Addressing the Concerns of Vaccine Hesitant Parents

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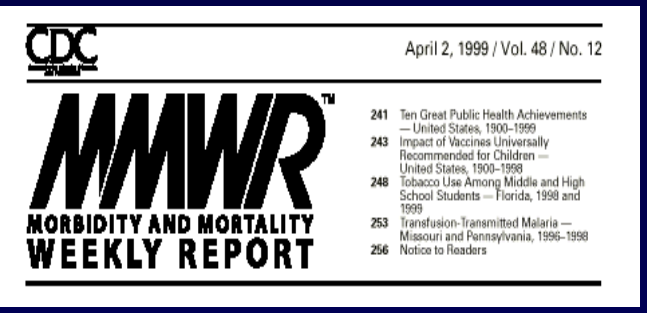
Factors contributing to parental vaccine concerns, hesitancy, or lack of confidence

- Lack of information about the vaccine being given and about immunizations in general;
- Lack of understanding of the severity of and communicability of vaccine-preventable diseases;
- Opposing information and misinformation from other sources (eg, alternative medicine practitioners, anti-vaccination organizations and Web sites, and some religious groups);
- Perceived risk of serious vaccine adverse effects;
- Mistrust of the source of information regarding vaccines (eg, vaccine manufacturer, the government);
- Concern regarding number of injections to be administered simultaneously;
- Delivery of information in a culturally insensitive manner or that is not tailored to individual concern;
- Delivery of information in a hurried manner.

Factors contributing to parental vaccine concerns, hesitancy, or lack of confidence

- Some people view the risk of immunization as disproportionately greater than the risk of disease, in part because of the relative infrequency of vaccine-preventable diseases in the United States because of the success of the immunization program.
- Others may dwell on sociopolitical issues, such as mandatory immunization, informed consent, and the primacy of individual rights over that of societal benefit.
- Health care professionals should determine, in general terms, what parents understand about vaccines their children will be receiving, the nature of their concerns, and what information should be provided to address their concerns.



Ten Great Public Health Achievements-United States 1900-1999

- **Vaccination**
- Motor-vehicle safety
- Safer workplaces
- Control of infectious diseases
- Decline in deaths from coronary heart disease and stroke
- Safer and healthier foods
- Healthier mothers and babies
- Family planning
- Fluoridation of drinking water
- Recognition of tobacco use as health hazard

Table 1.1. Comparison of 20th Century Annual Morbidity and Current Morbidity: Vaccine-Preventable Diseases[a]

Disease	20th Century Annual Morbidity[b]	2010 Reported Cases[c]	Percent Decrease
Smallpox	29 005	0	100
Diphtheria	21 053	0	100
Measles	530 217	63	>99
Mumps	162 344	2612	98
Pertussis	200 752	27 550	86
Polio (paralytic)	16 316	0	100
Rubella	47 745	5	>99
Congenital rubella syndrome	152	0	100
Tetanus	580	26	96
Haemophilus influenzae	20 000	246[d]	99

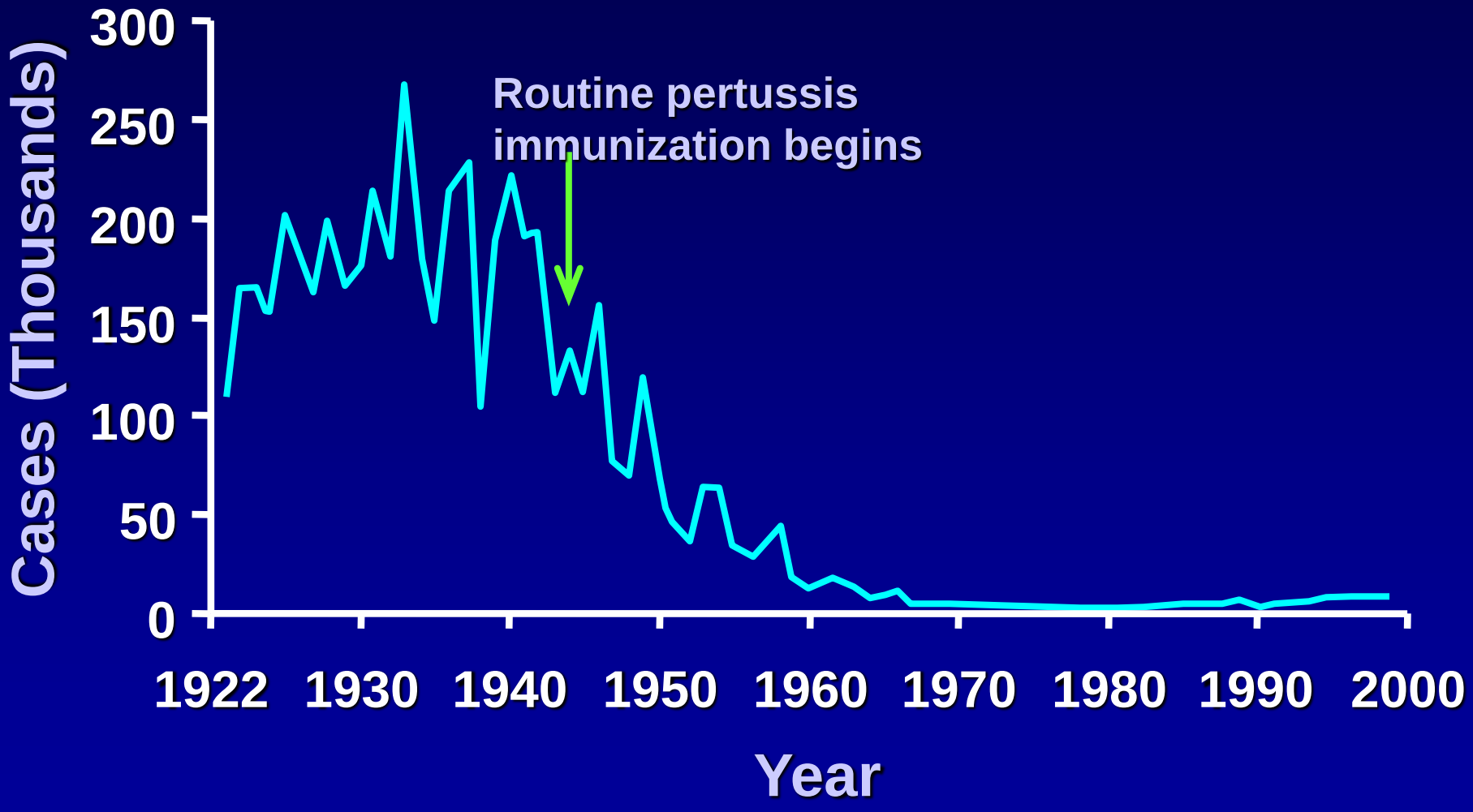
[a]National Center for Immunization and Respiratory Diseases. Historical Comparisons of Vaccine-Preventable Disease Morbidity in the U.S. Atlanta, GA: Centers for Disease Control and Prevention

[b]Roush SW, Murphy TV, Vaccine-Preventable Disease Table Working Group. Historical comparisons of morbidity and mortality for vaccine-preventable diseases in the United States. *JAMA*. 2007;298(18):2155–2163

[c]Centers for Disease Control and Prevention. Notice to readers: final 2010 reports of nationally notifiable infectious diseases. *MMWR Morb Mortal Wkly Rep*. 2011;60(32):1088–1101

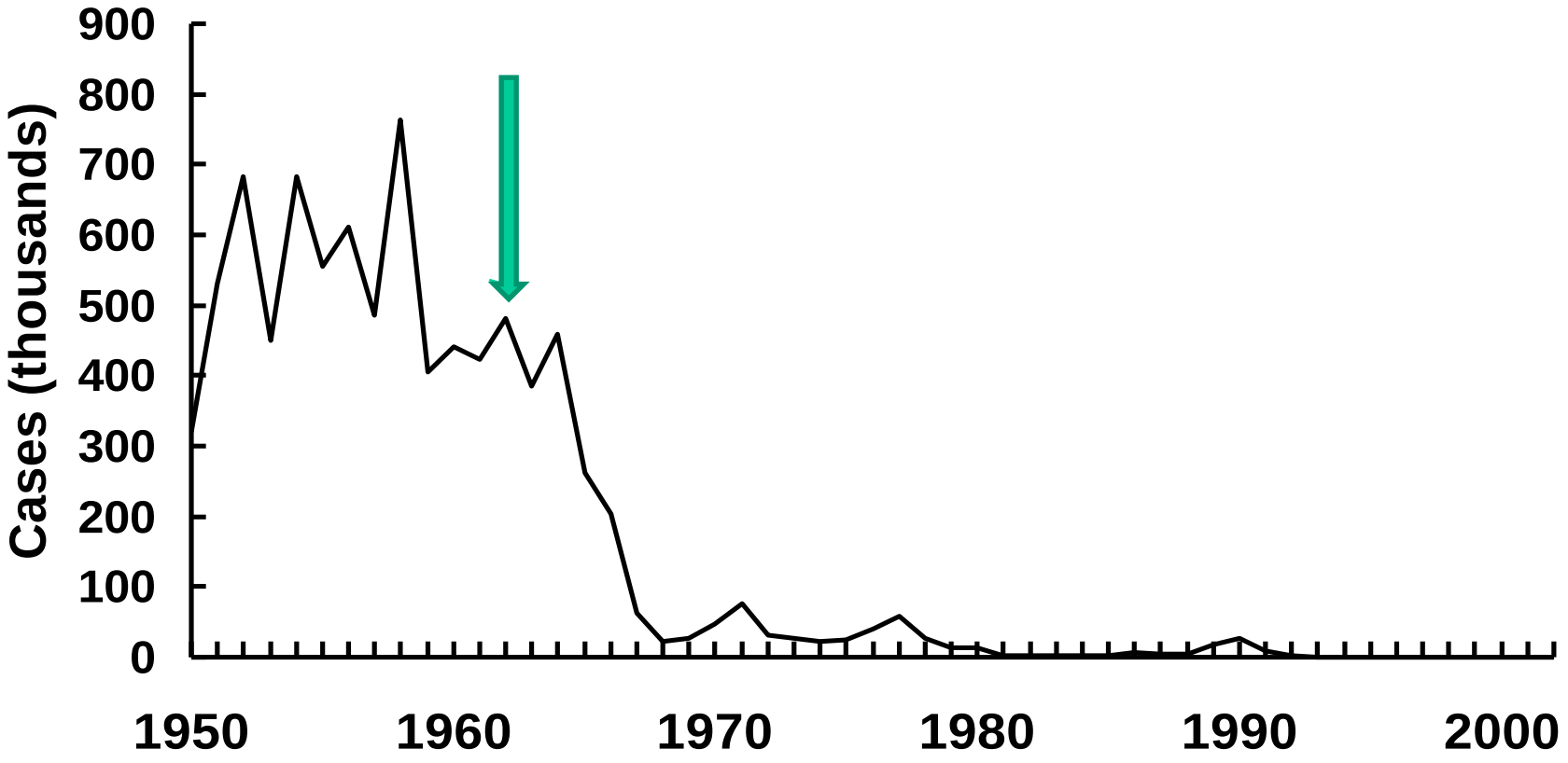
[d]23 type b and 223 unknown serotype (<5 years of age).

Reported Pertussis Cases by Year United States, 1922 – 2000

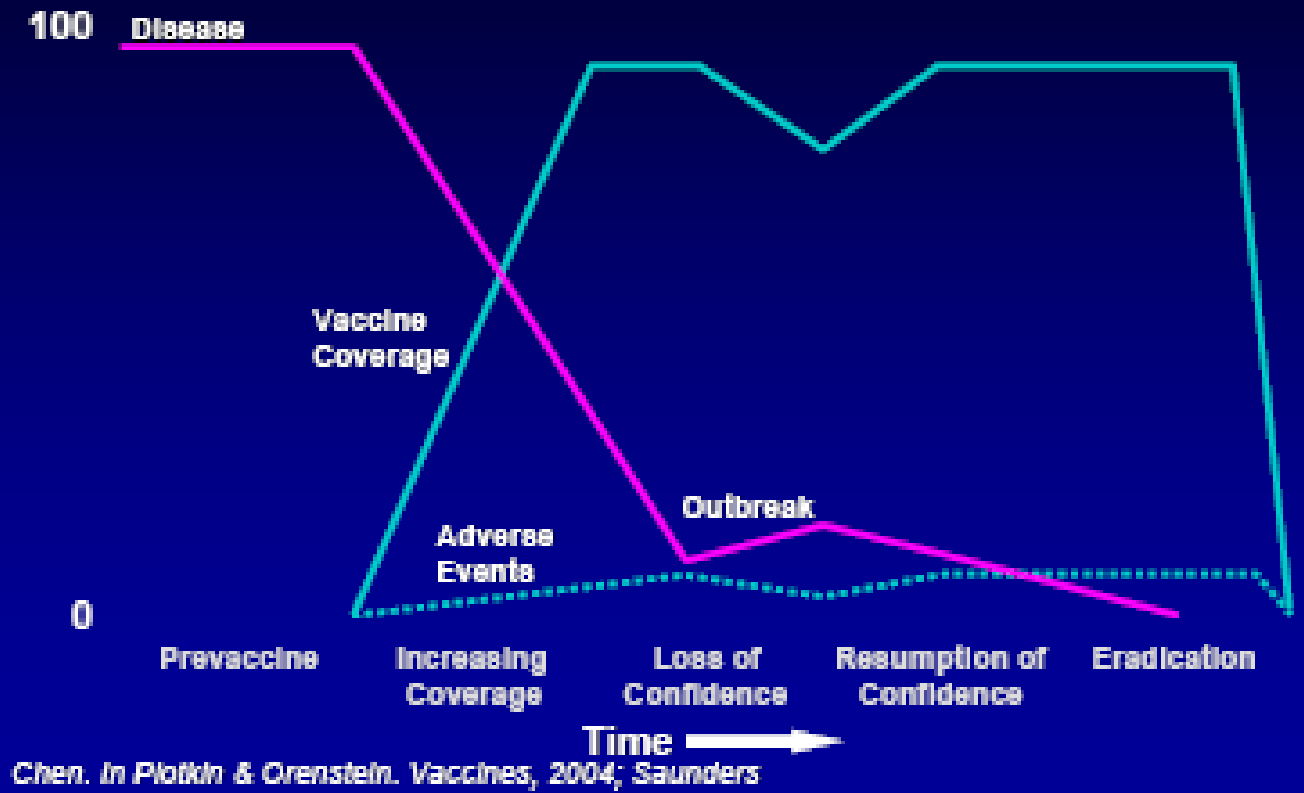


Source: CDC. Pertussis --- United States, 1997--2000. MMWR 2002;51:73-76.

Measles—United States, 1950-2002



Evolution of Immunization Programs



Chen. In Plotkin & Orenstein. Vaccines, 2004; Saunders

Parents Wonder: Is it Safe to Vaccinate?

Many families of autistic kids blame the MMR shot for the disorder. Experts say they shouldn't.

MURDER? or BAD VACCINE?

the question that ripped a family apart

Temporal vs. Causal Associations: Is Sequence Consequence?

A

Exposure

(Vaccine, Drug, Diet, Occupation Others)?

Time

B

Disease

- Direct and only cause?
- One of multiple potential causes?
- Co-factor/indirect cause, trigger?
- Coincidental?

From: Pless, CDC

Temporal Associations Between Vaccinations and Serious Illnesses Cause Public Concern

- Arthritis
- Asthma
- ADD
- Autism
- Brain Damage
- Cancer
- Chronic Fatigue Syndrome
- Diabetes
- Gulf War Syndrome
- Infantile Spasms
- Inflammatory Bowel Disease
- Multiple Sclerosis
- Neuroimmune Dysfunction
- Sudden Infant Death Syndrome

PART ONE of a two-part series

VACCINES
An issue of trust

Misinformation and government foot-dragging are fanning fears.

This is the season of the shots, when parents scramble for appointments to bring their kids' immunizations up to date in time for school openings. The annual ritual is becoming anything but routine for growing numbers of parents who feel they're confronting a terrible dilemma: Do I expose my child and community to the risk of a serious disease? Or do I expose my child to the risk of one of those rare, catastrophic reactions to the vaccine itself—reactions that I keep reading about on the Internet?

Even for those who don't have small children or grandchildren, distrust of the vaccine program—one of America's most successful public-health initiatives—is cause for concern. It's contributing to a severe underuse of the adult vaccines for flu and pneumonia and also to local outbreaks of vaccine-preventable diseases.

A friend's doubts about vaccine safety worried Suzanne Walther of Murfreesboro, Tenn., who decided to search the Internet for information. "I just typed in the word 'vaccines' and everything that popped up was anti-vaccine material," says Walther, who decided as a result to postpone immunization of her infant, Mary Catherine.

She waited too long. On the eve of her first birthday, Mary Catherine contracted *Haemophilus influenzae b* (Hib) meningitis and landed in intensive care. It was the first case the hospital had seen in eight years; Hib meningitis has become rare since the 1987 introduction of a vaccine against it. The disease had a significant chance of killing or disabling the baby; fortunately, she recovered.

Ninety percent of pediatricians and 60 percent of family doctors recently surveyed by University of Michigan researchers said they cared for at least one child whose parent refused immunization. A study in Colorado found that unimmunized children were 22 times more likely to contract measles and 6 times more likely to contract pertussis (whooping cough) than vaccinated children.

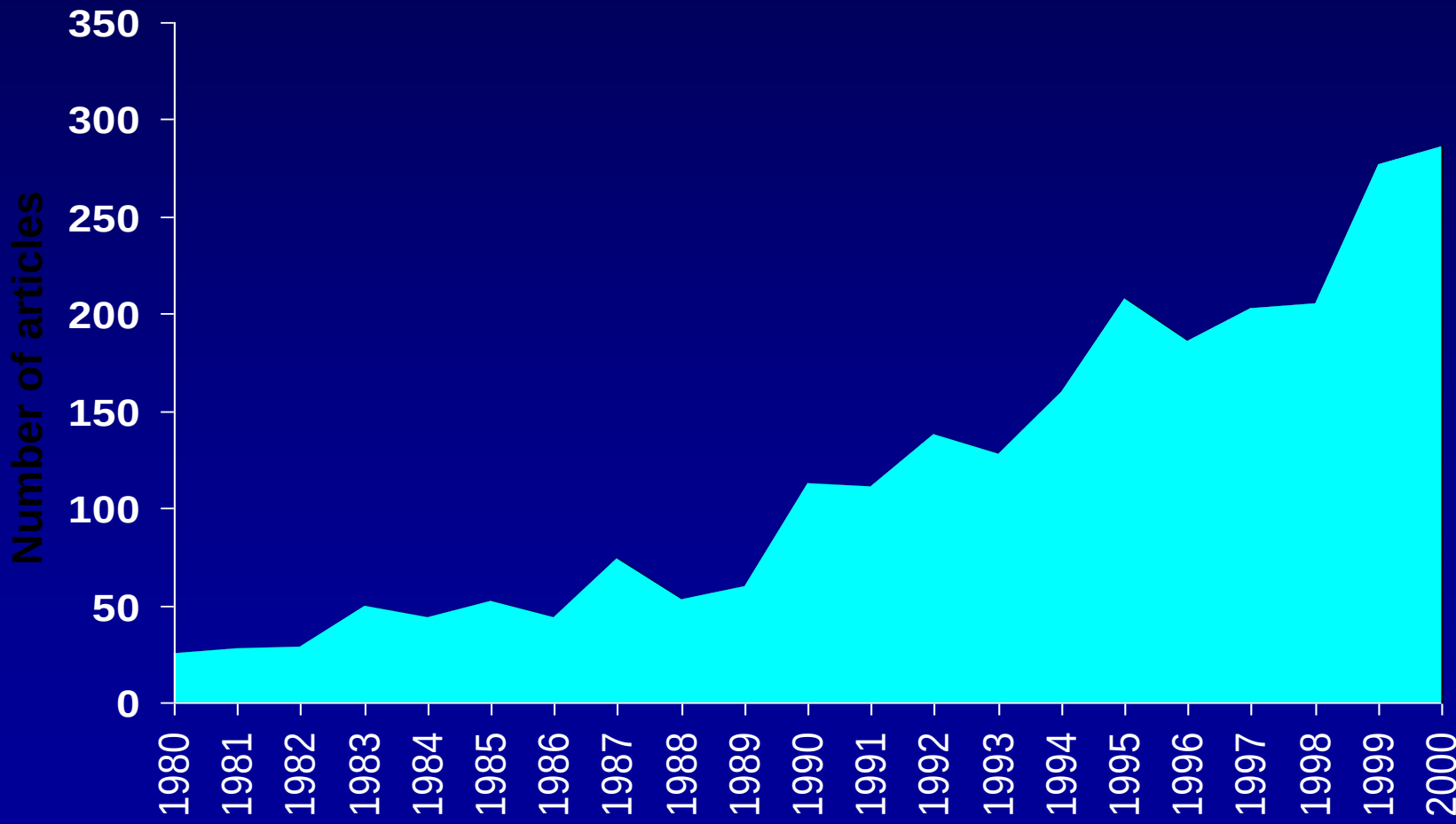
"In the middle are parents who are trying to do the right thing," says Bruce Gellin, M.D., a preventive-medicine specialist at Vanderbilt University and executive director of the National Network for Immunization Information, an independent source of scientifically verified vaccine information.

JUST A TINY PINCH Dr. Peter Richel (above) of Mt. Kisco, N.Y., gives Carlie Grave her polio and DTaP (diphtheria, tetanus, pertussis) boosters. Vaccines have spared Carlie and her friends at Quality Time Nursery School, Katonah, N.Y. (left), the risk of 11 serious childhood diseases.

It's no longer enough to say, "Trust us, we're the experts."

Physicians and health educators must deal fully and respectfully with the vaccine safety concerns of parents and patients.

Medline Search: "Vaccine Safety" 1980-2000



True:
Vaccines are Not Without Risk

- No vaccine is 100% safe
- No vaccine is 100% effective
- All vaccines have possible side effects, most mild, rarely severe
- The risk of disease far outweighs the risk of vaccine

False:
Avoiding Vaccines Would Be "Safer"

- By choosing not to vaccinate one takes on the risk of disease
- Both vaccinating and not vaccinating carry risks
- Children unvaccinated against measles are 35 times more likely than immunized children to catch the disease

Salmon DA. Health consequences of religious and philosophical exemptions from immunization laws. JAMA 1999

Risk vs. Benefit of Vaccination

- "Potential Intussusception Risk Versus Benefits of Rotavirus Vaccination in the US" (CDC data, PIDJ 1/13)
- Although US data have not documented an increased risk of intussusception, the authors assumed a vaccine-associated RR of 5.3 (based on data from Mexico) in week 1 following dose 1
- For a birth cohort of 4.3 million infants, vaccine would cause 0.2 deaths, 45 hospitalizations, and 13 ED visits.
- Vaccine would avert 14 rotavirus-associated deaths, 53,444 hospitalizations, and 169,949 ED visits.
- Summary benefit-risk ratios for death and hospitalization are 71:1 and 1093:1, respectively.

Desai R et al. PIDJ. Volume 32, Number 1, Jan 2013.

How have we dealt with real vaccine risks?

Response to real vaccine adverse events

- Elimination of killed measles vaccine
- Transition from plasma derived Hep B vaccine to recombinant Hep B vaccine
- Transition from DTP to DTaP (Some countries suspended pertussis immunization)
- Transition from OPV to IPV
- Withdrawal of first rotavirus vaccine
- Production of a safer Japanese Encephalitis Virus vaccine

Factors that have increased concern

- Distrust
  - ✓Industry
  - ✓Government
  - ✓Doctors
- Uncertainty
- Rapid increase in the number of vaccines
- Rapid increase in the number of cases of autism
- Internet/Media/Celebrities

The Things You Hear…

- Vaccines and autism
  - ✓ MMR
  - ✓ Thimerosal
  - ✓ Other vaccine ingredients
  - ✓ Vaccines in general
- Too many vaccines overwhelm the immune system
- Diseases no longer exist—or aren't that dangerous
- It is all a giant money-fueled conspiracy
- Individual rights vs. public health needs

Wakefield History

Early report

Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children

A J Wakefield, S H Murch, A Anthony, J Linnell, D M Casson, M Malik, M Berelowitz, A P Dhillon, M A Thomson, P Harvey, A Valentine, S E Davies, J A Walker-Smith

Summary

Background We investigated a consecutive series of children with chronic enterocolitis and regressive developmental disorder.

Introduction

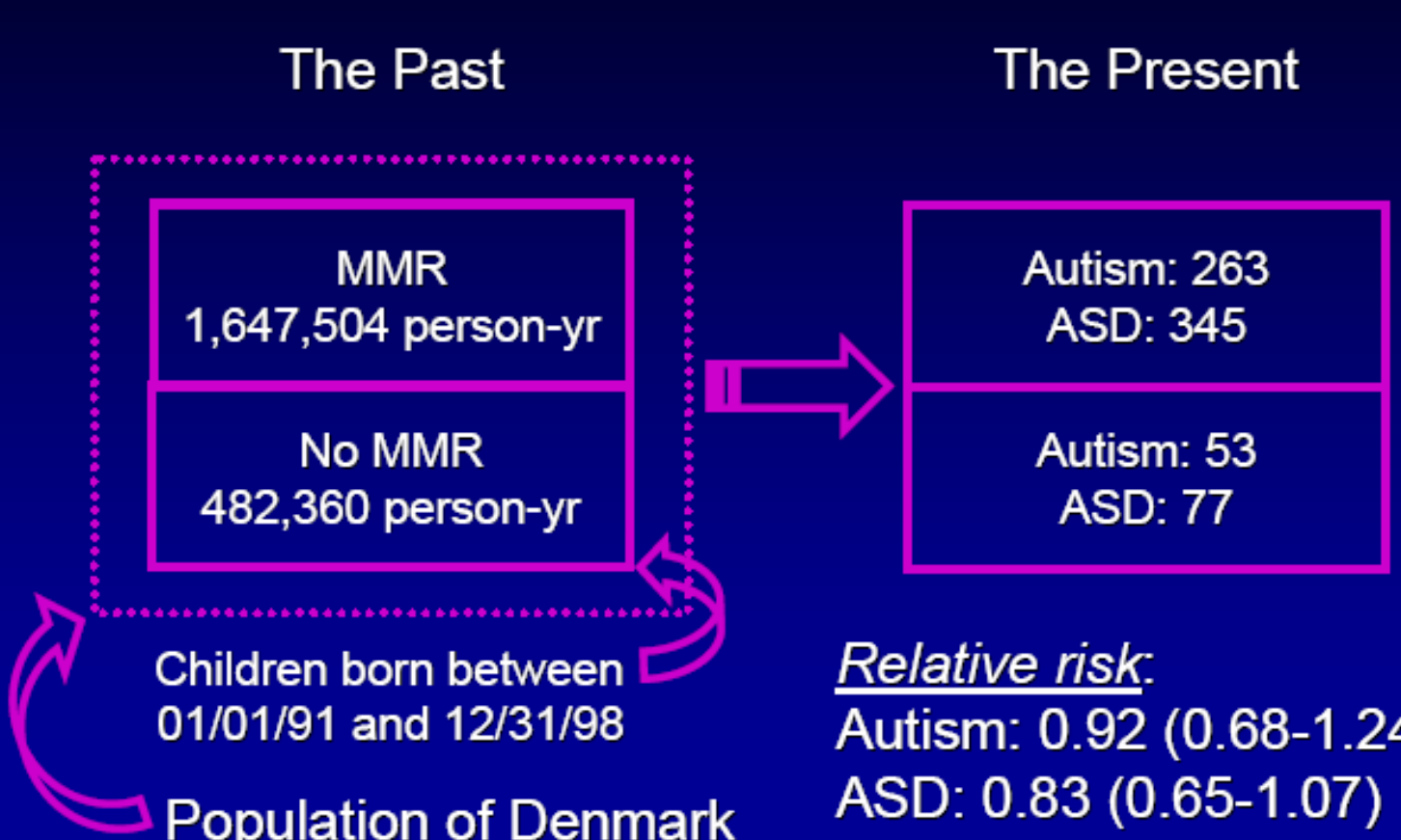
We saw several children who, after a period of apparent normality, lost acquired skills, including communication. They all had gastrointestinal symptoms, including abdominal pain, diarrhoea, and bloating and, in some

Wakefield, A.J., et al. Lancet 351: 637-641, 1998

What we know

- Wakefield retraction
- Danish study
- California study
- Recent studies

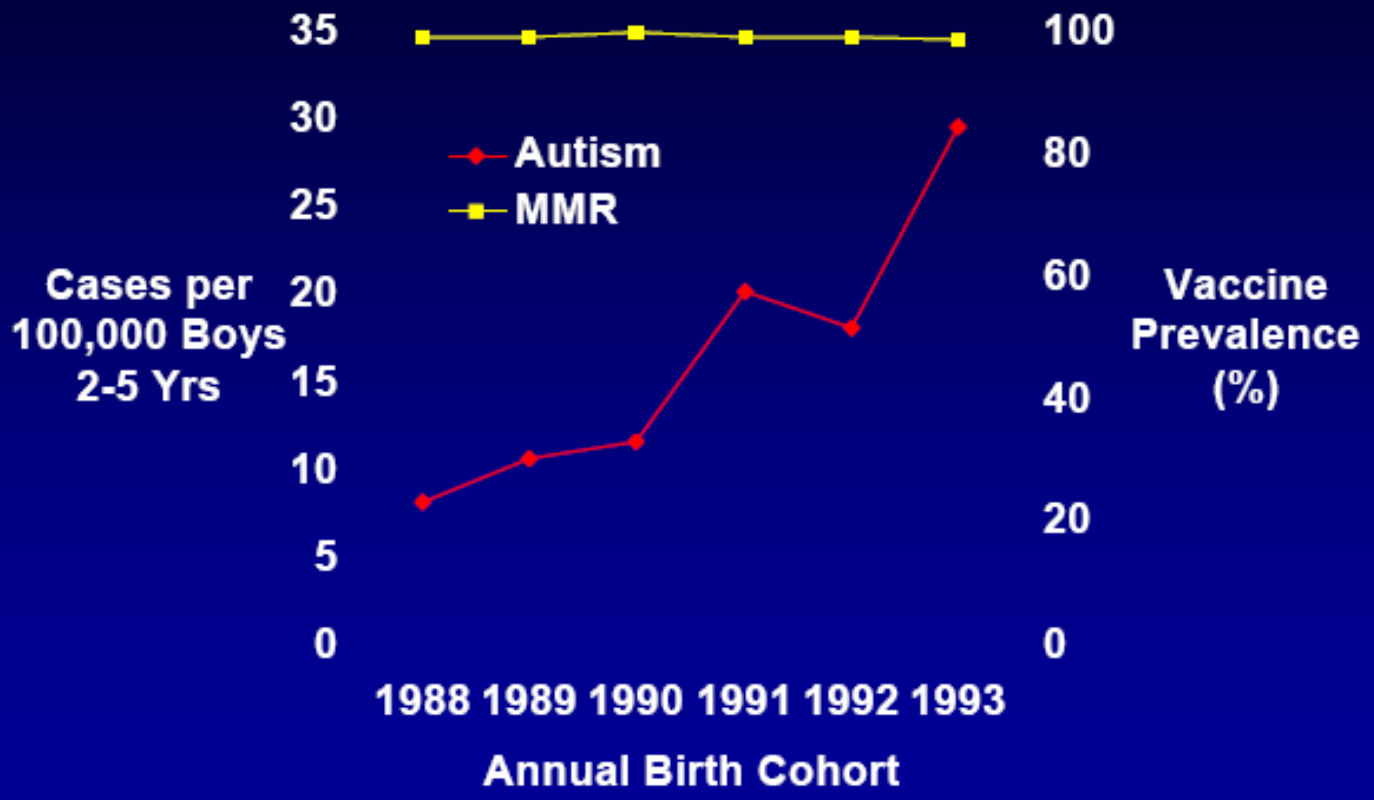
Danish Cohort Study



Madsen. N Engl J Med 2002;347:1477

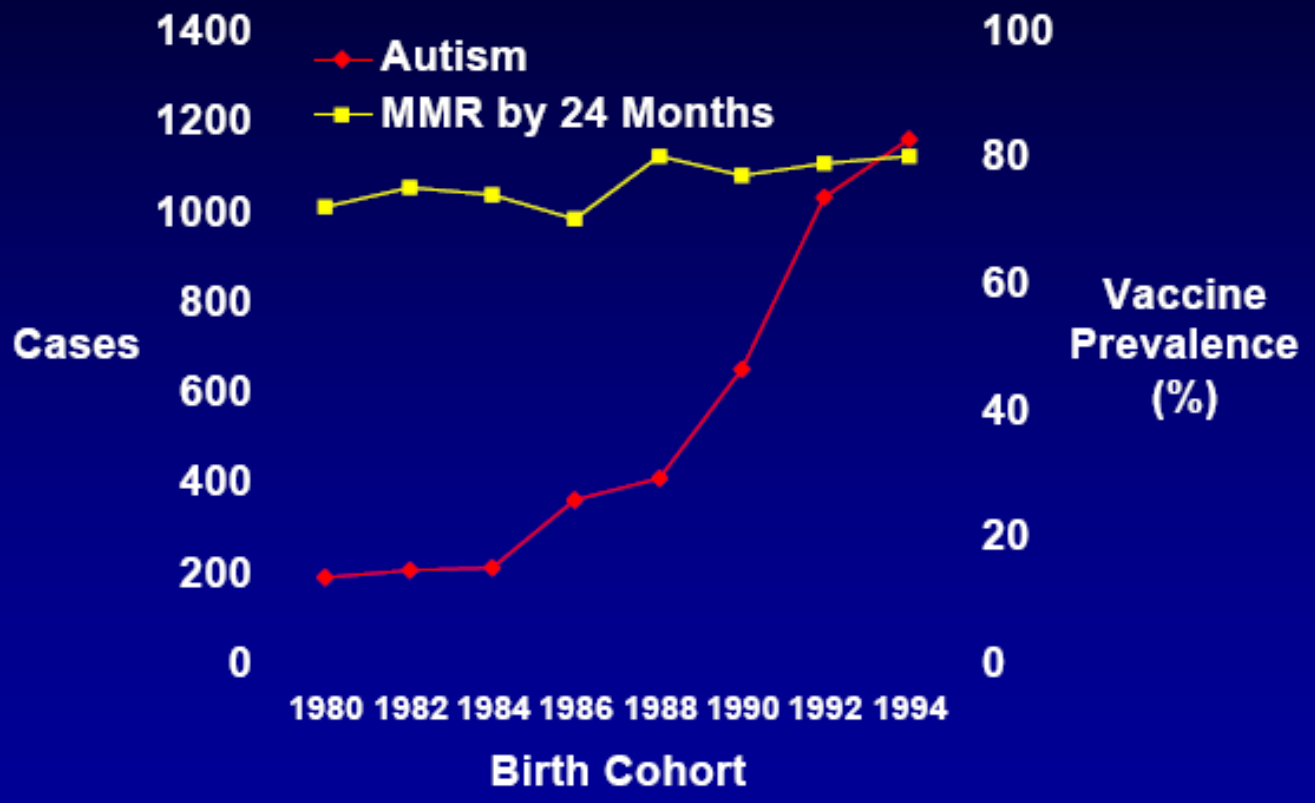
Relative risk:
Autism: 0.92 (0.68-1.24)
ASD: 0.83 (0.65-1.07)

Autism and MMR: United Kingdom



Kaye JA. BMJ 2001;322:460

Autism and MMR: California



Dales L. JAMA 2001;285:1183

Thimerosal history

- Mercury content of recommended vaccines reviewed
- Recommendation to reduce mercury exposure
- Delay in hepatitis B vaccination of newborns to minimize mercury exposure
- Once MMR couldn’t be targeted as a cause of autism, thimerosal became an attractive target

Thimerosal and Neuropsychological Function

- 1047 children 7-10 years of age
- Formal neuropsychological testing
- Correlated outcome with thimerosal exposure
- No evidence for a link between thimerosal exposure and neuropsychological functioning

Thompson WW, NEJM 2007;357:1281

Vaccines Cause Autism Talking Points

- Genetic factors related to autism-autism is more heritable than breast cancer
- Brain changes associated with autism relate to events that occur in utero (Corchesne E)
- Symptoms of autism present before many vaccines are given
- Ongoing studies specifically looking at risk of vaccines: none identified
- Autism hasn't gone away despite thimerosal being taken out of vaccines
- Vaccine court has rejected the autism claim

Vaccine Info Pick

Vaccine Education Center, CHOP

- Go to “Educational Materials”
- Q&A “Vaccines and Autism: What you should know”

Other Vaccine Components

- ✓ Aluminum
- ✓ Bovine serum albumen
- ✓ Adjuvants
- ✓ Yeast proteins
- ✓ Human cell line derivatives
- ✓ .....

Vaccine Info Pick

Vaccine Education Center, CHOP

- Go to “Educational Materials”
- Q&A “Vaccines Ingredients” (new)
- Go to “Vaccine Safety - Hot Topics” for discussion of issues such as Mad Cow

Do vaccines overwhelm the Immune System?

- Your immune system responds to hundreds of things every day
- No evidence that children get more infections right after they are immunized
- Clinical trials test multiple vaccines
- Increased vaccine purity

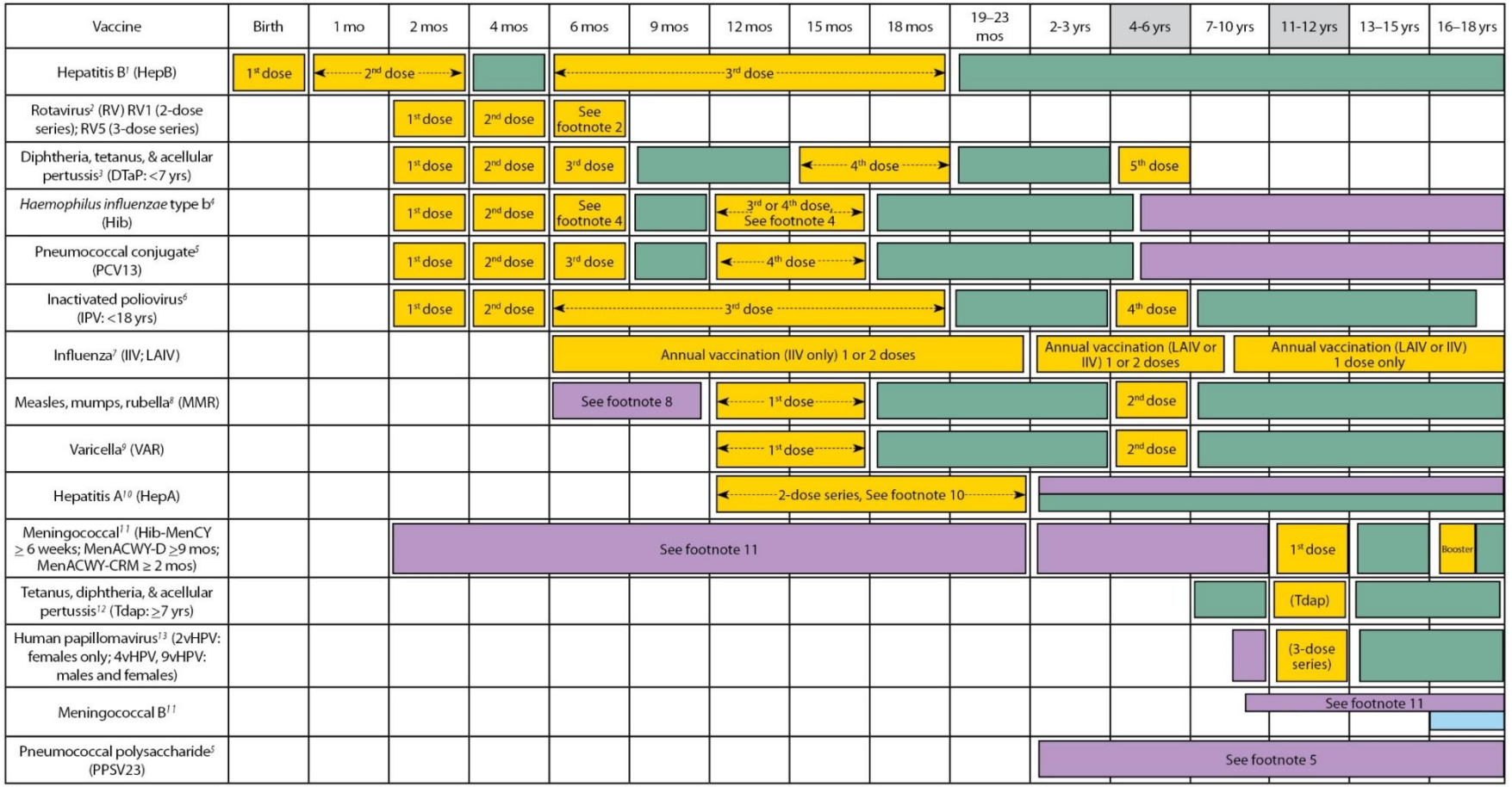
Recommended childhood immunization schedule: 1985

	0	1 mo	2 mos	4 mos	6 mos	12 mos	15 mos	18 mos	24 mos	4-6 yrs	14-16 yrs
Diphtheria, Tetanus, Pertussis			DTP	DTP	DTP			DTP	DTP		Td
Polio			OPV	OPV				OPV		OPV	
Measles, Mumps, Rubella							MMR				

Figure 1. Recommended immunization schedule for persons aged 0 through 18 years – United States, 2016.

(FOR THOSE WHO FALL BEHIND OR START LATE, SEE THE CATCH-UP SCHEDULE [FIGURE 2]).

These recommendations must be read with the footnotes that follow. For those who fall behind or start late, provide catch-up vaccination at the earliest opportunity as indicated by the green bars in Figure 1. To determine minimum intervals between doses, see the catch-up schedule (Figure 2). School entry and adolescent vaccine age groups are shaded.



This schedule includes recommendations in effect as of January 1, 2016. Any dose not administered at the recommended age should be administered at a subsequent visit, when indicated and feasible. The use of a combination vaccine generally is preferred over separate injections of its equivalent component vaccines. Vaccination providers should consult the relevant Advisory Committee on Immunization Practices (ACIP) statement for detailed recommendations, available online at http://www.cdc.gov/vaccines/hcp/acip-recs/index.html. Clinically significant adverse events that follow vaccination should be reported to the Vaccine Adverse Event Reporting System (VAERS) online (http://www.vaers.hhs.gov) or by telephone (800-822-7967). Suspected cases of vaccine-preventable diseases should be reported to the state or local health department. Additional information, including precautions and contraindications for vaccination, is available from CDC online (http://www.cdc.gov/vaccines/recs/vac-admin/contraindications.htm) or by telephone (800-CDC-INFO [800-232-4636]).

This schedule is approved by the Advisory Committee on Immunization Practices (http//www.cdc.gov/vaccines/acip), the American Academy of Pediatrics (http://www.aap.org), the American Academy of Family Physicians (http://www.aafp.org), and the American College of Obstetricians and Gynecologists (http://www.acog.org).

NOTE: The above recommendations must be read along with the footnotes of this schedule.

Vaccine Info Pick

Vaccine Education Center, CHOP

- Go to “Educational Materials”
- Q&A “Too Many Vaccines? What You Should Know”

Immunogenic Proteins, Polysaccharides in Vaccines

1900		1960		1980		2000	
Vaccine	Proteins	Vaccine	Proteins	Vaccine	Proteins	Vaccine	Proteins
smallpox	**~200**	**smallpox**	**~200**	**diphtheria**	**1**	**diphtheria**	**1**
		diphtheria	**1**	**tetanus**	**1**	**tetanus**	**1**
		tetanus	**1**	**wc-pertussis**	**~3000**	**ac-pertussis**	**2-5**
		wc-pertussis	**~3000**	**polio**	**15**	**polio**	**15**
		polio	**15**	**measles**	**10**	**measles**	**10**
				mumps	**9**	**mumps**	**9**
				rubella	**5**	**rubella**	**5**
						Hib conj.	**2**
						varicella	**69**
						pneumo conj.	**8**
TOTALS:						**hepatitis B**	**1**
1	**~200**	**5**	**~3217**	**7**	**~3041**	**11**	**123-126**

Modified from Offit PA, et al. Pediatrics January 2002

Is natural immunity better?

- For some infections natural immunity is “better” because it lasts longer
- Natural immunity is not complete
  - whooping cough, rotavirus
  - Multiple types of some disease agents (Pneumococcus, influenza)
- Natural immunity is only better if you survive the illness without serious consequences
- Natural immunity comes at a price
  - ✓deafness, brain damage, hospitalization, pneumonia, paralysis, permanent scars

Diseases Are Not That Bad

- Quote your own experience….
  - ✓Hib
  - ✓Invasive pneumococcal disease
  - ✓Pertussis
  - ✓Influenza
  - ✓Rotavirus

Vaccine Info Pick

Immunization Action Coalition
"Unprotected People" Series

- Read real-life accounts of people who have suffered or died from vaccine-preventable diseases: compelling personal testimonies, remembrances, case reports, and newspaper articles

Parents' Choice vs. the "Greater Good"

- Not vaccinating puts your child at risk
- Not vaccinating your child also puts others at risk

Vaccine Info Pick

CDC “What would happen if there were no vaccines?”

Vaccines are a Community Endeavor Talking Points

- Herd immunity is very important
  - ✓ Elimination of H. flu disease
  - ✓ Decrease in influenza and pneumococcal disease in elderly because of pediatric immunization
  - ✓ Drop in Hepatitis A disease in California
- You can't hide in the herd, especially if your herd thinks like you do

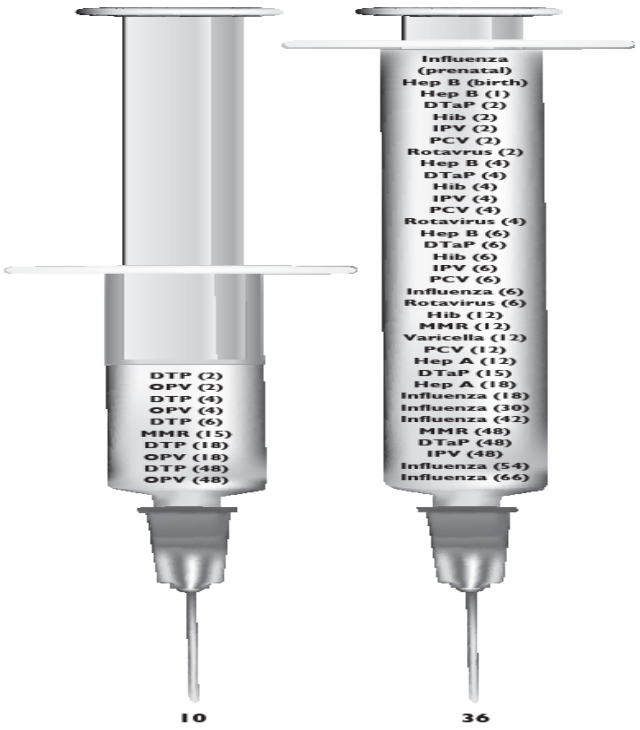
Know Your Source Talking Points

- Majority of sites found on an Internet search of "Vaccines" are anti-vaccine sites
- NNII site provides tips on how to evaluate the credibility of Web sites http://www.immunizationinfo.org
- How to identify a credible web site
  - ✓ Scientific studies cited and are current
  - ✓ Lack of financial conflict of interest (selling a book)
  - ✓ Experience in field
  - ✓ Lack of anecdotes

ARE WE POISONING OUR KIDS

IN THE NAME OF PROTECTING THEIR HEALTH?

COMPARISON OF CDC MANDATORY SCHEDULE
Children birth to six years (recommended month)



Green our vaccines. And administer them with greater care.

Mercury. Aluminum. Formaldehyde. Ether. Antifreeze. Not exactly what you'd expect—or want—to find in your child's vaccinations. Vaccines that are supposed to safeguard their health yet, according to our studies, can also do harm to some children.

The statistics speak for themselves. Since 1983, the number of vaccines the CDC recommends we give to our kids has gone from 10 to 36, a whopping increase of 260%. And, with it, the prevalence of neurological disorders like autism and ADHD has grown exponentially as well.

Just a coincidence? We don't think so. Thousands of parents believe their child's regression into autism was triggered, if not caused, by over-immunization with toxic ingredients and live viruses found in vaccines. The Centers for Disease Control and the American Academy of Pediatrics dispute this but independent research and the first-hand accounts of parents tell a different story.

Why are we giving our children so many more vaccines so early in life?
Why do we only test vaccines individually and never consider the combination risk of vaccines administered together? Given the dramatic rise of autism to epidemic levels, isn't it time for the scientific community to seriously consider the anecdotal evidence of so many parents? We urge the CDC and AAP to help us find the answers to these questions and learn why the increase in the number and composition of so many vaccinations has led to a surge in neurodevelopmental disorders. Our children deserve no less.

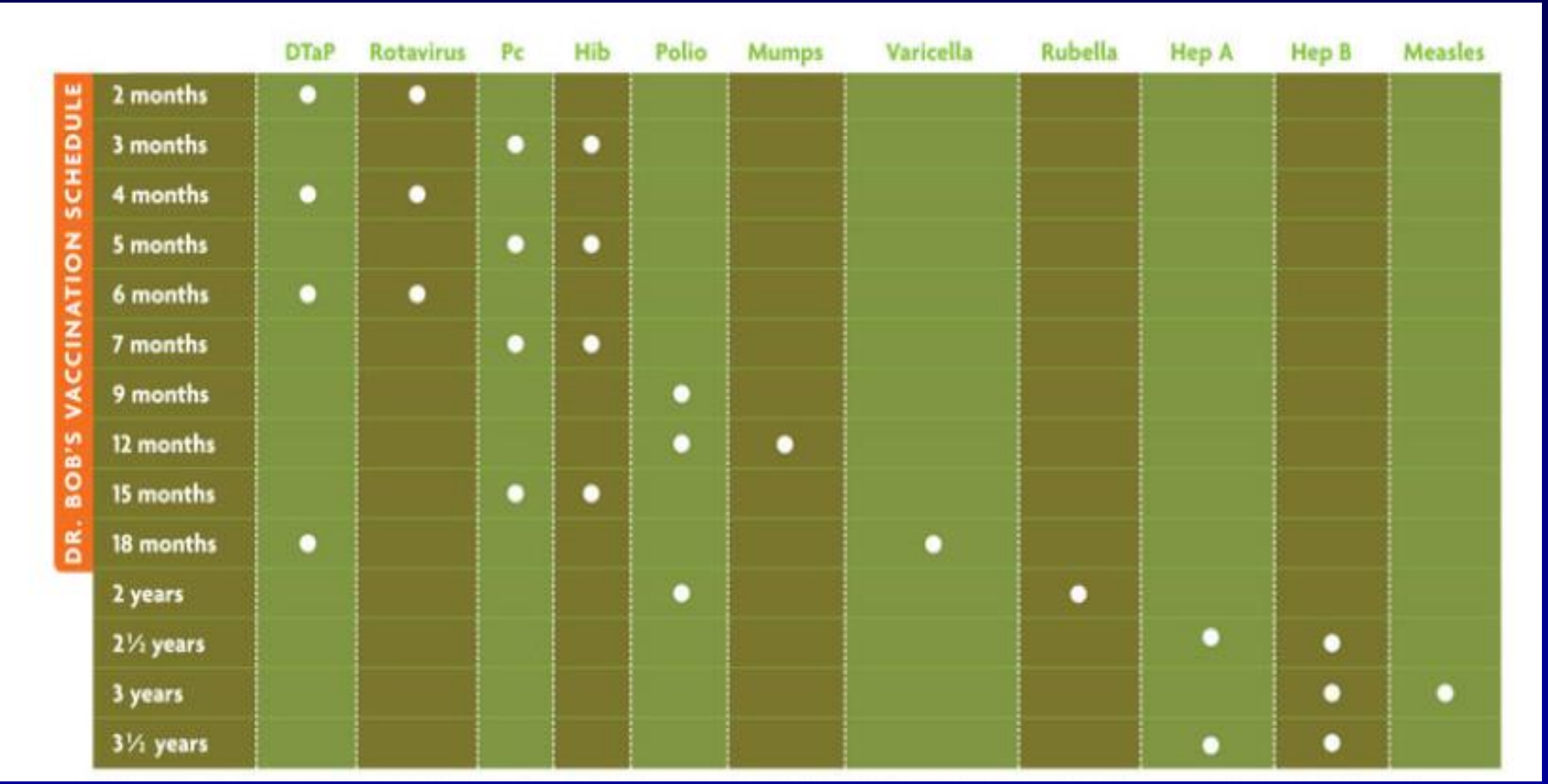
GENERATION RESCUE
www.generationrescue.org

We want to thank Jim Carrey and Jenny McCarthy for their generous support of Generation Rescue and their never-ending commitment to solving the growing challenges of autism.

Know Your Source

"On the Internet, nobody knows you're a dog."

What about the Sears schedule?



The Sears Schedule

- Based on the premise that it is better to spread out vaccines
- Based on Dr. Sears' opinion about what diseases are dangerous and what diseases a child is likely to encounter
- Based on the assumption that aluminum in vaccines causes a problem
- Based on the premise that as long as enough people don't follow the schedule, herd immunity will be maintained

Responses to those seeking alternative schedules

- Great deal of research, expertise, and effort behind the ACIP/AAP/AAFP schedule
- To delay vaccines is to put your child at risk
- Personal accounts of your patients who have suffered from vaccine-preventable disease
- Herd immunity is only as good as the herd you travel in

Vaccine Info Pick

California Immunization Coalition materials

http://immunizeca.org/documents/IMM-988.pdf

Alternative Vaccine Schedules:

Helping Parents Separate Fact From Fear

California Immunization Coalition

A Guide for Physicians

Parents want to keep their children safe and healthy. Questions about the recommended immunization schedule create an opportunity for you to listen and respond to requests for "alternative schedules," including the Dr. Bob Sears' schedule. Help empower parents to make an informed decision about vaccinating their kids. We offer these tips to assist practitioners to respond effectively and compassionately and to build trusting relationships with patients and parents.

▶CONCERN: CDC schedules seem generic; alternative schedules cater to individual needs

The immunization schedule exists to protect children at the age they are most vulnerable to each disease. Children are vaccinated as soon as they are developmentally able to create an effective immune response.

Explain: Alternative schedules are not custom-made. That's actually what doctors do. Doctors consider a patient's medical history and give the best advice for each child. Some medically-sensitive kids are also at high risk for diseases, making shots especially important.

***Ask**: Do you have specific concerns about your child's health? Let's talk about it.*

▶CONCERN: "Too many" vaccines, "too soon" could be harmful

Are there more vaccines now than 20 years ago? Yes—and that's a good thing. Newer vaccines save children from terrible diseases like Hib and Meningococcal disease. This devastating infection can cause organ failure, limb amputations, and brain damage. Postponing shots increases the time a child is defenseless. Recent outbreaks of measles and Hib tell us that postponing shots puts healthy kids at risk for diseases none of us thought would come back.

Explain: A baby's immune system can handle multiple shots with weakened or killed virus much better than it can fight off a serious disease. Postponing shots means your child could get sick and risk serious complications. It's obvious you want to protect your child, but alternative schedules take advantage of parents' worries; they're not based on science.

***Ask**: Which vaccines are causing you worry?*

On-time Vaccine Receipt in the First Year Does Not Adversely Affect Neuropsychological Outcomes

Michael J. Smith, MD, MSCE and Charles R. Woods, MD, MS

There were 556 children classified as untimely, and 491 children classified as timely. Of these, children who were classified as timely scored better on 31 of 42 neuropsychological measures (and equal on 2), than children who were classified as untimely. Of the results that were statistically significant in this analysis, timely children scored better on 11 out of 11 measures than children were classified as untimely.

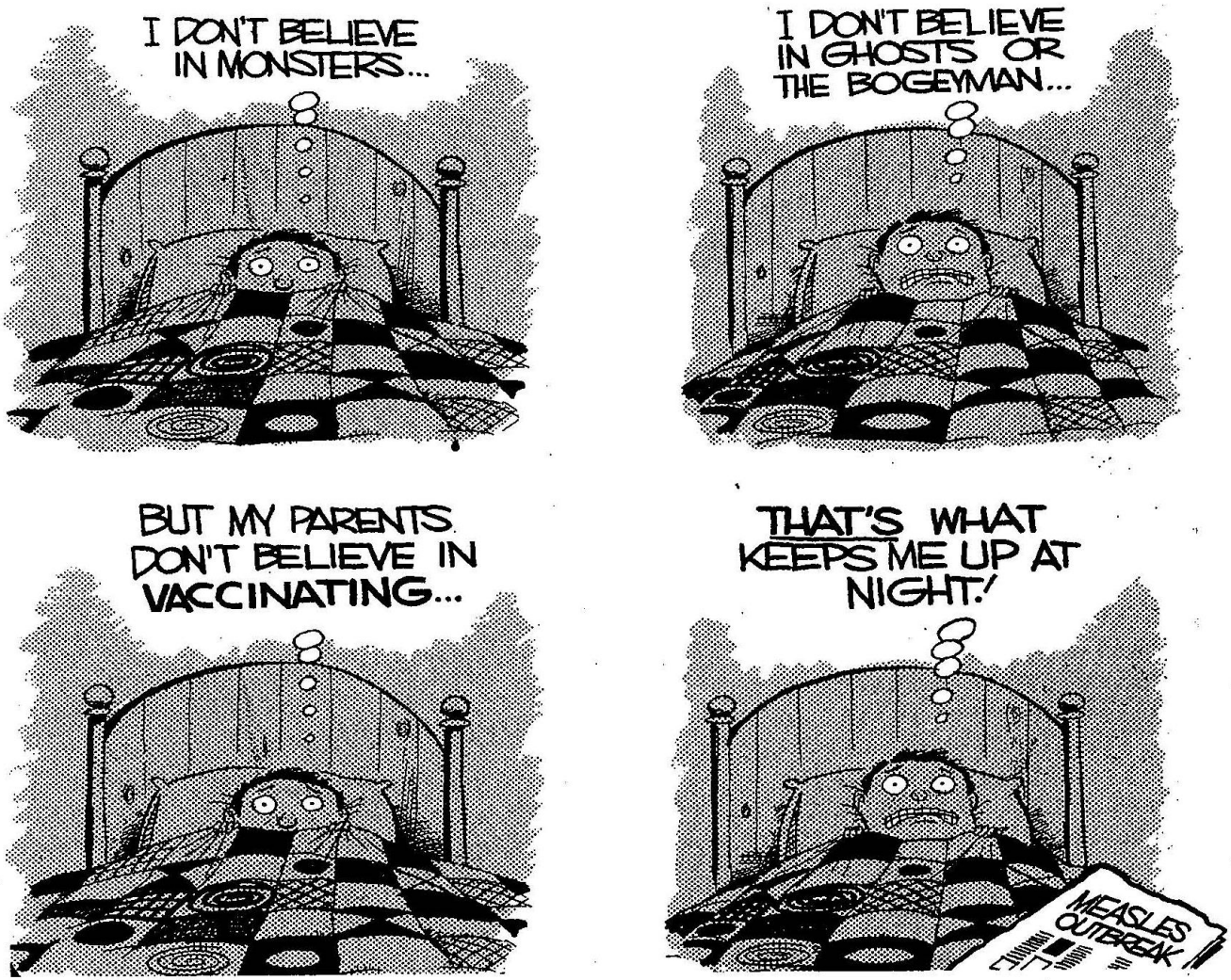
In conclusion, researchers found no evidence that receipt of all vaccines on time during infancy is associated with any undesirable neuropsychological outcomes. They recommend that communicating the information in this study may be helpful to vaccine-hesitant parents.

The full article is available at:

http://pediatrics.aappublications.org/cgi/content/full/125/4/704

Pediatrics Vol. 125 Issue 4 April 2010

Steve Breen THE SAN DIEGO UNION-TRIBUNE

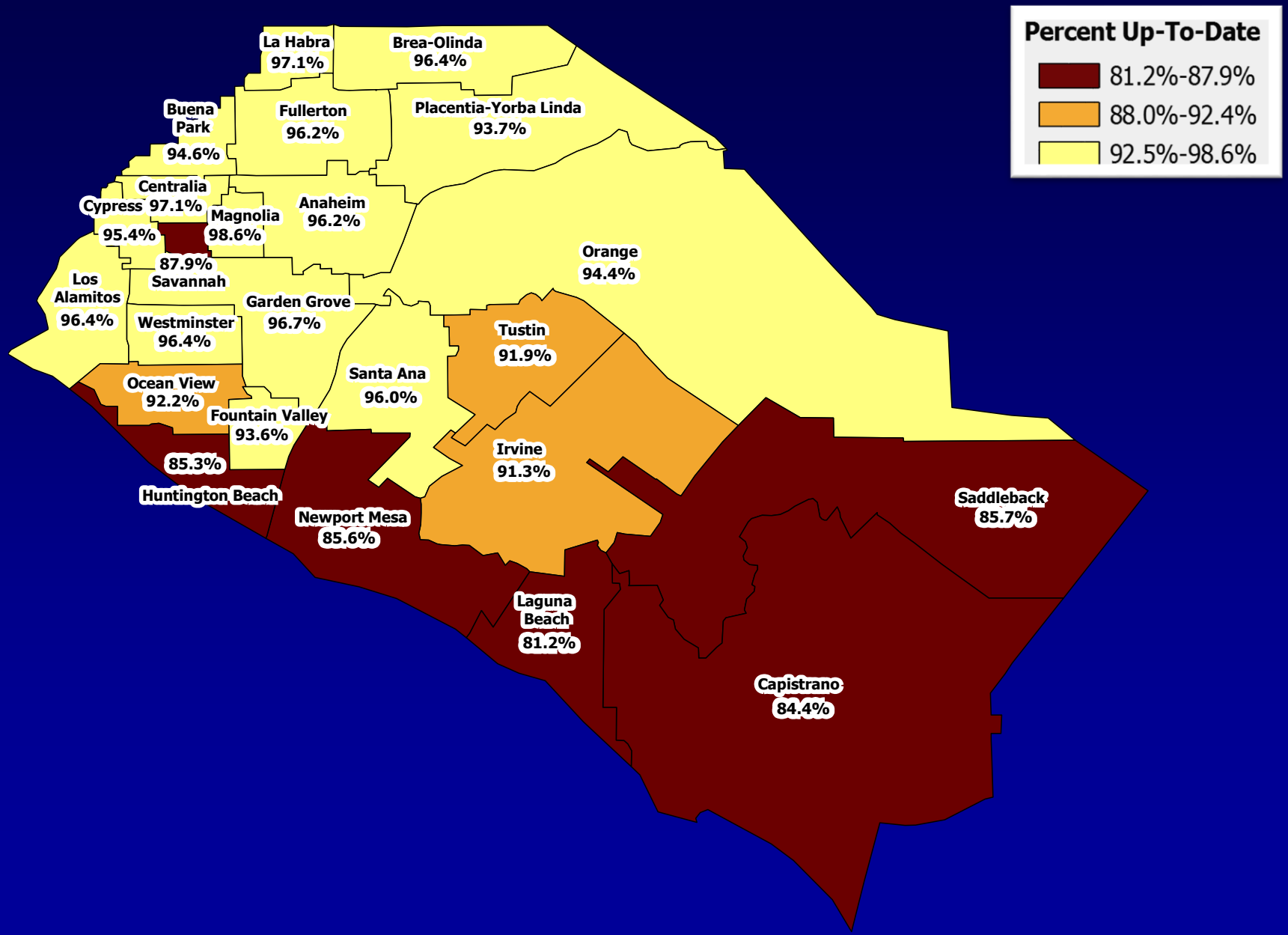


Vaccine Belief Spectrum

Acceptors	Vaccine-hesitant	Rejectors
Agree with or do not question vaccines	Are unsure about, delay, or choose only some vaccines	Completely reject vaccines
Children fully immunized	Children under-immunized	Children un-immunized
High trust in provider	Desire a trustworthy provider	Low trust in provider
Interest in vaccine information from child's provider	Interest in vaccine information from child's provider	No interest in vaccine information
70%	30%	<1%

Slide courtesy of Douglas J. Opel, MD, MPH
VICNetwork Webinar, February 29, 2012: http://www.vicnetwork.org/category/events/archived-webinars/

Up-to-Date Immunizations at Kindergarten Enrollment, Private and Public Schools Within Each School District, 2015-16.



Strategies with Parents

- Seek first to understand: Diagnose the Resistance
- Respond to concerns
- Show respect
- Adjust to parents' learning style while educating
- Tell personal stories

Theme 1: “I’m not anti-vaccine!”

Parents did not consider themselves to be “anti-vaccine” and some were insulted by that broad label. Many were vaccinated and were willing to vaccinate their older children; their concerns are with infant/younger children.

Theme 2: “Don’t give me a standardized schedule!”

- Parents emphasized the desire for “individualized” care—they felt that pediatricians should consider **each child's needs** when determining whether to administer vaccine or not.

Personal Research

- Participants placed a high value on personally understanding vaccines. They emphasized they did a lot of research, learning from friends, alternative health care providers, websites, and Dr. Sear's book.

Theme 3: Most denied seeing an autism–vaccine link!

- ONLY a small minority of parents believed there was a connection between vaccines and autism, and these were those who had personal experience with a child being diagnosed as autistic shortly after having had a vaccine or vaccines.

Factor: Number of Shots

- Parents worried about overwhelming the infant's immune system and the number of shots being administered.

Factor: Additives/Ingredients

Parents expressed concern over ingredients and their potential long-term effects:

"We are putting bacteria into his body and, honestly, with everything that's come up, the vaccines that are created now I don't feel are the same as they were back then, when there was more regulation and what not. I don't know for sure what's in the vaccines other than what they say what's in it. I don't know, if in fact, there's other contaminants, possibly outside of the thimerosal and formaldehyde."

-

Factor: Minimizing adverse reactions

- Participants noted concerns about their children's adverse reactions to vaccinations were brushed off or minimized. A Parent noted, *"I don't feel parents are equipped with what to do when this and that reaction happens right after you go home with a vaccine."*

Theme 4:
Low Risk of Disease

- It is worth repeating that the strongest consideration in the decision for most of the participants was what they perceived to be the low risk of their child contracting the vaccine-preventable illness.
- Most Parents indicated that if their perceived an increased risk , they would be open to vaccinating against particular illnesses:

  "If we went to Africa, we would all be vaccinated, you know, just because. Same thing with India. You know, we'd want to be careful with that…"

Factor:
Belief Vaccines are Not Effective

- In addition to concerns about the risks of vaccines, Parents also questioned vaccine efficacy. Participants varied as to which vaccines they considered necessary or important.

Theme 5: Lack of Trust

- Parents did not trust the information their pediatricians were giving them, feeling it was tainted by the vaccine/pharmaceutical industry.
- They felt physicians either blindly followed vaccination schedules or were motivated financially to promote vaccines.

Closer look at trust issues: "one-sided"

- Parents thought information from doctors was one-sided. Many thought this was due to pharmaceutical companies multi-million dollar influence.

  "They put so much emphasis on like, oh vaccines are so great… they never even say, like here's the side effects. They don't give you both sides of the equation. Always, it's just the one-sided argument. It's always, you just have to do this, here's what you need to do, they need it for school. They… never give me the alternatives."

- Parents thought that doctors disputed the parents "experts" even when they had not become familiar with them.

"***I've never met a doctor yet who has actually read Dr. Sears vaccine book, even though it's one of the best sellers…. Why aren't our doctors reading these books? If there was one thing I wish I could have an educated conversation with the doctor."***

Things to think about…

- Participants conveyed their perceptions that they were not anti-vaccine, but rather that they were "educated and informed" about what was best for their individual child.
- As hard as it is for those who believe vaccination is an essential part of protecting one's child, participants in these groups came across as loving parents, who if anything were hyper-vigilant in their desire to keep their children healthy.

- Parents offered complex reasoning behind decisions to delay, or forgo vaccination for their children. It rarely appeared to be as simple as a perceived autism/vaccine link!
- The attitudes, beliefs and concerns conveyed by these Parents provide an opportunity for further research and training of pediatricians and other healthcare providers to address parents' issues and concerns, and to dispel parents' misconceptions about vaccines and vaccine preventable illnesses.

2015 Measles Outbreak

- The recent measles outbreak in California has focused public attention on the issue of nonmedical exemptions to school entry immunization requirements.
- 189 total cases in the US with a majority of those in individuals who are unvaccinated
- The outbreak is driving calls from the public for more rigorous immunization laws.

Legislation

- In response to the outbreak, Richard Pan, M.D., a Sacramento pediatrician and member of the California Senate, introduced legislation to repeal the nonmedical exemption to school entry immunization requirements, and permit only medical contraindication.
- California joined Mississippi and West Virginia with similar policies.

Public Opinion

- A public opinion poll by the Pew Research Center conducted 8/14, supported requiring immunizations for school entry by at least a 2-1 margin
- A 6/14 national poll found similar sentiment among parents in support of child care policies requiring immunization, and that parents should be informed when children at their child care center are not up-to-date on vaccines
- Newspaper opinion pages across the country have also called on state policymakers to repeal or restrict nonmedical exemptions.
- Additionally, proposed state legislation that would have *expanded* nonmedical exemptions in Mississippi, Montana, and West Virginia have been abandoned for the year.

Public Opinion
HealthDay/ Harris Poll 3/12/15 (n=2000+)

- 87% feel vaccines are safe (7/14 = 77%)
- 82% feel childhood vaccinations should be mandatory (77%)
- 79% agree that an unvaccinated child has a risk of acquiring a VPD
- 69% say a child contracting a VPD such as measles would present at least a moderate danger to other children, (64%)
- 77 % believe that parents who don't want their children vaccinated should be required to get a doctor's certificate
- 72% feel that these children should not be allowed to attend school.
- However, 32% of parents with children <6 y believe there is a moderate chance that vaccinations may cause autism
- 24% believe there is scientific research to show this

Vaccine Exemptions

- Nonmedical exemption policies exacerbate health disparities and shift the burden of vaccine preventable disease to vulnerable populations
  - ✓ infants too young to be immunized,
  - ✓ poor and disadvantaged children with unequal or inconsistent access to care,
  - ✓ children and adults who cannot be immunized due to compromised health status.

Vaccine Exemptions

- Nonmedical exemption policies pose a threat to state economies as well. With the California outbreak traced to a major tourist attraction, state governments have an interest in acting to strengthen consumer confidence, as well as to limit the direct economic costs associated with outbreak response and control.
- In 2011, a multistate measles outbreak of just 107 cases cost the public between $2.7 million to $5.3 million in total economic costs, according to a March 2014 study published in the journal *Vaccine*.

Information for Health-Care Professionals

NNII (www.immunizationinfo.org)

VEC (www.vaccine.chop.edu)

IAC (www.immunize.org)

CDC/NIP (www.cdc.gov/nip)

AAP (www.aap.org)

AAFP (www.aafp.org/)

IVS (www.vaccinesafety.edu)

Vaccine Page (www.vaccines.org)

Every Child by Two (www.ecbt.org)