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ESTHER BUSH

Immunizations and Vaccination

This month, the "Take Charge of Your Health Today" page focuses on immunizations and busting some of the vaccination myths floating around. Bee Schindler, community engagement coordinator with the University of Pittsburgh's Clinical and Translational Science Institute, and Esther L. Bush, president and CEO of the Urban League of Greater Pittsburgh, spoke about this topic.

BS: Good morning, Ms. Bush. I thank you for the chance to talk with you today about vaccinations. As we're smack in the middle of flu season, the topic of immunizations is interesting to me. Studies show when larger numbers of people are not getting vaccinations, the overall community immunity is less effective and people do not have protection when diseases bubble up.

EB: Yes, Bee. Most people can relate to this topic, too. It's an issue across the lifespan, starting when parents and caregivers are tasked with getting their children vaccinated. For example, a long-standing myth is that vaccines have a link to autism. There have been no research studies to support this claim. In fact, the National Institute of Health funded a study that concluded that there was no evidence that vaccines cause autism. At the Urban League of Greater Pittsburgh, we're committed to dispelling that myth and getting our young people protected.

BS: It's interesting how myths can surface. I read that often people think that a vaccine is a live virus, but researchers, like Dr. Zimmerman from the University of Pittsburgh, say that almost all vaccines are made from a dead virus and are meant to train your body how to defend itself from the real thing. But, outside of the possibility of a bit of pain at the injection site, "dead" vaccinations will not actually infect you.

EB: It's especially important to dispel myths in the Black community, as the Centers for Disease Control and Prevention say that folks in the African American community are less vaccinated than their White counterparts. We need to increase outreach and awareness around immunization/vaccinations in communities of color. We need to rally together. The Urban League is committed to this.

BS: I like the idea of rallying, especially as Dr. Zimmerman points out that people tend to get their vaccines when people in their circles do. Social influence turns into habit, and the two combined help to shape a positive attitude about immunizations. More people are likely to get in line for their vaccines.

EB: Thank you so much for having this conversation with me, Bee. We've provided some great information and ways that readers can take charge of their health today. I look forward to next month as we discuss heart health and preeclampsia.

Why are people not getting vaccinated?

Vaccines for diseases that used to sicken and even kill millions of people throughout the world—like measles, polio, whooping cough and more—have been available for decades. Thanks to robust vaccination programs in the United States, the spread of many of these diseases had stopped. However, in recent years, outbreaks (three or more linked cases) of some of these diseases have caused concern.

Researchers have linked fewer people getting vaccinations to an increase in preventable diseases. Take measles, for instance—measles is a disease that spreads easily and quickly. According to the Centers for Disease Control and Prevention (CDC), the continuous transmission of measles was eliminated in the United States by 2000. But, in recent years, many measles outbreaks have been reported. The CDC reports that the majority of people who have gotten measles in recent years were not vaccinated.

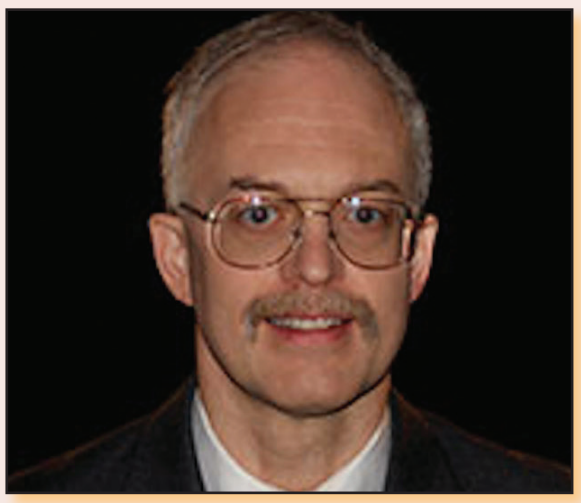
When large numbers of people are vaccinated, diseases have a much harder time moving from person to person. If a person does get a disease but is in contact with people who have been vaccinated, the disease will not spread quickly to other people. This protection is called "community" or "herd" immunity. But when larger numbers of people are not getting vaccinated, herd immunity breaks down and people are no longer protected when diseases arise.

Also, according to Richard K. Zimmerman, MD, MPH, professor of family medicine, and associate professor of behavioral and community health sciences, University of Pittsburgh, flu vaccine rates dropped 40 percent last year, and 79,000 people in the United States died from the flu (the typical number is 23,000).

GIVE A SHOT—In this file photo, a sign telling customers that they can get a flu shot in a Walgreen store is seen in Indianapolis. (Darron Cummings/AP)

So, why are people not getting vaccinated and breaking down the protection of herd immunity?

Many researchers have found that vaccination myths are one of the reasons people are not getting immunized against preventable diseases. One of the most common vaccination myths is that vaccines can cause illnesses or diseases.



RICHARD K. ZIMMERMAN, MD, MPH

"About one in five people will get a sore arm at the injection site, but people can't get an illness from an inactivated vaccine," said Dr. Zimmerman. "Almost all vaccines are inactivated [meaning, they are made with dead viruses, bacteria or toxins]. People say they get the flu after getting a flu shot, but they more likely caught an illness from someone else in the waiting room."

In recent years, one of the biggest myths about childhood vaccines was that they can cause autism in children. Researchers have studied whether vaccines cause autism. Despite how common that myth is, no research study has found a link between vaccinations and a likelihood of developing autism.

A disparity exists in vaccination rates among different racial, ethnic and age groups. Dr. Zimmerman points out that children overall have higher vaccination rates than adults. The CDC reports that White adults have higher vaccination rates than African American, Latinx and Asian adults. Barriers to vaccination include not having appropriate health insurance coverage and a lack of knowledge about which vaccinations to get at what age. [See elsewhere on the page for links to vaccination schedules by age group.]

Part of Dr. Zimmerman's research involves how to get more people vaccinated. Along with recommendations for health care providers, Dr. Zimmerman cited three different factors in helping people get vaccinated—habit, attitude and social influence. People tend to get vaccinated more when they develop a habit of doing so. If people have the attitude that vaccines help them and everyone stay healthy, they are more likely to get vaccinated. Finally, when people encounter the social influence of someone like a health care provider who encourages vaccines, people are more likely to get vaccinated. Dr. Zimmerman also notes that incentives—like insurance companies offering credits or lowered copays—help people get vaccinated.

Even if people think they are safe from preventable diseases, Dr. Zimmerman recommends that they think about getting vaccinated to help keep their loved ones safe. A health care provider can help people know what vaccinations they need and when to get them.

For more information about vaccines, their safety and why getting them is important, Dr. Zimmerman recommends the following websites:

1. CDC—***cdc.gov/vaccines/index.html***
2. Children's Hospital of Philadelphia Vaccine Education Center—***chop.edu/centers-programs/vaccine-education-center***
3. ***immunize.org***
4. ***pkids.org***

To view the CDC's recommended vaccination schedule for children, go to ***https://www.cdc.gov/vaccines/parents/downloads/parent-ver-sch-0-6yrs.pdf.***

For teens, go to **https://www.cdc.gov/vaccines/schedules/easy-to-read/preteen-teen.html.**

For adults, go to ***https://www.cdc.gov/vaccines/schedules/easy-to-read/adult.html.***

Researchers hard at work finding vaccine for Human Metapneumovirus (MPV)

A team with members from UPMC Children's Hospital of Pittsburgh and the University of Pittsburgh is hard at work on vaccines for a virus you may not have heard of but you have had. Human metapneumovirus (MPV) was only discovered in 2001 but has been around for at least 200 years. MPV is a common cause of respiratory infections like colds, bronchiolitis and pneumonia. MPV is the second most common cause of lung infections in children worldwide (after its cousin, respiratory syncytial virus or RSV). All children are infected by age 5. People can be re-infected later in life. MPV is also an important cause of lung infections in older adults. MPV is more likely to cause severe infections in people with underlying health problems, such as prematurity, lung diseases (including asthma and emphysema) and weak immune systems, or in people older than 65. MPV affects people worldwide of all races and ethnicities equally. Unfortunately, there are not yet any licensed vaccines against MPV.

JOHN WILLIAMS, MD

John Williams, MD, Henry L. Hillman Professor of Pediatric Immunology, University of Pittsburgh, has been studying MPV since its discovery. His group has developed and tested several possible vaccines. These include vaccines containing virus proteins—similar to influenza vaccines, or "virus-like particles" that look like a virus but cannot infect or cause disease, which is similar to human papillomavirus vaccines. When these vaccines were tested in mice, the vaccines stimulated a strong immune response and protected against disease. However, many steps remain before testing vaccines in humans. Human immunity to MPV is not well understood, so Dr. Williams and his team are using mice that have human immune genes to "map" the human immune response to MPV. This research will identify the targets for protection that an MPV vaccine needs to hit to be effective in humans. The flu vaccine is an important way for people to protect themselves against severe disease; Dr. Williams hopes that one day an MPV vaccine will also be available to protect children and adults.

Myths about Human papillomavirus (HPV)

Human papillomavirus (HPV) is a group of 150 related viruses that are spread through intimate, skin-to-skin contact. The HPV vaccine is a safe, effective cancer prevention tool. Pittsburgh's Jewish Healthcare Foundation has a strong public health campaign to get the word out on immunization that will protect nearly 100 percent of the otherwise 27,000 cases of HPV-related cancers occurring in the United States annually. The foundation's website, hpvpittsburgh.org, highlights some common myths that they want to dispel.

MYTH: HPV only affects girls and young women.

FACT: Some strains can cause genital warts. Some can cause cancers in both males and females. It is the most common sexually transmitted disease.

MYTH: The HPV vaccine has caused many deaths.

FACT: Tens of thousands of people who have received the HPV vaccine have been studied to determine whether the HPV vaccine causes any serious side effects. No link between the vaccine and serious illness or death has been found.

MYTH: People with HPV always have symptoms.

FACT: Most people who have HPV do not have any visible symptoms. People can still pass on the virus even when they do not have any symptoms.

MYTH: The HPV vaccine only lasts for five years.

FACT: The HPV vaccine was licensed in 2006. There has been no evidence of the vaccine becoming less effective over time.

MYTH: The HPV vaccine affects fertility. If given to young girls, it might make them infertile.

FACT: The HPV vaccine has not been shown to cause infertility. In fact, because HPV can cause precancerous or cancerous abnormalities that potentially require medical treatments that may cause infertility, the vaccine could indirectly help protect against it.

Now what? Contact your health care provider or your child's pediatrician to schedule an appointment. People as young as 9-years-old can be vaccinated. Just recently, the Food and Drug Administration approved the vaccine for people up to age 45.

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