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# Resolving Patients' Vaccination Uncertainty:



GOING FROM  
“NO THANKS!”  
TO “OF COURSE!”

**I**mmunizations have been one of the most effective interventions for improving public health in recent decades. Yet each year, on average, more than 50,000 adults die from vaccine-preventable diseases or their complications.<sup>1</sup> Polio and measles could be eliminated from this planet just as smallpox was by the year 1979. However, the recent outbreaks of these two devastating and preventable diseases in areas where they had been previously eradicated, such as parts of Africa and the Middle East, highlight the need for increasing our vaccination rates in order to improve the health of our patients and communities. Understanding why our patients respond with “No thanks!” rather than “Of course!” when we offer vaccinations and effectively communicating the risks and benefits of vaccination are important parts of this effort.

## About the Authors

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## Who or what most influences a patient's decision to get immunized?

Physician recommendation is the most important factor influencing a patient's decision to be immunized, and, in fact, most patients won't get vaccinated without a physician recommendation.<sup>2</sup> Don't underestimate your influence, especially if your patients view you as competent and caring.

Elderly patients may also remember what life was like in their community when measles, mumps, and polio were endemic, before vaccines became available. Combining their experience with our medical advice can be a useful way to emphasize the importance of vaccinations.

Clergy and other respected members of society are often influential. While discussing whooping cough and the Tdap (tetanus, diphtheria, and pertussis) vaccine with a minister of a large church in Chicago, Dr. Brown asked him if he was often near young children. He shared that

socioeconomic and cultural background in order to deliver the proper counseling.

## Why patients refuse vaccination – and how to respond

Patients refuse vaccination for a wide number of reasons, including concerns about its efficacy or necessity, fear of side effects, and distrust of medicine in general. Below are some suggestions about how physicians should respond to specific patient concerns.

**1. I can fight infection naturally – with good nutrition and hygiene.** Patient surveys have found that many people have the mistaken belief that healthy people don't need vaccination.<sup>5</sup>

During a recent conversation with a patient who had declined vaccination, Dr. Brown asked him his reason and he shared that since he was so healthy he felt his

# PHYSICIAN RECOMMENDATION IS THE MOST IMPORTANT FACTOR INFLUENCING A PATIENT'S DECISION TO BE IMMUNIZED.

every week he held several newborns during their baptismal ceremony, and they both quickly recognized the importance of his being vaccinated against these diseases. He then directed the deacons in his church to do the same. This case highlights the fact that many Americans will receive a vaccination to protect others rather than to protect themselves. Adults were more than twice as likely (13 percent) to get vaccinated to prevent transmission of diseases than young adults (6 percent).<sup>2</sup> Recognizing this altruistic tendency of our adult patients can be useful as we attempt to increase vaccination rates.

Limited health literacy, or the inability to fully understand health care-related information and make decisions, may also play a role,<sup>3</sup> and the elderly have been shown in surveys to have lower health literacy than other age groups.<sup>4</sup>

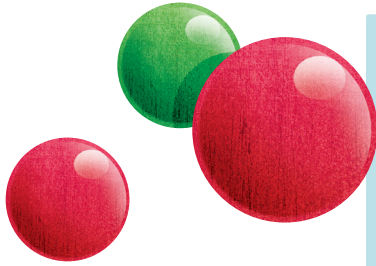
When we ask ourselves why patients refuse, we must take into account our patients'

body was strong enough to fight off any infection. When she asked him if his home was clean and well-maintained without fire hazards, he answered, "Of course!" She then asked if he had a fire extinguisher in his home. He replied that he did, but he paused and began to get the connection: If he is exposed to a disease that he has been vaccinated against, his body

### ADULT VACCINE COVERAGE IN THE UNITED STATES

Vaccine	Population	Vaccination rate <sup>19, 20, 21</sup>
Influenza	Age 18-49, total	31.1 percent
	Age 50-64, total	45.1 percent
	Age 65 and older	66.2 percent
	Health care workers (19-64 years old)	72 percent
Pneumococcal	Age 19-64, high risk	20.1 percent
	Age 65 and older	62.3 percent
Tetanus/pertussis	Age 19-64	12.5 percent
Shingles	Age 60 and older	15.8 percent
Hepatitis B	Age 19-49, high risk	35.9 percent

Influenza estimates are for the 2012-2013 season; tetanus/pertussis data are since 2005; all other data are for 2011.



## WHO MOST INFLUENCES ADULTS' DECISIONS TO GET IMMUNIZED?

Personal physician	69 percent
Family member	19 percent
Celebrity physician, public figure, other	7 percent
None of the above	4 percent
No answer	1 percent

Source: National Foundation for Infectious Diseases, 2009 National Adult Immunization Consumer Survey. In: Landers SJ. Physicians asked to persuade adults to get immunized. *American Medical News*. 2009. Available at: <http://www.amednews.com/article/20090803/profession/308039978/7/>. Accessed Feb. 17, 2014.

will be ready to “put it out” with an internal “fire extinguisher.”

Patients may also decline vaccination because they assume that they can simply seek treatment if they do contract the disease. They may be moved to seek vaccination once they hear that there is no effective treatment for measles, mumps, or polio.

**2. My doctor didn't recommend it.** As explained earlier, patients are much more likely to be immunized if their physician recommends vaccination. Even patients with negative attitudes regarding vaccines are much more receptive to immunization if the physician recommends it.<sup>6</sup>

Our patients want to hear from us – and not just listen to numbers. A cross-sectional survey on H1N1 vaccine acceptance showed that increased immunization rates could be achieved simply by dispelling vaccine misconceptions through community outreach.<sup>7</sup> Communication is key, both in the doctor's office and through other channels.

One way to make sure patients receive your recommendation is to create a system with your team, making vaccination a front-end priority, rather than an afterthought, and appropriately delegating authority. For example, in Dr. Sinsky's practice the nurses update all immunizations at the annual comprehensive care visit during rooming. There's no need to wait for the doctor to notice what's due, and no leaving it to chance. Likewise, during the fall and winter the nurses advise each patient to have a flu shot before the physician comes into the room. The nurses take their advocacy role seriously and share with patients that they have had their own flu shot. If a patient refuses, the doctor has another opportunity to help them change their mind.

### 3. You gave me a flu shot and now I have the flu.

There is a significant patient concern that the influenza vaccine will give them the “flu,” further depressing vaccination rates. Physicians should use the term “flu” only to describe an influenza infection and not a viral illness causing the common cold. As the average patient suffers from three or four colds annually, it is not unexpected that they might develop symptoms of a cold within weeks of an influenza vaccination – which might be inappropriately attributed to the flu shot. Physicians also should advise them that the vaccination can't protect them from contracting the common cold and, given that influenza immunity can take a few weeks to fully develop following a vaccination, there is still a chance they may contract the flu during that time.

**4. It will make me or my child sick.** In 2010, *The Lancet* retracted the now infamous 1998 article by Andrew Wakefield that described an erroneous association between MMR (measles, mumps, and rubella) vaccine and autism.<sup>8</sup> Britain's General Medical Council concluded that Wakefield had participated in dishonest and misleading conduct and withdrew his license to practice medicine. Despite clear proof that MMR does not cause autism, his unethical work led to, as *Vaccine* editor-in-chief Gregory Poland, MD, said, “a fog of suspicion cast upon vaccines.”<sup>9</sup> Outbreaks of measles in Europe continue and can be attributed to lower immunization rates over the past two decades. According to the Centers for Disease Control and Prevention (CDC) in 2011, the most common country from which measles was imported was India with 16 cases and France with 13, although there were another five cases that could have been linked to France.<sup>10</sup>

■ Resistance to immunization has threatened to enable a resurgence among diseases previously on the decline.

■ Practices can make immunization a priority among their care teams, having certain team members responsible for monitoring who needs vaccination and persuading them to get it.

**5. Someone I respect recommended against it.** Though not always based on scientific evidence, celebrities' personal views on health issues such as immunization do influence their audience, as do the opinions' of other parents who believe their child was harmed by vaccination. The results of a recent study in *Pediatrics* showed that 26 percent of parents (women more than men) placed some trust in celebrities on vaccine safety and 73 percent trusted fellow parents who spoke against vaccination.<sup>11</sup> As infectious disease expert Paul Offit, MD, said "Anecdote trumps epidemiology every time."<sup>12</sup>

A key way patients receive and share anti-vaccination information is through social media, such as Facebook, Twitter, or blogs. You can use your own social media accounts to offset that content with information favor-

CDC sponsored video interview of patients,<sup>15</sup> several African-American patients in Chicago voiced concerns that vaccines could cause sterility and that this might be a mechanism to annihilate the African-American community. They cited the Tuskegee experiment, a study conducted between 1932 and 1972 that looked at the natural progression of syphilis in 600 impoverished sharecroppers without fully explaining the details of the study to the subjects or treating them for syphilis even after the discovery of penicillin. To date, it remains a prime example of unethical research practices and a source of mistrust toward physicians in some minority communities.<sup>16</sup>

**7. There is little threat of disease anymore.** Very few Americans have experienced polio, measles, or mumps first hand. In the United States, there has been a 99 percent

Physicians should explain how vaccines work so they won't be immediately blamed for subsequent illnesses.

Faulty research has led many patients to avoid immunization, requiring physicians to set the record straight.

Parents who believe vaccines are harmful have far more influence than celebrities and often use social media to voice their concerns.

## OUTBREAKS OF MEASLES IN EUROPE CONTINUE AND CAN BE ATTRIBUTED TO LOWER IMMUNIZATION RATES OVER THE PAST TWO DECADES.

ing immunization. Here are some of the more trustworthy websites:

- <http://www.immunize.org>,
- <http://www.familydoctor.org>,
- <http://www.acponline.org>,
- <http://www.aap.org>,
- <http://www.medlineplus.gov>,
- <http://www.cdc.gov/vaccines/hcp/vis/index.html>.

If patients want to look for their own sources, suggest that they use the search term "immunization" to find pro-vaccine websites. Many of the websites found when searching for "vaccination" are actually anti-vaccine because many vaccine opponents do not believe in the concept of immunization.<sup>13</sup>

**6. It's a conspiracy.** Recently, patients in Afghanistan and Pakistan were reportedly hiding their children from polio vaccine workers because of fear that the vaccine was laced with estrogen and that westerners wanted to make their male children sterile.<sup>14</sup> Similar concerns have even surfaced among patients in Dr. Brown's practice of 20 years. During an American College of Physicians/

decrease of these diseases over the past 50 years.<sup>17</sup> So it is no wonder that many people believe these diseases are no longer a threat and vaccinations for them are no longer necessary. During the past 25 years, the World Health Organization was close to eradicating polio worldwide, but the disease has seen a resurgence as polio vaccinations declined.

The CDC has a website (<http://www.cdc.gov/vaccines/vac-gen/why.htm>) aimed at parents, explaining the necessity to continue immunizing against diseases that are close to but not completely eradicated. It uses the metaphor of bailing water from a leaky boat: Even if the boat is nearly dry, you must continue bailing until the leak is fixed or the water will return and undo all your progress – much like the ongoing effort to eradicate some diseases.

Even if U.S. officials have been successful at controlling or eliminating many diseases, the next outbreak of vaccine-preventable disease could be just one flight away. Americans took 61 million trips outside the country in 2009 (almost 30 million overseas), and

# A KEY WAY PATIENTS RECEIVE AND SHARE ANTI-VACCINATION INFORMATION IS THROUGH SOCIAL MEDIA.

there were an estimated one billion international tourist arrivals worldwide in 2012.<sup>18</sup>

## A matter of trust

Most patients want to make the right decision about their health and trust their physicians to guide them. Patients often feel confused and frightened by conflicting stories from the media, thinking there might be “something to it” when they hear unfounded risks of vaccines. Trust develops when patients identify both competence and caring in their physician. Only by developing a trusting relationship with our patients will we learn of their concerns, be able to address them, and hopefully continue to help our patients avoid these devastating but preventable diseases. A trusting relationship is also necessary to effectively communicate the benefits of these interventions and address barriers to vaccinations. **FPM**

Some social and ethnic groups distrust immunization as they do medicine in general.

Success at curtailing diseases like polio and measles has led some patients to believe they don't need to be immunized against them.

Patients are more likely to trust physician recommendations for immunization if the physician is viewed as competent and caring.

1. National Foundation for Infectious Diseases. Facts about adult immunization. August 2009. Available at: <http://www.nfid.org/publications/factsheets/adultfact.pdf>. Accessed Feb. 17, 2014.
2. National Foundation for Infectious Diseases. Survey: adults do not recognize infectious disease risks. July 2009. Available at: <http://www.adultvaccination.org/newsroom/events/2009-vaccination-news-conference/NFID-Survey-Fact-Sheet.pdf>. Accessed Feb. 17, 2014.
3. Howard DH, Sentell T, Gazmararian JA. Impact of health literacy on socioeconomic and racial differences in health in an elderly population. *J Gen Intern Med*. 2006;21(8):857-861.
4. Cutilli CC, Bennett IM. Understanding the health literacy of America: results of the National Assessment of Adult Literacy. *Orthop Nurs*. 2009;28(1):27-32.
5. Johnson DR, Nichol KL, Lipczynski K. Barriers to adult immunization. *Am J Med*. 2008;121(7 Suppl 2):S28-S35.
6. Nichol KL, Mac Donald R, Hauge M. Factors associated with influenza and pneumococcal vaccination behavior among high-risk adults. *J Gen Intern Med*. 1996;11(11):673-677.
7. Frew PM, Painter JE, Hixson B, et al. Factors mediating seasonal and influenza A (H1N1) vaccine acceptance among ethnically diverse populations in the urban south. *Vaccine*. 2012;30(28):4200-4208.

8. Retraction: Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children. *Lancet*. 2010;375(9713):445.

9. Childs D, Cox L. Lancet retracts controversial autism paper. ABC News. Feb. 3, 2010. Available at: <http://abcnews.com/1mbyrvk>. Accessed Feb. 17, 2014.

10. Centers for Disease Control and Prevention (CDC). Measles – United States, 2011. *MMWR Morb Mortal Wkly*. 2012;61(15):253-257.

11. Freed GL, Clark SJ, Butchart AT, Singer DC, Davis MM. Sources and perceived credibility of vaccine-safety information for parents. *Pediatrics*. 2011;127(Suppl 1):S107-S112.

12. Roehr B. Media induced anti-vaccination sentiment can even affect health workers, vaccine researcher says. *BMJ*. 2012;344:e1563.

13. Kata A. A postmodern Pandora's box: anti-vaccination misinformation on the Internet. *Vaccine*. 2010;28(7):1709-1716.

14. Yusufzai A. Impotence fears hit polio drive. *BBC News*. Jan. 25, 2007. Available at: [http://news.bbc.co.uk/2/hi/south\\_asia/6299325.stm](http://news.bbc.co.uk/2/hi/south_asia/6299325.stm). Accessed Feb. 17, 2014.

15. Brown M, Sinsky C. Adult Immunization: challenges and solutions [video]. American College of Physicians. Available at: <http://www.acponline.org/multimedia/?bclid=782543304001&bctid=2402409433001>. Accessed Feb. 17, 2014.

16. Centers for Disease Control and Prevention (CDC). U.S. public health service syphilis study at Tuskegee. Available at: <http://www.cdc.gov/tuskegee/timeline.htm>. Accessed Feb. 17, 2014.

17. Centers for Disease Control and Prevention (CDC). *MMWR Morb Mortal Wkly Rep*. 2013;61(52):719-732.

18. Centers for Disease Control and Prevention (CDC). Surveillance for travel-related disease – GeoSentinel Surveillance System, United States, 1997-2011. *MMWR Surveill Summ*. 2013;62:1-23.

19. Centers for Disease Control and Prevention (CDC). Non-influenza vaccination coverage among adults – United States, 2011. *MMWR Morb Mortal Wkly Rep*. 2013;62(4):66-72.

20. Centers for Disease Control and Prevention (CDC). Flu vaccination coverage, United States, 2012-2013 influenza season. Available at: <http://www.cdc.gov/flu/fluavaxview/coverage-1213estimates.htm>. Accessed Feb. 17, 2014.

21. Centers for Disease Control and Prevention (CDC). Influenza vaccination coverage among health-care personnel – United States 2012-2013 influenza season. *MMWR Morb Mortal Wkly Rep*. 2013;62(38):781-786.

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