Belief exemptions lead to outbreaks of vaccine-preventable diseases

In 2008 and continuing through 2009 there were many outbreaks of vaccine-preventable diseases among children who were not immunized because of their parents’ religious or personal beliefs.

In January, 2008, San Diego had its first measles outbreak since 1991. It began with a child who was infected in Switzerland and then returned to spread the disease to his siblings and classmates.

Among other places the disease spread through a Whole Foods market, which sells many naturopathic products, and through the San Diego Cooperative Charter School, where 9.6% of the students had personal belief exemptions from immunization.1

Four babies too young to be vaccinated contracted measles. One had to be hospitalized for two days. Another traveled by plane to Hawaii, which meant that health officials had to locate 250 people who could have been exposed to the disease by the baby.

All of the twelve children confirmed with measles were unvaccinated, either because of their parents’ beliefs or because they were too young.

Seventy children had to be quarantined for two weeks or more and their health “continuously monitored by the County Public Health staff.” In many cases the children were quarantined not because of their parents’ beliefs but because they had been exposed to measles and were too young to be vaccinated or were medically fragile.2

In Sonoma County, California, 22% of the children have not been vaccinated by age 35 months. Homeopaths, naturopaths, and chiropractors in the county disparage vaccination and are the providers that many parents choose for their children.3

Waldorf promotes “natural exposure”

The East Bay Waldorf School in Contra Costa County, California, had to close in May when sixteen students were diagnosed with pertussis, and many more were likely infected.

The Waldorf schools provide education based on anthroposophy, a spiritual philosophy developed by Rudolph Steiner. One of its beliefs is that natural exposure to disease is the proper way to develop immunity to them.

So instead of requiring that students get immunized, the school required them to show proof that

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they were on antibiotics before returning to school when it reopened.  

Today 10,000 institutions operate on the basis of the philosophy of the Anthroposophical Society in Switzerland. Included in that number are 900 Waldorf schools in 83 countries. The organization has been called “the most important esoteric society in European history.”

**Divine healing spreads measles**

In April Washington State had nineteen measles cases. Sixteen of the cases were school-aged children, and all sixteen had belief exemptions from vaccination. Several children appear to have contracted measles while attending the Generations Church conference in Kirkland. The church believes in “healing of the body by Divine Power, or Divine healing in its varied aspects as practiced in the Early Church.”

Northwest suburban Chicago had eleven cases of measles in May and June, more than in the past thirteen years combined. All eleven cases were among unvaccinated home-schooled children. During those same months DuPage County, Illinois, had fourteen measles cases. Thirteen were among home-schooled children who were unvaccinated because of their parents’ beliefs. Their vaccination status became known to authorities only after they were infected. Illinois does not keep records on the vaccination status of home-schooled children.

Winnebago County, Illinois, had 50 cases of pertussis in 2008 compared to only one case in 2007. The index patient was a student with a religious exemption from vaccination who infected 26 other students at a private school with a high number of religious exemptions.

**Objectors paid to explain beliefs**

The U.S. National Vaccine Program recently paid parents $50 each in three cities to come to meetings and explain their beliefs against immunizations. One city chosen was Ashland, Oregon, where 67% of the students at the Waldorf school have religious exemptions and 28% of all Ashland schoolchildren have them.

In 2008 the U.S. had 140 cases of measles. Of the 127 U.S. residents who got measles, 67 were unvaccinated because of personal or religious beliefs, 17 were babies too young to be vaccinated, and 32 were unvaccinated for unknown reasons or their vaccination status was unknown. Only seven of the 127 had received the recommended two doses of the measles-mumps-rubella (MMR) vaccine; another four had had one dose.

**99% reduction, then deadly Hib diseases return**

*Haemophilus influenzae* bacterial diseases have also recurred. Before a vaccine was developed, Hib diseases afflicted 20,000 U.S. children under five years old with life-threatening invasive diseases such as meningitis, pneumonia, or blood poisoning every year.

Although antibiotics saved lives in most cases, there were still around a thousand children who died of H-flu meningitis each year and many more left with some degree of brain damage.

The vaccine introduced in 1985 reduced the incidence of Hib diseases by 99% and deaths to about ten a year.

**Four deaths: parents’ beliefs kept kids unimmunized**

In 2008 Minnesota had five cases of Hib disease including one death. Three of the children, including the seven-month-old baby who died, were unvaccinated because of their parents’ personal beliefs. Another child was too young to have completed the series of shots, and a fifth had an immune-compromising disorder.

As of this writing, Pennsylvania has had seven cases of Hib disease, including three deaths between August, 2008, and March, 2009. Six of the children had received no doses of Hib vaccine; the seventh child had received only one. Philadelphia had two of the deaths, and they occurred in denominations strongly opposed to medical treatment. The Philadelphia Department of Health has vaccinated surviving siblings in these families, but had to threaten to go to court before the families allowed it.

**Amish cases**

Four of the unvaccinated children who contracted Hib disease and survived are believed to be Amish children in Lancaster and Perry Counties. Amish theology does not, to our knowledge, oppose medical treatment, but many Amish people prefer folk remedies. Vaccination rates are very low in many Amish communities.
Vaccine causes 99% drop in measles

Vaccines have likely saved more lives at lower cost than any other development in the history of medicine. In the decade before the measles vaccine was introduced, more than 3,000,000 Americans got measles each year, 400-500 died, 48,000 were hospitalized, and 1,000 were left brain-damaged with encephalitis.

The vaccine reduced the incidence of measles by 99%.15

Only means of prevention: vaccine

The measles virus is a highly contagious airborne virus, and it requires nearly 100% vaccination rates to be sure of preventing it in a given community. Furthermore, the signs of measles are not apparent until ten days or more after infection when the disease has likely spread to others already.

My husband and I used to live across the street from a couple whose son got measles and then encephalitis in the pre-vaccine era. The brain damage robbed him of more each year until he had to be put in an institution. He died about ten years after getting measles. Their memories were heart-rending.

Needless to say we have strong feelings about parents who deprive their children of immunization against Hib disease. We watched our son die of H-flu meningitis and Christian Science in 1977. It is a terrible disease, and no reasonable parent could think a child with it “just had the flu” as some faith-healers claim.

MMR vaccine-autism link disproven

It seems, however, that an increasing number of parents are refusing to immunize. A main factor is fear that the MMR vaccine causes autism. The controversy began with a British doctor’s article claiming such a link. The journal that published it later denounced the findings, the doctor’s financial connections to litigants planning to sue the vaccine manufacturer eventually came to light, and many well-designed studies have discredited a connection.16

Big outbreaks in UK

Nevertheless, immunization rates fell sharply in Britain, and measles cases skyrocketed. England and Wales, with a population of 54 million, had over 1348 measles cases in 2008 and 990 in 2007.

By comparison the United States, with a population of 300 million, had 140 measles cases in 2008 and only 42 in 2007.17

Measles kills and maims medically fragile kids

In one southside London borough fewer than 30% of children have had two doses of the MMR vaccine. Sadly, two UK teenagers have died of measles complications in the past three years. In 2004 two southside London boys were permanently disabled by measles complications. One is blind and paralyzed; his friend is partially paralyzed and speech-impaired. All four youths had medical problems that prevented them from being vaccinated. They were dependent on the society around them for protection. In Ireland three babies died from measles in 2000; perhaps all of them were too young to be vaccinated.18

Another factor in opposition to immunizations is lack of respect for or understanding of the scientific method. Many think they can make a better decision on immunizations for their child than the government or the medical profession can. They do their “own research” by reading anti-vaccine webpages.

Many come to beliefs that are as impervious to reason and information as religious beliefs against immunization: naturally-acquired immunity is superior to vaccine-induced immunity, the high number of vaccines given to pre-schoolers overloads and damages children, vaccines contain deadly neurotoxins like mercury, etc.

Chickenpox parties

The desire for naturally-acquired immunity in lieu of vaccination has led to hundreds of “chickenpox parties” around the country. Parents scan the internet for a party and then drive their preschoolers sometimes for hours to get to one. They order their children to play with a child they’ve never seen before, cough without covering their mouths, and often to suck on a lollipop or drink from a cup that the sick child is using. Sometimes they send a sick child’s pajamas by overnight express to a parent who wants her child to get chickenpox.19

Ironically, although chickenpox is highly contagious, it is not always contagious by the time children arrive for a party. One mother reported taking her daughter to six chickenpox parties and
still the child did not get the disease.20

Before the varicella vaccine was licensed in 1995 to prevent chickenpox, the U.S. had four million cases of chickenpox each year with 11,000 hospitalizations and 100 deaths due to the disease.

By 2004 the incidence of chickenpox in the U.S. had fallen by 83% to 93%, saving millions of dollars in costs for medical care and lost productivity.

All beliefs qualify for exemption

The percentage of schoolchildren with non-medical exemptions is increasing in the states that allow exemptions for secular beliefs as well as religious beliefs. Furthermore, some states that allow only religious exemptions define religion so loosely that anyone can use them. For example, Oregon defines a religion as “any system of beliefs, practices or ethical values.” A parent signs a form stating that s/he is raising the child in a religion opposed to vaccination and is given an exemption.21

It is difficult, however, for state lawmakers to be specific about whose religious beliefs qualify for an exemption. The U.S. constitution prohibits the government from giving privileges to certain religions and not others. Courts have ruled unconstitutional state laws that require the parent getting an exemption to be a church member or affiliated with a “recognized” religion.22

Pertussis increase linked to belief exemptions

In the Journal of the American Medical Association (JAMA), Saad Omer et al. rated the 50 states on how difficult each made it to obtain a non-medical exemption from immunizations considering both the allowance for personal belief exemptions in addition to strictly religious exemptions and whether administrative requirements, such as notarization or an essay by the parents, were in place.23

The authors found that states allowing personal belief exemptions in addition to religious ones had more than twice the rate of pertussis from 1986 to 2004 as states that had only religious exemptions. And states with “easy” procedures for granting exemptions had a 90% higher incidence of pertussis from 1986 to 2004 than states with “difficult” procedures. Exemption rates for personal beliefs are increasing rapidly while rates for strictly religious beliefs are generally static.24

Hurdles for Univ. of Google parents

Medical organizations seem to have given up on challenging the religious exemptions in 48 states, but strongly oppose bills to give exemptions for other belief systems.25

Some writers recommend that states make it more difficult to get an exemption than to get a child immunized. That sounds literally impossible, but states can at least require parents to get their exemption applications notarized, to complete a new application each year, and to write essays explaining their belief system.

Unfortunately recent increased opposition to immunization is coming from better educated and more affluent parents who have time and resources to drive their toddlers to chickenpox parties and “get degrees from the University of Google,” as one frustrated physician said. Essays and notarization may not be much of a hurdle to these determined vaccine opponents.

Mississippi is best

Although Omer and co-authors oppose only the secular belief exemptions, we can’t help but notice that Mississippi, which does not allow any religious or philosophical exemptions, has the very lowest rate of pertussis in their 50-state survey. West Virginia—the other state that prohibits all non-medical exemptions—has the sixth lowest rate of pertussis. Those two states have high rates of poverty, but very low rates of a vaccine-preventable disease.26

Wealthiest countries have most exemptors

The pattern is repeated in Europe, where the percentage of measles cases in Western Europe as
compared to impoverished countries in Eastern Europe has increased dramatically. In 2005-2006 only 6% of the measles cases in the European Region were in Western Europe, but in 2008, 95% of the European Region’s measles cases were in Western Europe.27

The Centers for Disease Control report, “Belief systems have become the principal barrier to vaccinating children in Western Europe, resulting in decreased [measles vaccine] coverage in many countries. Certain groups are rejecting vaccination because of philosophic or religious beliefs. In addition, certain parents, influenced by antivaccine movements and negative media reports, are choosing not to vaccinate their children or delay vaccination because of safety concerns.”28

Europe’s deadly export

Sadly, Western Europe also exports measles to developing countries, where it is much deadlier because of malnutrition, chronic illnesses, and poor access to health care. In 2002 Latin America was declared free of measles, but later measles came in from Western Europe.29

Exemptions increase risk to all children

Parents who refuse to vaccinate their children on religious grounds often dismiss the burden they place on others. If the vaccines really prevent disease, they argue, then unvaccinated carriers should be no worry to the vaccinated population.

Some vaccines, however, have a failure rate of 5%, and few families get additional tests to make sure that a child’s body has developed enough immunity from the vaccine. Properly vaccinated children have contracted infectious diseases from unvaccinated children. Daniel Feikin found that “at least 11% of vaccinated children in measles outbreaks acquired infection through contact with an exemptor.”30

Unvaccinated people also pose a risk to immuno-compromised children, such as those receiving chemotherapy, and babies too young to be vaccinated. The measles vaccine, for example, cannot be given until a baby’s first birthday.

The Christian Science church repeatedly tells the public and its members that they are law-abiding people, but its theology works at cross-purposes with that directive. The church tells members the law requires them to report suspected communicable diseases to state health departments, but the theology holds that disease is healed by denying its existence and not suspecting it.31

Since the church must protect its spiritual healers and unlicensed “nurses” from charges of unlicensed practice of medicine, the church says that only parents should report to the health department and they should describe the condition to the department without “assign[ing] a name to a particular malady.”32

With such procedures and beliefs it is no wonder that diseases have sometimes spread among a large number of Christian Science children and even to the general public. The state reporting laws generally require licensed health care providers—not parents—to report many diseases, both contagious and non-contagious, to authorities. Having untrained parents report when, despite their theology, they “suspect” a communicable disease does not fulfill the intent of the laws or obligations to public welfare.

Huge costs to Public Health and parents

Nor does being willing to keep your sick child out of school. Today our society is much more mobile and has a much higher percentage of mothers in the workforce than when Christian Science policies were developed. Children come into contact with germs from around the planet. Many babies are in daycare before they can be given the MMR vaccination.

When health officials become aware of a case of contagious disease, they may have to track down hundreds of people across states or even continents with whom the infected person had contact. A mere two measles cases in 2007 cost Oregon, Lane County, and a hospital $170,000.33

Having to keep an exposed child at home for two weeks or more can pose great difficulty for a working mother, and it is an unfair burden if she did not intend to deprive her child of immunizations.

Bad memory and lack of empathy in nostalgia

As for the Waldorf and other “natural immunity” parents, prime drivers of this longing for the “good old days” are a bad memory and lack of empathy. Yes, chickenpox is usually a self-limiting illness that causes no permanent harm, but why
force a child to get a preventable disease that causes
300-500 or more blisters and is very uncomfortable
for days? Sometimes the blisters become infected.
Sometimes the blisters are inside the throat or under
an eyelid.

Even very young children can figure out they
are being used for someone else’s benefit when they
are driven to chickenpox parties, made to play with
a child they’ve never seen before, and told to violate
the health rules they’ve been given in the past.

We also question why Waldorf officials think it
is better for a child to be on antibiotics than to be
vaccinated. It is definitely not better for the general
public, as overuse of antibiotics causes antibiotic-
resistant bacteria to develop.

It takes a village to protect a child. CHILD
calls upon parents to consider public welfare and
their obligations to other people’s children in
deciding about immunizations.

1 Rong-Gong Lin II and Sandra Pointexter, “California
schools’ risks rise as vaccinations drop,” Los Angeles Times
(March 29, 2009), find that charter schools and non-Catholic
private schools have the highest rates of belief exemptions in
California. The article has links displaying the percentage of
kindergarteners with belief exemptions in all California
schools. At a Waldorf school in Lake Balboa 82% of the
kindergarteners have belief exemptions from immunizations.

www.sdcourts.ca.gov/hhsa/docs/PHS-021908-
MeaslesUpdate-Final; CDC, “Update: measles—United States,

3 Ellen Bicheler, “Physicians make the case for—and
against—immunization,” North Bay Bohemian, June 16-22,
2004. [The title is misleading because the only physician
opponents quoted in the article are chiropractors, homeopaths,
and naturopaths.]

4 Henry Lee, “Whooping cough outbreak closes private school
in El Sobrante,” San Francisco Chronicle, May 10, 2008;

5 En.wikipedia.org/wiki/Anthroposophy
6 “Vaccine exemptions linked to spike in measles cases” at

7 www.thecity.org/about/beliefs
8 Rob Olmstead, “Measles outbreak in suburbs worries health
officials,” Daily Herald, July 1, 2008. Information provided
by DuPage County health officials on April 13, 2009.

9 Phone conversation with Winnebago County Health Dept.
10 Jeff Barnard, “U.S. doctors pay to hear Oregon town’s
school in Lane County, Oregon, believed to be the Eugene
Waldorf School, has 76% of its students claiming religious
exemptions from one or more vaccines.

11 Thomas Skinner, CDC, e-mail April 14, 2009.

12 Sandra Roush et al., “Historical comparisons of morbidity
and mortality for vaccine-preventable diseases in the United
13 CDC, “Progress toward measles elimination—European
14 CDC, “Progress toward measles elimination,” supra
29 “Europe ‘exporting’ measles to poor countries,” 2690 New

31 Mary Baker Eddy, Science and Health with Key to the
Scriptures (Boston: Trustees under the Will of Mary Baker G.
Regulations Affecting the Practice of Christian Science”
33 Paige Parker, “Oregon’s low vaccination rate causes health
concerns,” The Oregonian (Aug. 27, 2008).
Living with Polio

by Carole Jenny, MD, MBA, FAAP

April 13, 2009

I just watched the NewsHour with Jim Lehrer. The telecast featured a segment on the persistence of polio in Muslim countries due to suspicion of the polio vaccine. At the end of the segment two crippled polio survivors described their child’s becoming infected and paralyzed because Muslim clerics had blocked a polio vaccination campaign in Nigeria.

Photo of Carole and Taylor by Karen Philippi

I had polio at age two, six years before the Salk vaccine was licensed. I often wonder what life would have been like if I had not had polio. I have lived with a paralyzed arm, weak legs and back, and difficulty swallowing. As I age, the effects become more marked. Here are some examples of what I’ve missed—

- Playing volleyball.
- Ditto softball, gymnastics, standing on my hands, clapping at concerts (the sound of one hand clapping is a profound concept to me), swimming freestyle, backstroke, butterfly, or breast stroke.
- Buttoning complicated buttons or fasteners on clothes requiring two hands.
- Using two hands to hold a book or newspaper.
- Lifting heavy objects that require both hands.
- Intubating adults.
- Swallowing bagels or other dry substances.

The list is extensive. And yet, I am lucky. I have a wonderful career and family. I am so much healthier than many of the children I care for.

As a pediatrician, I am horrified when parents refuse vaccines for their children. Many parents today are afraid vaccines cause autism. We don’t yet know the causes of that heartbreaking disorder, but the science is clear—vaccines do not cause autism.

Vaccines are the greatest public health development in our history. Vaccines save our children from frightening diseases, death, and disability. When I see children in Michigan dying from vaccine-preventable disease, I weep. When I see children in Nigeria becoming paralyzed from polio, I grieve.

I recently heard that some parents who want “natural delivery” do not allow their newborns to receive vitamin K. Giving vitamin K to infants prevents a horrible bleeding disorder that occurs from one to three months after birth, killing them or leaving them disabled. In developing countries, many children still die from vitamin K deficiency— and I can find no literature describing negative effects of vitamin K administration to infants.

I am so sorry that parents in our country are refusing effective preventions because of unsubstantiated beliefs and misguided nostalgia. I know that parents are terribly concerned about their children and want to do what is right. But for their children’s sake, I pray they will take advantage of modern medical miracles that will allow their children to experience “...two hands clapping”!


Carole Jenny, a member of CHILD’s board of directors, is a pioneer in child abuse work. She has run hospital-based child protection programs at three universities and now teaches at Brown University’s Medical School where she holds the country’s first endowed chair in child abuse pediatrics. She has lectured on forensic pediatrics in nineteen countries.
Criminologist explores religion-related crime


Tension and conflict are often critical to a religion’s identity and group mobilization, especially when the religion first forms. As a source of “independent power,” religion may often come into conflict with civil authority and institutions. Conflict does not necessarily result in crime, however.

Kurst-Swanger divides religion-related crime into three categories: theologically-based crime that carries out a religious doctrine, reactive/defensive crime resulting from tensions between a religious group and the general public, and crimes from the abuse of religious authority.

In her chapter on theologically-based crimes, Kurst-Swanger discusses religion-based medical neglect, physical and sexual abuse, exorcism, ritual abuse, and nonpayment of child support. She credits “the landmark study” of Drs. Asser and Swan (“Child fatalities from religion-motivated medical neglect,” 101 *Pediatrics*: 625-9) with showing the scope of the problem.

She points out that the faith healing community refuses to “have their practices tested by medical researchers” so there is “little verification” of the medical significance of their claimed healings.

She discusses biblical justification for corporal punishment and child sexual abuse justified as exorcism.

Features that make some religious groups prone to committing reactive/defensive crimes include, according to Kurst-Swanger, control by a single charismatic authority, development of a new social system making isolation from the public necessary, apocalyptic or fatalistic beliefs, and claims to have absolute truth. Especially dangerous charismatic leaders are those who believe in reincarnation, claim to be incarnates, prepare for doomsday, collect weapons, and engage in drills.

Famous examples of groups who perpetrated reactive-defensive crimes and held apocalyptic worldviews include the People’s Temple, Branch Davidians, Aum Shinrikyo, Heaven’s Gate, the Ruby Ridge group, and Oklahoma City bombers.

Her last category of religion-related crime is abuse of religious authority. Not surprisingly, it focuses on sexual abuse by trusted religious officials. Religion is not the motive for such abuse, but simply provides the social context for it, she says.

Our constitutional limits on government regulation of religious activities, the hierarchal governance within many denominations, and the trust given clergy as men and women of God are factors that historically insulated religious leaders from media and law enforcement scrutiny.

The betrayal of that trust also increases the pain and confusion suffered by victims. The Catholic church, for example, teaches that sex outside of marriage is wrong. Catholic boys who are sexually abused by authority figures in their church often experience intense shame and self-loathing, blaming themselves for somehow inciting sinful acts.

The emphasis on forgiveness, atonement, and penance in many denominations may also prevent victims and their parents from disclosing the abuse to secular agencies.

In the past decade, however, the media have exposed hundreds of cases of child sexual abuse by religious authorities. Between 1950 and 2005 the Catholic church paid out over $1.5 billion to settle child sexual abuse claims.

Kurst-Swanger commends the strong, positive action the church has recently taken to prevent sexual abuse. Those who have seen the church continue to fight bills lifting the statute of limitations on civil litigation or requiring the clergy to report child abuse and neglect are less hopeful that children will be appropriately protected.

The book has a wealth of valuable information from many disciplines, and the perspective of a criminologist is an original contribution to the literature on religion-related child abuse and neglect.