are changing the dynamic of discussion
- Providers need to listen and communicate effectively

Talk with people, not to them or at them