Advocating for Policies to Restore Community Immunity

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Disclosure

Neither I nor my immediate family members have a personal financial relationship with a manufacturer of pharmaceutical products or services that will be discussed in this presentation.
Learning Objectives

- Describe the role of parents and coalitions in changing public policy around immunizations.
- Explain how experts (health and public health professionals) and parents work together to communicate immunization policy.
- Identify successful strategies to restore and maintain community immunity.
PHILADELPHIA (WPVI) -- In the early months of 1991, the nation was preoccupied with the Persian Gulf War, as the United States chased Iraqi dictator Saddam Hussein from his dream of annexing Kuwait.

In Philadelphia, health and school officials were locked in battle too - against a major measles outbreak, and the deep religious convictions which fueled the spread of the virus.
Measles Elimination in the United States

Melinda E. Wharton

*The Journal of Infectious Diseases, Volume 189, Issue Supplement_1, 1 May 2004, Pages S1–S3, https://doi.org/10.1086/377693

Published: 01 May 2004
Measles Cases in 2019

From January 1 to August 1, 2019, 1,172** individual cases of measles have been confirmed in 30 states. This is an increase of 8 cases from the previous week. This is the greatest number of cases reported in the U.S. since 1992 and since measles was declared eliminated in 2000.

- Measles can cause serious complications. As of August 1, 2019, 124 of the people who got measles this year were hospitalized, and 64 reported having complications, including pneumonia and encephalitis.
- The majority of cases are among people who were not vaccinated against measles.
- More than 75% of the cases this year are linked to outbreaks in New York and New York City. Measles is more likely to spread and cause outbreaks in U.S. communities where groups of people are unvaccinated.
- All measles cases this year have been caused by measles wild-type D8 or B3.
Vaccine Refusals Fueled California’s Whooping Cough Epidemic

September 30, 2013 · 9:57 AM ET

When the whooping cough vaccine was invented in the 1940s, doctors thought they had finally licked the illness, which is especially dangerous for babies. But then it came roaring back.

In 2010, a whooping cough outbreak in California sickened 9,120 people, more than in any year since 1947. Ten infants died; babies are too young to be vaccinated.

Public health officials suspected that the increased numbers of parents who refused to vaccinate their children played a role, but they couldn’t be sure.

Vaccine refusal was indeed a factor, researchers now say. They compared the location and number of whooping cough, or pertussis, cases in that outbreak with the personal belief exemptions filed by parents who chose not to vaccinate for reasons other than a child’s health. (Some children with compromised immune systems aren’t able to be vaccinated.)
Fig 2. Heat map of county-level NME rates in 2016 to 2017.

https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1002578
Policy change is effective
Restoring Community Immunity

- Set policy goal
- Messages
- Messengers
- Stay focused
- Build coalitions
- Organize
Set Policy Goal


SB276 (2019): reduce and deter inappropriate MEs eroding community immunity.
Messages

• Vaccines are safe and effective.
• Keep children safe at school.
• All children deserve to be safe at school, especially children who cannot be vaccinated.
• We need community immunity.
• Protect the freedom of parents to go to schools and other public spaces safely with their babies and other children.
• Families have the right to go about their community safely.
City: Anaheim, CA

This is a simulation of a measles outbreak assuming vaccination coverage of 80% school-age children. If more than a few cases appear, herd immunity has been lost.

This is a simulation of a measles outbreak assuming vaccination coverage of 95% of school-age children. If very few cases appear, herd immunity is intact.

Measles in Orange County, CA
Coverage = 80%
Day 238

Measles in Orange County, CA
Coverage = 95%
Day 238

https://fred.publichealth.pitt.edu/measles
Vaccine Phobia in California

By THE EDITORIAL BOARD  APRIL 20, 2015

California is in the midst of a dispute between parents who want to exempt their children from some or all of the vaccinations required for admission to public and private schools and a medical establishment that believes, with good reason, that vaccines can protect the students from the harm caused by infectious diseases and reduce the risk of transmitting the diseases from schools to the broader community.

A sensible bill pending in the Legislature would eliminate exemptions based on a parent’s “personal belief” that the vaccines might harm a child and allow exemptions only for students with medical conditions that would make vaccination unsafe. Two other states — Mississippi and West Virginia — limit exemptions to medical necessity, but California would become the largest by far if the bill is enacted. It is a trend that should be encouraged.
Messengers

Parents

• Should be the chief spokespeople for vaccination bills.
• Share personal stories
• Particularly identify families of vulnerable children and children affected by vaccine-preventable diseases.
• Need organizational support and funding.
Messengers

Experts

• Support parents.
• Gives credibility.
• Provide data and research to policymakers and media.
• Debunk misinformation.
Stay Focused
4 Every Kid Afflicted A Public Figure will DIE
SB277
ANTI-VAXXERS ARE USING TWITTER TO MANIPULATE A VACCINE BILL
Weaponized Health Communication: Twitter Bots and Russian Trolls Amplify the Vaccine Debate

David A. Broniatowski, PhD, Amelia M. Jamison, MAA, MPH, SiHua Qi, SM, Lulwah AlKulaib, SM, Tao Chen, PhD, Adrian Benton, MS, Sandra C. Quinn, PhD, and Mark Dredze, PhD

Objectives. To understand how Twitter bots and trolls (“bots”) promote online health content.

Methods. We compared bots’ to average users’ rates of vaccine-relevant messages, which we collected online from July 2014 through September 2017. We estimated the likelihood that users were bots, comparing proportions of polarized and antivaccine tweets across user types. We conducted a content analysis of a Twitter hashtag associated with Russian troll activity.

Results. Compared with average users, Russian trolls ($\chi^2(1)=102.0; P<.001$), sophisticated bots ($\chi^2(1)=28.6; P<.001$), and “content polluters” ($\chi^2(1)=7.0; P<.001$) tweeted about vaccination at higher rates. Whereas content polluters posted more antivaccine content ($\chi^2(1)=11.18; P<.001$), Russian trolls amplified both sides. Unidentifiable accounts were more polarized ($\chi^2(1)=12.1; P<.001$) and antivaccine ($\chi^2(1)=35.9; P<.001$). Analysis of the Russian troll hashtag showed that its messages were more political and divisive.

Conclusions. Whereas bots that spread malware and unsolicited content disseminated antivaccine messages, Russian trolls promoted discord. Accounts masquerading as legitimate users create false equivalency, eroding public consensus on vaccination.

“Vaccines are safe and effective.”

Be Clear
Be Confident
Be Credible
Build Coalitions
IMMUNIZATIONS SAVE LIVES

Non-medical exemptions to immunizations can put entire communities at risk of dangerous, costly outbreaks

Vaccines are among the most effective means of preventing infectious diseases. Federal and professional guidelines recommend childhood, adolescent and adult immunizations to protect against a wide range of viral and bacterial infections whose consequences can include disease, permanent disabilities and death.

Public participation in immunization programs is critical to their effectiveness. “Herd immunity” depends on a high percentage of all people being vaccinated to prevent the spread of disease. This community-level immunity then helps protect individuals who cannot be immunized, such as newborns too young for certain vaccines or people with cancer or other conditions that weaken their immune systems.

Outbreaks of infectious diseases can have serious medical consequences. Rubella can cause stillbirth, miscarriage, or severe birth defects. Measles is so contagious that 90% of unprotected people exposed to the virus will get sick. Before widespread measles immunization, 3 to 4 million people got measles each year in the U.S. Pregnant women and infants and children under the age of five years are at high risk for severe illness and complications of measles.

Infectious disease outbreaks are also costly. Public health officials may spend millions of dollars tracking down those exposed and offering immunizations. In 2011 alone, the public health cost of addressing dozens of measles outbreaks across the U.S. was estimated at $2.7 to $5.3 million.

Non-Medical Exemptions to Immunization Should Be Eliminated

HIGHLIGHTS

- Vaccines are a safe, effective way to prevent dangerous infectious diseases.
- Herd immunity relies on a high percentage of people being immunized to prevent disease from spreading.
- Non-medical exemptions from immunization can result in loss of herd immunity in some communities, allowing disease to spread more readily.
- Outbreaks of highly infectious diseases like measles illustrate the need for all eligible people to be fully vaccinated on time.
- Public health agencies can spend millions of dollars in a single year addressing outbreaks.

Vaccines, Preventable Diseases and Children’s Health: A Call to Action

By Marian Wright Edelman

I’ve never forgotten the sadness of the senseless death of my childhood neighbor little Johnny Harrington, who lived three houses down from our church parsonage in segregated Bernatnsville, South Carolina. Johnny stepped on a rusted nail and died of the resulting tetanus infection because his hard-working grandmother had no doctor to advise her nor the money to pay for health care.

Yet in 2019 headlines like “New U.S. measles cases break 25-year-old record” are creating fear and worry, especially among parents. How can it be that we are seeing more and more outbreaks of a disease declared eliminated in the United States nearly two decades ago? The answer involves a web of linked factors: the spread of misinformation and falsehoods by a small but vocal number of vaccine opponents, gaps in vaccination coverage, and a national and global increase in outbreaks of vaccine preventable diseases (VPDs). The U.S. has already recorded well over 1,000 cases of measles this year—most of them occurring in children. As we explain in a new brief, this growing crisis is putting our children at risk and must be stopped.

The facts are simple: Vaccines are safe. They are highly effective. They are supported by every major American medical society and government agency and are a routine part of pediatric care. Yet the growing number of VPD outbreaks suggests more must be done to support immunization and halt the spread of serious—and potentially deadly—diseases. The bottom line is that stop the spread of measles and other serious diseases, parents must have access to factual information from trusted sources to combat fraudulent information spread by the anti-vaccination movement in the U.S. and around the world. To ensure that parents are equipped with the facts, health care providers, educators, children’s groups, policymakers and faith leaders must be vocal advocates for vaccinations, and policies must support vaccination and limit exemptions only to those with legitimate medical reasons.
The American Medical Association, the country’s largest association of physicians, is weighing in on the vaccination debate by supporting the end of personal vaccination exemptions on both the state and federal levels.

Routine childhood immunizations against infectious diseases are an integral part of our public health infrastructure. They provide direct protection to the immunized individual and indirect protection to children and adults unable to be immunized via the effect of community immunity. All 50 states, the District of Columbia, and Puerto Rico have regulations requiring proof of immunization for child care and school attendance as a public health strategy to protect children in these settings and to secondarily serve as a mechanism to promote timely immunization of children by their caregivers. Although all states and the District of Columbia have mechanisms to exempt school attendees from specific immunization requirements for medical reasons, the majority also have a heterogeneous collection of regulations and laws that allow nonmedical exemptions from childhood immunizations otherwise required for child care and school attendance. The American Academy of Pediatrics (AAP) supports regulations and laws requiring certification of immunization to attend child care and school as a sound means of providing a safe environment for attendees and employees of these settings. The AAP also supports medically indicated exemptions to specific immunizations as determined for each individual child. The AAP views nonmedical exemptions to school-required immunizations as inappropriate for individual, public health, and ethical reasons and advocates for their elimination.
Hundreds of People At 2 LA Universities Quarantined Because Of Measles Exposure

April 26, 2019 - 3:07 AM ET

MATTHEW S. SCHWARTZ

NATIONAL

A student enters Boelter Hall at University of California, Los Angeles on Thursday. Hundreds of students and staff at two Los Angeles universities, including UCLA, have been placed under quarantine because they may have been exposed to measles and either have not been vaccinated or cannot verify that they are immune, officials said Thursday.

Updated at 6:23 p.m. ET

Hundreds of students and faculty at two universities in Los Angeles have been asked to stay home unless they can prove that they've been vaccinated against measles.

This outbreak goes way beyond the 70 cases. If measles is diagnosed in a school, anyone — student or teacher — who does not have proof of vaccination is kept out. Students are struggling to keep up at home, parents are juggling child care and teachers have to shift duties.
OLYMPIA, Wash. (AP) — The cost of Washington’s measles outbreak has surpassed $1 million as more than 200 health-department staffers from the state and Clark County focus their efforts on the disease.

As of Tuesday, there were 63 confirmed cases of measles in Clark County, 44 of which were in children under 10 years old, according to the county’s Public Health department, which is also investigating one suspected case. There is also a single case reported in King County, bringing the statewide total to 64, according to the state Department of Health (DOH).

DOH has spent approximately $614,000 on staff and supplies as of Tuesday, in addition to about $150,000 in other non-budgeted expenditures, according to state epidemiologist Dr. Scott Lindquist, who expects the total response to eventually cost the state “well over a million dollars.”

Meanwhile, Clark County Public Health has spent about $500,000 responding to the measles outbreak, bringing the statewide total over $1 million, says Dr. Alan Melnick, the county’s public health director.

“This is taxpayer money for something that could have been completely, utterly preventable in the first place,” he told the Seattle Times.
MILLBRAE, Calif. (KGO) -- As many as 1,500 BART riders may have been exposed to measles when an infected San Mateo County resident rode BART from Millbrae to San Francisco’s Civic Center station last week, BART and San Mateo County health officials said on Thursday.

The patient boarded a Richmond-bound train at Millbrae at about 4:30 p.m. last Friday and exited at the Civic Center station at about 5 p.m., according to county health officials.

The trip was against the typical commute direction on a “very isolated line,” so the number of people potentially exposed to the disease was limited, BART spokeswoman Alicia Trost said.

“You might only have a dozen or so riders on one train car,” she said.

BART believes about 1,500 people got on board that Richmond-bound train during the hours of 4:30 p.m. and 7 p.m. last Friday.

VANCOUVER, Wash. — There are more than 30 locations across the metro area where people may have been exposed to the measles virus (FULL LIST BELOW).

Since January 1, Clark County Public Health has seen 22 confirmed cases of the infection and four other suspected cases.

Officials say that 19 of the cases involve people who were not immunized, and three patients who they cannot verify vaccination status.
Organize
Vaccinate California is a parent advocacy group working to improve public health in California by raising vaccination rates.

A handful of California doctors are abusing the medical exemption process to sell exemptions to parents to avoid vaccines. It's time to strengthen oversight of this process. Our children are at risk. Our communities are at risk. Tell your California legislators to support Senate Bill 276 and reshape the California exemption process and require state-level public health approval of all exemptions.
SB 276 properly protects community immunity by ensuring that the implementation of SB 277 (Pan, 2015) effectively brings up the vaccination rates in all CA neighborhoods. Since 2015, the use of medical exemptions has more than quadrupled, putting many communities below the required protective immunization level.

SB 276 develops a process for ensuring that only those who are truly immunocompromised, or who have a medical need, are granted a medical exemption.
“It's time for California legislators to act to end abuses to the vaccine medical exemption process. The rest of the country is watching.”

-Vaccinate California Co-founder Leah Russin

THE SACRAMENTO BEE  March 24, 2019

www.vaccinatecalifornia.org
June 13, 2019

Assembly Member Jim Wood, Chair
Assembly Committee on Health
State Capitol, Room 6005
Sacramento, California 95814

AAP-CA Position: CO-SPONSOR

Dear Assembly Member Wood:

The American Academy of Pediatrics, California (AAP-CA) representing the over 5000 board-certified pediatrician members of California AAP Chapters 1, 2, 3 and 4 statewide is proud to cosponsor SB 276 (Pan) to ensure that California is able to maintain adequate immunization rates to keep children and communities safe.

Given the highly contagious nature of diseases such as measles, vaccination rates of at least 95% are necessary to preserve what is called “community immunity” and prevent future outbreaks. Yet in pockets of California, medical exemption rates for immunizations are as high as 50%, placing those communities at risk for a resurgence of preventable diseases; when the threshold of immunity gets too low, we all become more vulnerable to diseases. In all of 2018, per the Centers for Disease Control, 21 people contracted measles in California. So far, less than half way into 2019 there have already been a near-equal number of reported confirmed measles cases (17). If left unchecked, we will undoubtedly see the number of cases and outbreaks continue to rise.

SB 276 would create a partnership between state public health, schools and doctors to help keep children safe at school and to protect vulnerable community members, including babies too young to be immunized and people who are immunocompromised, from the risks associated with contracting these diseases. It would also protect the community at large from outbreaks of vaccine-preventable disease.
Vaccination Policy Advocacy

Set policy goal
Messages
Messengers
Stay focused
Build coalitions
Organize
The Vaccine Safety Net is a global network of websites, established by the World Health Organization, that provides reliable information on vaccine safety.

Due to the success of immunization, some diseases are no longer perceived as a threat. Certain groups have even questioned the utility of vaccination in spite of its proven success in controlling disease. In recent years, a number of websites providing unbalanced, misleading and alarming vaccine safety information have been established, which can lead to undue fears, particularly among parents and patients.

Acknowledging the above-mentioned issues and urged by governments, key non-governmental organizations and the United Nations Children’s Fund (UNICEF), WHO initiated, in 2003, the Vaccine Safety Net Project (VSN).

The VSN is a network of a diverse group of digital information resources (websites and social media), VSN members, located in countries around the world and providing scientifically based information on vaccine safety in various languages.

A key player in the Project is the Global Advisory Committee on Vaccine Safety (GACVS), established by WHO in 1999, to respond promptly, efficiently, and with scientific rigour to vaccine safety issues of potential global importance. See GACVS webpage

At the outset of the Project, GACVS developed three categories of criteria for good information practices – regarding credibility, content, accessibility and design to which digital resources providing information on vaccine safety should adhere. WHO evaluates those electronic resources for their adherence to these criteria.
Childhood Immunization Resources

Promote childhood immunization in your community or among your members with our resources that stress the importance and benefits of childhood vaccines. For more information about childhood immunization communication resources, drop us a note at: childhoodvaccines@cdc.gov.

Observances and Toolkits

Multimedia Products for Parents

Drop-In Articles and Web Features

Flyers and Posters

Spanish Materials for Parents

Resources for Professionals

Childhood Immunization Coverage

Preteen & Teen Immunization Resources

Adult Immunization Resources

Maternal Immunization Resources

Influenza (Flu) Immunization Resources

Page last reviewed: November 15, 2016

Content source: National Center for Immunization and Respiratory Diseases
Vaccines Protect Communities

What is Community Immunity?

Diseases can travel quickly through a community and make a lot of people sick. However, when enough people are vaccinated against a certain disease, the germs can’t travel as easily from person to person, and the entire community is less likely to get the disease. This is known as “community immunity,” “herd immunity” or “community protection.”

The levels of vaccination rates needed to protect communities from diseases vary based on several factors, including how infectious each diseases is and how well the vaccine works. As a society, it is important to work together to protect one another from deadly diseases. The more people who are vaccinated, the fewer opportunities a disease has to spread. By maintaining high vaccination rates we not only protect ourselves, but we also protect vulnerable infants who are not fully vaccinated yet and people of all ages with weakened or failing immune systems.

If we stopped vaccinating, the limited number of vaccine-preventable disease cases we have in the United States could very quickly become tens or hundreds of thousands of cases.
IN EARLY 2019. Sen. Ervin Yen, an anaesthesiologist who became Oklahoma’s first Asian American state legislator, introduced a bill to require all schoolchildren to be vaccinated, unless they had a medical reason not to. California had recently debuted similar legislation after an outbreak of measles in Disneyland sickened 147 people and led to the quarantine of more than 500 others. At the time, California’s vaccination rates were below the 94 percent threshold needed to establish community immunity for measles. Oklahoma’s vaccination rates were even lower than California’s. Yen, a moderate Republican, felt like he had to do something.

"They should be allowed to have the measles if they want the measles," Del Bigtree told reporters outside an anti-vaccine forum in Brooklyn earlier this month geared to the ultra-Orthodox Jewish community.

(Yana Paskova/For The Washington Post)

By Lena H. Sun and Amy Brittain
June 19

A wealthy Manhattan couple has emerged as significant financiers of the anti-vaccine movement, contributing more than $3 million in recent years to groups that stoke fears about immunizations online and at live events — including two forums this year at the epicenter of measles outbreaks in New York’s ultra-Orthodox Jewish community.

Hedge fund manager and philanthropist Bernard Selz and his wife, Lisa, have long donated to organizations focused on the arts, culture, education and the environment. But seven years ago, their private foundation embraced a very different cause: groups that question the safety and effectiveness of vaccines.
Vaccines are **safe and effective** at preventing serious diseases.

**National Immunization Awareness Month**
Thank you!

Questions?

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#VaccinesWork #Ivax2protect
#CommunityImmunity