DR. BILL SCHAFFNER: Good morning, everyone. I'm Dr. Bill Schaffner, medical director of the National Foundation for Infectious Diseases, the NFID. Welcome. On behalf of NFID, I'm pleased to welcome you all here this morning to talk about influenza – better known as the flu – along with pneumococcal disease.

Before we start, I want to remind those of you posting on Twitter to please join the conversation using the hashtag #FightFlu. Note that Centers for Disease Control and Prevention (CDC) and NFID will also be participating in a Twitter storm today in an effort to get the discussion to start rending.

2018 marks the 45th anniversary of the NFID, and for more than 20 years, NFID has convened partners in the medical and public health communities to address the unique challenges of each flu season and to come together to advocate strongly for influenza and pneumococcal disease prevention with one strong voice.

This year is no different. Joining us today is the United States Surgeon General Vice Admiral Dr. Jerome M. Adams, who will serve as our keynote speaker. It's an honor to have Dr. Adams with us to share the latest data on how we're doing as a nation in our vaccination efforts, and what to expect this coming flu season.

I'd also like to welcome our distinguished panelists. Dr. Wendy Sue Swanson is a pediatrician at Seattle Children's Hospital where she also serves as chief of digital innovation. She's the author of Seattle Mama Doc, which was the first pediatrician-authored blog for a major children's hospital. Dr. Swanson is an executive committee member of the American Academy of Pediatric Council on Communications and Media.

Dr. Laura Riley is a renowned obstetrician who specializes in obstetric infectious diseases. She recently joined Weill Cornell Medicine where she's the Given Foundation Professor and chairs the department of
obstetrics and gynecology. She also leads the NewYork-Presbyterian Alexandra Cohen Hospital for Women and Newborns. Dr. Riley is the chair of the Immunization Task Force at the American College of Obstetricians and Gynecologists and was the first OB/GYN voting member on the CDC's Advisory Committee on Immunization Practices, the ACIP.

My colleagues are all experts in their fields and are as passionate as I am about the importance of public health and disease prevention through vaccination.

Dr. Adams will begin by addressing vaccination coverage in the United States, the impact of flu on the nation, and influenza vaccines available for this season. Following Dr. Adams, Dr. Swanson will talk about keeping children and families healthy this flu season. Dr. Riley will then talk about the importance of influenza vaccination during pregnancy to protect both the mother and the baby. And lastly, I'll be saying a few words about influenza and pneumococcal vaccination as part of managing chronic health conditions.

Following the presentations, Dr. Adams will be joined by Dr. Scott Gottlieb, Commissioner of Food and Drugs at the US Food and Drug Administration, to lead by example by getting their flu shots, after which there'll be a Q&A session for the media.

I'd also like to note the strong showing of support we have once again today from our partners who represent public health, medical societies, government, industry, advocacy and consumer-focused organizations.

We should all know by now that the flu is unpredictable. And I've often said if you've seen one flu season, you've seen one flu season. However, what we can take away from our experience with previous flu seasons is the importance of annual influenza vaccination for everyone age 6 months and older. And I will predict that there will be a flu season.
Now, one of my roles today is to introduce a new view of flu and a new view of flu vaccine. We all know, and my colleagues will emphasize, the terrible annual toll of acute influenza. However, over the past ten years or so, we've been learning more about post-flu illness. Yes, the damage that flu causes continues even after one recovers from the acute respiratory illness. I'll mention two post-flu problems.

Let me provide a word of background about the first. Acute influenza initiates a systemic – that is, a whole-body inflammatory reaction. This inflammation continues beyond the resolution of the acute illness. It's why many people feel wiped out for two weeks or more after they have stopped coughing. This lingering inflammation can involve blood vessels, particularly the blood vessels to the heart and to the brain. As a consequence, the accumulating research now shows that there's an increased risk of heart attacks and stroke during the two to four weeks after recovery from acute influenza.

Now, as to the second post-flu problem, think for a moment with me, what is it that older and frail people fear; indeed, often fear the most? I put it to you that it's disability, being unable to care for themselves. Well, I'm afraid we've also learned that after acute flu, recovery may not be complete. When people who are already frail get flu, they may never return to their pre-flu functional level. Flu can knock down that first domino of progressive decline, progressive disability.

If you needed yet another reason to be vaccinated, how about those two? Flu can predispose individuals to heart attack and stroke, and can also initiate a slide into progressive disability.

I mentioned vaccines. Here are my two new views of flu vaccine. Okay, they're not exactly new; they're a reemphasis. But these notions often don't get heard and are new to many.

First, recall that even if you get flu after having received the vaccine – the vaccine's not perfect – you're likely to benefit by having a less severe illness. You're less likely to suffer the complications of
pneumonia, hospitalization or death. Give the vaccine credit for softening the blow. As a doctor, I love it when patients do not get pneumonia or have to be admitted to the hospital.

The second aspect of flu vaccine is that vaccination makes it less likely that you will spread the virus to others. No one wants to be what I call the dreaded spreader. Getting vaccinated is the socially responsible thing to do. While protecting yourself, you're also protecting those around you, including your family, colleagues at work, friends at the gym, those who worship with you, creating community immunity.

Thus, a new view of flu – the virus is even more nasty than you thought. And a new view of flu vaccine – not perfect, but it's more helpful than you may have thought.

Flu season is also a great time to make sure that you're up to date on pneumococcal vaccination and other recommended vaccines. So, I'd like to be the first today to urge everyone to get vaccinated against flu as soon as vaccine is available – and it certainly is available. And for healthcare professionals such as myself, it's critically important that we lead by example, by getting vaccinated to protect ourselves and our patients.

It's now my pleasure to introduce our keynote speaker, Dr. Adams.

**DR. JEROME ADAMS:** Well, good morning, everyone, and thank you for being here today. Thank you, Dr. Schaffner, for those remarks. Thank you, Drs. Swanson and Riley for being here on the panel and being our subject matter experts.

It's great to be here today because about this time every year, for the past three years, I’ve been part of a flu campaign with the Colts. I've given Matt Hasselbeck his flu shot. I've given Anthony Castonzo his flu shot. And I'm so proud that Joe Thomas, former Cleveland Browns star, legend, is here today with us.
to help us promote the flu shot. Because the reality is, as Indiana State Health Commissioner, even as Surgeon General of the United States, I'm speaking to the choir. I'm not convincing a lot of new people to do something that they otherwise would not have done. But we're here at the Press Club today because we want to get the word out to folks that the flu shot is effective and that it's the best way to protect yourselves and to protect others, and there's no better way to do that than to have advocates like Joe here helping us spread the word to all of their fans, to all of the folks out there, particularly the young people who are at risk for the flu.

I'm so pleased to join NFID here today for this annual event, and to remind everyone about the important of flu and pneumococcal disease prevention. And you're going to hear these themes over and over because they're critically important. And if you hear it ten times - they say it takes seven to ten times before something sticks - these themes you're going to hear over and over, we want them to stick so that you go out there and repeat them and promote them to others.

I'm going to try to be extremely brief in my remarks because, number one, we're going to be competing with Paul Ryan at 10:45. And number two, someone told me there's this hearing going on on Capitol Hill today. [Laughter] So we want to hurry up and wrap it up before the competition pulls away viewers.

But in my remarks, I'd like to briefly discuss flu vaccine coverage from last season, discuss the options and benefits of flu vaccines, and encourage everyone to make flu vaccination part of their yearly routine. And I'm also happy to lead by example today, as Dr. Schaffner suggested. I'm still a practicing physician. I'm a dad. And I'm going to, up here on this stage today, get my flu shot as proof to everyone that the Surgeon General of the United States does it, his kids do it, and everyone needs to do it.

So let's quickly go over last year's flu season. We saw that influenza can be deadly. You all saw the story in the AP last night – 80,000 people dying from the flu or flu-related complications last year. And it was especially deadly for older adults, pregnant women, people with chronic medical conditions and
children. I'm sure many of you remember the stories of healthy young adults getting sick and suffering severe complications, but 180 kids – and this really, really just hit me hard as a father of three young children myself – 180 kids died last year from the flu, and a majority of them were unvaccinated.

So every time one of my kids' friends comes over to the house, I ask them, "Are you vaccinated? Have your parents gotten you vaccinated yet?" Because it's healthy kids out there that are dying from the flu. And one flu death, just one flu death is too many. That's why it's so important for everyone 6 months and older to get a flu vaccine every year. Flu vaccinations save lives.

Despite the rough season we had last year, CDC's annual look at the number of people who report getting their flu shot shows these numbers have plateaued in pregnant women and healthcare workers. And unfortunately they've even decreased slightly among kids who, again, are one of the most vulnerable populations. Last season, CDC suggests that more than 40 percent of kids were not vaccinated against the flu. Looking back at the difference between last season and the previous season, the decrease only occurred among kids between 6 months and 4 years of age. These kids are often particularly vulnerable to serious complications if they get sick, even if they were previously healthy.

Seeing a decline in coverage in this age group is very, very worrisome, and I hope you all promote that so that folks know that their children, in this age group in particular, need to get vaccinated.

Additionally, one out of two pregnant women were not protected against the flu last year. Vaccinating pregnant women protects them from flu illness and hospitalization, and, just as important, some would say more important, it's been shown to protect baby from the flu for several months after birth, before the baby can be vaccinated.
So here's an important point. We can't vaccinate babies for the flu right when they're born. They have to get immunity passed along from their mother, and it is critically important that every pregnant woman receive their flu shot.

And then finally, while three out of four healthcare workers are getting vaccinated, I'm embarrassed to say that coverage is still lowest among some subsets of our healthcare workers – long-term care workers, who often work with patients who we know are at the highest risk for the complications of flu. So I'm calling on employers to take action, to protect their staff from flu, to reduce absences, and to reduce the chances of their employees spreading the flu to others.

Flu vaccination coverage was highest in settings with employer flu vaccination requirements or promotion of flu vaccine. So there are simple steps that employers can take to help keep their employees safe and healthy, so that they come to work, and to keep the people who they're caring for safe and healthy.

So let's talk about what you can and should do each year to prevent flu. Vaccine manufacturers project they'll provide between 163 and 168 million doses of vaccine for the US market this season; last season, a record-breaking 155 million doses were distributed. This season, there are many different flu vaccines available and recommended by the CDC, including the nasal spray flu vaccine. So if you're a little skittish about getting shots – and sometimes those big guys like Joe Thomas, it's amazing how they'll run when you pull a needle out [laughter] – we've got a nasal vaccine ready for them, so there's no excuse.

The benefits of annual flu vaccination are substantial. It keeps you from getting sick, prevents millions of illnesses and doctors' visits, and, again, it's a stimulant to our economy. Most counties across the US report losing millions of dollars each year due to flu-related absences from work. Flu vaccine can save children's lives. A 2017 study was the first of its kind to show that flu vaccination can significantly
reduce a child's risk of dying from influenza – not just of getting it, but of dying from it. Studies have shown, again, that flu vaccination can reduce the risk of flu-associated hospitalizations for children, working-age adults and older adults. And it's an important preventive tool for those with chronic health conditions.

And you know, hearing Dr. Schaffner talk about the slide, it made me think of my wife's grandmother who was going along okay, living at home, got sick. She got the cold, maybe she got the flu, we don't know. But she was hospitalized and then she was put into a nursing home, and just a short time later we were having her funeral. That slide is real -- it is very real. And it's not just about getting that individual vaccinated, it's about getting everyone around those individuals vaccinated.

So I gotta tell you, I'm tired of hearing people say, "Well, I didn't get sick and I didn't get the flu shot," or, "I don't like it, my arm hurts," or, "It makes me feel a little bit uncomfortable." Getting the flu shot isn't just about keeping you safe and healthy. Getting the flu shot is about community; it's about everyone else around you. Those 80,000 people who died last year from the flu, guess what? They got the flu from someone. Someone passed it along to them. So it's critically important that we impress upon folks that it is not just for them; it's their social responsibility to get vaccinated.

Vaccinations help protect women and their babies during and after pregnancy. Flu vaccinations can reduce the severity of illness, as Dr. Schaffner said, in people who get vaccinated but still get sick. So again, that old thing "I got the flu shot, but I still got sick" well, you know what? You didn't die. And maybe you didn't get hospitalized. And maybe you would have if you didn't get the flu shot.

And finally, again, do it for those around you, for those babies, for my wife's grandmother; you may not be the one getting sick, but they are the ones getting sick because you didn't get vaccinated.
I want to encourage everyone to get your flu vaccine by the end of October. We're going to have a couple of hashtags out today, #FightFlu. I'm going to be pushing out #IGetMyFluShot. We're going to call on the NFL, NFL mascots, other folks out there, to get their flu shot and to post pictures, because we've got to help folks understand that this is something that's normal and that everyone should do.

As a healthcare provider, and to those out there, your recommendation is crucial in motivating your patients to get vaccinated, and our panelists I'm sure will talk about this. But the strongest predictor of whether or not a person gets a vaccination is whether or not they get a strong provider recommendation.

And again, it's important to lead by example. Post your pictures of your flu shots, send them to me so I can retweet them out. Let's reach as many people as we can.

As we close, I'd like to briefly mention vaccines to protect against another serious disease, pneumococcal disease. Pneumococcal disease can cause a range of serious illnesses and is a common and deadly complication of the flu. Each year in the United States, about a half a million adults 65 years of age or older get pneumococcal disease, and 18,000 of them die.

There are two types of pneumococcal vaccine recommended for use in adults. CDC recommends vaccination for everyone age 65 years and older, and for adults with certain chronic health conditions, such as heart disease, lung disease and diabetes, as well as people who smoke.

One of the most frustrating things for me as a physician, as a health advocate and as Surgeon General is when people die from preventable diseases, when there's something that we can do about it. Flu vaccine, pneumococcal vaccine, we can prevent these deaths. When getting your annual flu vaccine, it's a great time to make sure, particularly if you're over 65, that you're up to date on pneumococcal vaccines and any other recommended vaccines. You know, it's a great time to just have a discussion about whether you're up to date and the power of vaccinations.
They're available in a variety of places now, so there's no reason not to get protected against serious diseases. You can go to the drugstore; you can go to the hospital. Your employers, many employers provide flu vaccines at their workplaces. Many grocery stores are actually providing flu vaccines in their grocery stores. There is no excuse not to get it.

Let's close by going over our three-step approach to fighting flu. Number one, the first and best defense is to get a flu vaccine. Everyone 6 months and older should get an annual flu vaccination. And if you don't do it for you, do it for those around you.

The second step we recommend for fighting flu and other respiratory illnesses is to take everyday preventive actions to stop the spread of germs. And these are the Three Cs: cover, contain and clean. Clean your hands, wash your hands frequently, especially in the winter during flu season. Cover your cough by coughing or sneezing into a tissue or into your arm when you sneeze or you cough. And then contain – if you're sick, stay home. Employers, tell your employees if they're sick, stay home. Because I guarantee you the value you get out of them coming to work that one day with the flu is going to be much less than the cost of them infecting everyone else around them in that workplace. So stay home if you're sick and avoid those who are sick.

Last, but not least, take antiviral drugs if your doctor prescribes them. Those who are very sick and those who are at risk of serious flu complications need to get treated very quickly. And again, the panelists can talk about this; they're the experts. Antivirals are effective, but we need to get them to folks quickly. And so, if you think you have the flu, go in to your doctor. Healthcare providers, please know who's particularly at risk of dying from the flu and be willing to prescribe those antivirals.
Influenza is difficult to predict, and it can be serious even for healthy people, healthy adults, healthy children. An annual flu vaccine is the best thing you can do to protect yourself and your family, and my family, this flu season. So make flu vaccination a healthy habit each and every year.

Again, I'm getting vaccinated, so please hang for that because I might cry. [laughter] Joe, will you come up with me and help me get my flu vaccination? All right, we're going to do it together. It's going to be good, it's going to be good, folks.

Thank you for being here today. #FightFlu. [applause]

DR. BILL SCHAFFNER: We thank the Surgeon General for a stirring start to our influenza vaccination season. We've been talking about, among others, children. Dr. Swanson, come on up here and give it that emphasis.

DR. WENDY SUE SWANSON: Thank you. I'm so happy to be here. And Dr. Adams, I really thank you for the passion. And I think all of us are passionate, and I think parents are passionate about this, too. You know, I come to you as a mom to little boys, as a pediatrician, as a community member, and as the daughter to someone with a chronic disease who's at high risk.

And to the point that Dr. Adams really gave to you about children and their unique nature, kids have a lot of snot and they've got a lot of drool. And they go to school. And when they go to school, they share all of those secretions. Now, they're lovely and we love them, but they are a lot of the reason that flu moves around communities. 10 to 40 percent, some research shows, of children each year are exposed to, and get, influenza and spread it in the community.
So I care deeply about children and the suffering that comes from influenza, the thousands of children who were hospitalized last year. And think of it, 180 families put a child in a grave last year because of a vaccine-preventable infection.

So we come at this passionately. We vaccinate ourselves. I'm going to send my flu shot selfie to Dr. Adams and see if he'll retweet me today. And I hope you do, too. And if you send them to me at Seattle Mama Doc, I'll retweet you, too. And I think we have a great opportunity as parents and as vocal advocates that, of course, to Dr. Adams's point, that when you look at parents and how they make decisions about vaccines and you look at children and how they get vaccinated, we know kids are more likely to be vaccinated if their [parents] get vaccinated, at twofold times greater. And we also know that they do look to their pediatricians and family practice docs, the phlebotomist, the nurse practitioners, anyone in the health system, in helping guide them. So when you get your flu shots, do your flu shot selfie on social media and help build trust that we're doing this.

But children are dependent on their parents for making this decision. And we make vaccines really convenient in clinics, in grocery stores, et cetera. But we certainly want parent-to-parent communication, too. So parents trust pediatrician/family practice advice. But I want you to go to the water cooler at school; I want your school to be well up to date on influenza because, again, flu vaccine is effective not in all individuals. And so we rely on everyone around us not to spread it to us. And Dr. Adams really pointed that out as well.

I think that the deaths are a driver for us, but the suffering and the loss of school and the amount of time out of work and the stress that comes into families from influenza is real. Influenza, which I've had, is bad; I mean, I remember describing that my skin hurt, I felt so bad. And families and patients show us that, certainly.
Last year, almost 60 percent of all children were vaccinated. So kids do a good job getting vaccinated because they're in clinic, particularly those young kids who are at high risk and those toddlers. They're in for the visits because they go to see their pediatrician when they're 9 months old and 12 months old and 15 months old for their regular, routine visits. And it's a great time to get a flu vaccine. But you can get it all throughout the community as well, as you know.

Kids, of course, can be better vaccinated as well. So last year, three–quarters of the kids in Rhode Island were immunized against flu last year. My home, Washington State, where I live, 57 percent of children. And some lower states were in the 40 percent range. So again, the driver here is to make sure that we as parents, we as community members, we as individuals, we get vaccinated because we don't want to go down with flu, and we certainly don't want to contribute to coughing on somebody in the subway, in the grocery store, at work, in an airplane, all the liberties that we enjoy and freedoms we enjoy. We want to protect ourselves. And we know that's a primary motivator for people who get vaccinated.

But our children, our parents, our grandparents, our family member, our coworkers are really dependent on us not spreading it to them.

We know also, again, the effectiveness of flu vaccine when it comes to children at preventing death. So a large risk group is the young kids. So we're at risk for significant and severe illness and death from flu when we're over the age of 65, because our immune system's getting old and it's not good at it anymore. When young kids are born, they get multiple different ways to be protected. So Dr. Riley's going to talk about pregnant moms and our goal of getting pregnant moms immunized. We know because of that 2017 study that a child who is born to a mom who is immunized has a 72 percent reduction in having a hospitalization from flu in those first months of life. So babies get antibodies from their moms so that when they come out and they're too young to be immunized, they're protected. So that's a double bonus. When a pregnant mom gets immunized, she protects herself, because she's high risk and immunocompromised for having a severe infection, and she gives the baby an incredible gift after birth,
that if someone exposes that baby at the grocery store, in line at their pediatrician clinic even, that that baby will be better protected.

So I go about this, again, hopefully, in practical ways. I've been writing a blog. I use Instagram, I use Twitter, I'm on LinkedIn, I'll be InstaStorying today. I care deeply about people getting the right information and accurate information. And I want parents and families to share that information, too. I'll use the #FightFlu hashtag. I'll use all these tools throughout the season. And then this year I did something we'd never done before. I run digital innovation at Seattle Children's, and we partnered with Boston Children's Hospital. So [my hospital], a West Coast hospital, [partnered with] Boston Children's Hospital, and we took the [Amazon] Alexa and built an Alexa skill called Flu Doctor. And if you enable Flu Doctor on your Alexa you can ask questions about flu vaccine. You can get data on how the vaccine works, data on side effects to influenza infection, like fever, like malaise, like feeling crummy, ways and tips that you can help kids who are scared of the needle.

And then through the flu season, I'll provide weekly updates on the flu season. So you can ask Alexa, "What's new with flu? What does Mama Doc say about flu?" And we'll keep you informed, and we'll keep using all the other channels, too. But we can keep figuring out how to use these tools, how to use hashtags, and how to make sure that this isn't just a convenience that you avoid. You've got to go to the grocery store, you've got to go to the pediatrician, you've got to get in. And again, kids are more likely to be immunized if their parents are. So lead by great example. And if you're scared of the needle, think and consider that nasal spray if you're older, and work with your pediatrician if your child is, too.

We're going to flight flu. We need you to be passionate about it. This is not a gimmick, and this is not rhetoric. This is deep concern about public health and our incredible opportunity to live in a time where we have vaccines that allow us not to die from infectious diseases that kind of wipe across the globe.
So thank you so much for your passion and your leadership. And I'm really happy to answer questions. And I'll be getting a flu shot; I'll be doing my flu shot selfie as well. And again, leaning on everyone else to share messages, and I'll share yours too. So thank you so much. [applause]

**DR. BILL SCHAFFNER:** Obviously, keeping the verve going, Dr. Riley, come on. About the beginnings of life; we want to keep that as safe as possible.

**DR. LAURA RILEY:** That's exactly right. Good morning. I think everyone has explained why pregnancy is so important, but let me just tell you what I tell patients when women come in and they say, "Do I really need to get the flu shot?" My answer is yes. I say the same thing to every single patient. The reason is, because [during a] healthy pregnancy, just merely by being pregnant, your immune system isn't working exactly the way we need it to work. You have such nasal congestion, you can't breathe through your nose, the organisms get in there and can't get out. Your lung volume decreases as the pregnancy progresses; your baby gets bigger, that's fabulous, but it also makes it more difficult for you to clear a respiratory infection.

So pregnant women who get the flu do very poorly. They do way worse than any other non-pregnant individual. And so, it is absolutely critical that we prevent pregnant women from getting the flu. And we also know that as the pregnancy progresses, the likelihood of having more severe illness gets worse. So in every epidemic that we've seen of flu, we know that as you get into the second and third trimester of pregnancy, you're more likely to die then. You're more likely to be hospitalized. And you're more likely to have severe respiratory illness.

So that's number one. That's why I tell every pregnant woman, "You have to do the best you can to prevent yourself from getting the flu."
The second thing is, that not only are we very concerned about pregnant women getting respiratory infections and being hospitalized, we're also really worried about their babies. Because as we all know, in addition to protecting the neonate, the issue is as the baby's in utero. So what's happening then? Well, when pregnant women get really high fever for an extended period of time, we know that fever actually causes birth defects. That's not a good thing; that is something that's preventable.

The second thing though that is far more common, and we see every single year, is women who get the flu [at] 20 weeks, 29 weeks. They come in, they're sick, and they deliver early. So flu participates in this whole issue of prematurity, which is a really serious and becomes for some babies a lifelong issue. And so, that's yet another reason that we want to prevent the flu.

ACOG and CDC, for years, have been strongly recommending flu vaccine for every pregnant woman. And it can be given during any trimester of pregnancy; so, the beginning of pregnancy, the middle of pregnancy, whenever it is available, pregnant women should get it. And it also is important that pregnant women continue to get the flu shot because they're at risk as far out as two weeks postpartum. So just because the baby's out doesn't mean that it's over; the risk remains. All those physiologic changes of pregnancy continue for a while after the baby's out.

So not only have ACOG and CDC been recommending it to pregnant women, we've also been trying very hard to convince providers – so, nurse practitioners and midwives and obstetricians, family practitioners, anyone who takes care of pregnant women – they have to be on board. They have to remember to strongly recommend it to pregnant women. And so, that's what we're going to continue to do this year.

And then, as others have said, I think it's really important for moms to know. Pregnant women naturally want to protect their babies; that's the number one thing. So they need to hear that the vaccine is, one, effective; two, it's safe; and three, that the protection that they provide to their neonates for the first 6
months of life, before the baby can get its own vaccine, is absolutely critical. So mom comes in, a
patient comes in to me, she's 28 weeks pregnant, I give her the flu vaccine, and she will then develop
antibodies to the flu vaccine that will then cross the placenta and then get into the baby's system. Those
same antibodies are what protects that baby for the first 6 months of life while it's being surrounded,
unfortunately, by little two-year-olds with germs. And it will prevent that baby from getting the flu. So
that's the last thing I would say.

And then one more issue is, as others have mentioned, we have not done as good a job as we thought we
could do. Last year, about 49 percent of pregnant women got the flu vaccine. And it really should be 80-
plus-percent of pregnant women getting the flu vaccine. So we really need to do a much better job.

We also know that, studies have shown that pregnant women who were vaccinated had a 40 percent less
likelihood of being hospitalized during their pregnancy. There is huge protection here. We're protecting
pregnant women from death. We're protecting pregnant women from hospitalization. And we're
protecting their babies from things like prematurity and birth defects.

So again, our goal is 80-plus-percent this year. The only way we're going to get there is if everybody in
this room gets vaccinated, and that all their children, the little germ vectors– there's a reason I didn't do
pediatrics; I knew that it was dangerous! [laughter] And I was right. So it is really important though that
all of us become vaccinated and that we strongly encourage our patients and friends and any other
pregnant women that you know to be vaccinated. Because this is a particularly vulnerable population.
Even though they're totally healthy otherwise, they are vulnerable just by the sake of being pregnant.

So I, too, will be getting my flu shot. Every year I cringe, and every year they take a picture of me and
put it on the ACOG website, and everybody's like, Why are you squeamish? And I'm like, Because I'm
58 years old and still squeamish! What can I say?
Thank you. [applause]

**DR. BILL SCHAFFNER:** The message couldn't be more clear or more important. And just to reinforce something that we still hear about, vaccination during pregnancy is safe. Right? Very important.

So, while influenza can impact even the healthiest of individuals, some groups are indeed at higher risk of developing serious flu complications, particularly those age 65 years and older, young children, and adults with certain chronic health conditions. These complications can result, obviously, in hospitalization and even increase the risk of dying.

Flu can also exacerbate these chronic health conditions. For example, those with asthma may get increased asthma attacks as a consequence of their flu infection, and individuals with chronic congestive heart failure can have their condition exacerbated during an episode of influenza. And as I noted earlier now, studies have also shown that influenza is associated with an increased risk of heart attacks and stroke.

Last season, more than 90 percent of adults who were hospitalized for influenza-associated complications had at least one reported underlying medical condition that placed them at highest risk. The most commonly reported underlying medical conditions among adults were heart disease, lung disease, and metabolic disorders, such as diabetes and obesity.

Children with underlying medical conditions also had high rates of hospitalization last season. More than 50 percent of children who were hospitalized, half were healthy children, but more than 50 percent had complications that predisposed them to the serious aspects of influenza. And among children, the most commonly reported chronic conditions were, once again, asthma, neurologic disorders, and, to my surprise, obesity.
It's especially important for people with chronic health conditions to protect themselves against flu. And so, although we want everyone vaccinated, we especially want people with chronic health conditions to avail themselves of the benefits of the vaccine.

And that brings me to pneumococcal disease. Adults with chronic health conditions are also at increased risk for pneumococcal infection. Pneumococcal disease can be dangerous and sometimes fatal, even though we have antibiotics that we can use to treat pneumococcal disease. This is true even when the chronic condition is well controlled with medication and lifestyle management.

People – and here are some examples – at increased risk include adults with chronic illnesses such as heart disease; liver disease; lung disease; diabetes; alcoholism; and conditions that weaken the immune systems, such as HIV AIDS; cancer; or if you don't have a spleen; people who have inner ear implants, those cochlear implants; or who have cerebrospinal fluid leaks.

And one of the things that's unappreciated is that people who smoke cigarettes are at increased risk of invasive, serious pneumococcal disease, including pneumococcal disease that involves the bloodstream, which can have fatality rates, even today with our antibiotic treatment, of over 15 percent in many populations.

There are two kinds of pneumococcal vaccine available, and your healthcare provider can advise you on which recommended vaccines are appropriate for you. We should also remember that every adult age 65 and older should be vaccinated with both sorts of pneumococcal vaccine.

By getting vaccinated against flu and pneumococcal disease, we can all keep ourselves healthy and contribute to the reduced spread of these infections.
So that concludes our formal presentations today. It's now my pleasure to have Dr. Adams lead by example by getting his flu vaccine on camera. We're also pleased to introduce Dr. Scott Gottlieb, Commissioner of Food and Drugs at the US Food and Drug Administration, who is taking time [out of] a very busy schedule to be here and also join us by leading by example. So welcome. We call on everyone to follow suit. For those of you who are here today, after the celebrities have been vaccinated [laughter] and after we do the Q&A, we'll have a clinic available for all of you.

Thank you all for participating, and thanks also to MedStar Visiting Nurse Association for administering the influenza vaccination this morning and always providing this valuable service.

So have at it. JT, come on up here and immunize these gentlemen.

**DR. JEROME ADAMS:** Joe, you said you were going to come up here and stand with us, weren't you?

**JOE THOMAS:** Do you want me to hold your hand?

**DR. JEROME ADAMS:** Yes, please. [laughter] I want you to stand behind me in case I faint. There are more kids out there who know who you are than know who I am, but it's really important that you're up here helping folks understand the importance of flu vaccination. And thank you, again, for being here.

[vaccinations given]

**DR. JEROME ADAMS:** And we joke, but the flu shot, seriously, I did not feel a thing. Did not feel a thing, for folks who are at all squeamish about needles. It's super quick, super easy. No reason not to get it, and so many reasons to get it.
DR. WENDY SUE SWANSON: And sometimes with kids, I often say, you don't have to lie. So sometimes it does hurt. You can say, "It hurts for a second." That's the great thing, it's quick. So we build trust with kids that way, too. But I agree, sometimes it doesn't.

DR. JEROME ADAMS: Not nearly as bad as they expect.

DR. WENDY SUE SWANSON: Right, yeah. One of our recommendations that we didn't focus on, too, is timing. And we want everyone to get immunized now. So ideally, for families, before Halloween.

DR. BILL SCHAFFNER: Thank you, guys, for leading by example. We appreciate it very much.

DR. JEROME ADAMS: It really is tremendous to have Dr. Gottlieb here. He's a busy, busy man. And to have two physicians up here getting their flu shots and we're about to stick two more, that's leading by example.

DR. BILL SCHAFFNER: That's wonderful. Thank you very much. So we're ready to have our Q&A. My colleagues on the panel will participate. Note that this portion of the event is directed at questions related to flu and pneumococcal vaccination. For the media participating by teleconference, the operator will come on the line momentarily to advise you how to submit your questions.

And if any of you in the audience would like to schedule one-on-one interviews with any of the panelists or the supporting organization representatives here, one of our staff will be happy to arrange that.

And I'm now ready to offer— you have the Q, we have the A. [laughter] Please.
MAGGIE FOX: Good morning, it's Maggie Fox with NBC News. Of course, what we want to hear about are the flu numbers; that's probably going to be Dr. Jernigan. But how on earth did we get to 80,000 deaths last season, and 900,000 hospitalizations?

DR. BILL SCHAFFNER: So Maggie asked a very good question about those 80,000 deaths. Dan, come on up, from the CDC, Dr. Dan Jernigan. Why don't you sit up here and you can join in with these responses. I'm sure we're going to ask you several times to respond.

DR. DAN JERNIGAN: So the 80,000 is the number that's estimated from looking at all those hospitalizations and hospitalized deaths that occurred last year. If you remember, many of you lived through that; it was a significantly bad year. And because of that, you felt all the amount of disease that was circulating. It was causing people to come into the hospital and it was causing deaths.

Up until this point, we've been using the number of 56,000 as the highest that we had. So 80,000 is a number that definitely is higher than that. If you look at the rates and all the information we provided last year, it corroborates that. The vast majority of those were in people that were over age 65. So the virus that we had last year was the H3N2. We talked a lot about that last year, how it really targets the elderly and targets those over age 65. So it clearly was happening.

The same problem happened in Australia the season prior in the Southern Hemisphere last year. So for whatever reason, we both had very bad years. And so, that number, while high, certainly goes along with all the other amount of disease that we saw last year.

DR. JEROME ADAMS: And to take it to the 30,000-foot view, it's two things: We had a bad strain, which the flu is unpredictable, we never can tell. And number two, our vaccination rates were actually lower in some key age groups last year. So those two things combined to make it a particularly bad flu season. But what we're fighting for this year is to make sure (a) we have more folks getting vaccinated
and aware and that (b) our providers are recognizing that, promoting vaccinations, but also prescribing Tamiflu and antivirals as appropriate so that when folks do get the flu, they don't get as sick.

But that herd immunity, so, so very important. That community immunity is what we really want folks to take home today because 80,000 deaths last year – and they all got the flu from someone else. That means there's someone else out there who caused each of those 80,000 to die. We don't want that to happen ever again. Ever again.

**DR. WENDY SUE SWANSON:** And just for those who [are] over 65, who [are] around young children, take that young child in to get a flu shot. Go to the pediatrician. The American Academy of Pediatrics is recommending the shot for all kids over 6 months of age. It's an essential, every-year vaccine. And they're a big part of how influenza spreads around a community. So how does it happen? Well, [it happens when] someone who's more vulnerable to having significant illness or death is exposed to someone who may [even] have a mild case of the infection itself.

And we also know nothing is foolproof because people can spread influenza, even before they have symptoms from it. And so, getting vaccinated, again, decreases the likelihood that that can ever happen.

**DR. BILL SCHAFFNER:** I'm also instructed to say that we're ready to take questions by phone. Press *1 for questions by phone. Thank you very much. Any other questions? I think what I'd like to do – ah, here's one; yes, please.

**JEANNIE BAUMANN:** Hi, Jeannie Baumann with Bloomberg Law. I was just wondering if there was any concern that the reports about a lower effectiveness rate of last year's flu shot could perhaps lead to a lower vaccination rate. I mean, if there's concern about that, and then what impact that means, and what you sort of do about it.
DR. BILL SCHAFFNER: Dan, go ahead.

DR. DAN JERNIGAN: I think last year at the beginning of the season, there [were] some reports of low vaccine effectiveness that did not necessarily turn out to be true at the end. Those came from some reports from the Southern Hemisphere. And I think communicating that might have had some impact. We don't have any studies to show exactly if that was it. If you ask people though about why they're not getting influenza vaccine, many of them will say it's because of the effectiveness. And so, that may have had some impact.

DR. JEROME ADAMS: And so, what we're focusing on this year is making sure folks understand that some effectiveness is better than no effectiveness. We don't want to get to 80,000 again, and we don't anyone to be in whatever that total number ends up being this year. And so, the best way to protect yourself, regardless of the effectiveness, which goes up and down from year to year, the best way to protect yourself is with a flu vaccination.

DR. BILL SCHAFFNER: So you're singing my song. I think we measure traditionally flu vaccine effectiveness the way we do with all vaccines – how good is the vaccine in completely preventing the disease? But as I said earlier, and as the Surgeon General has just said, there's a great deal of partial protection that the vaccine gives. And we need to get people to understand, even if they get flu despite getting the flu vaccine, not getting pneumonia, [not] having to go to the emergency room, [not] being hospitalized and dying, that's really a benefit. As I like to tell my patients, I'm so glad you're here to complain. [laughter]

DR. WENDY SUE SWANSON: And the vaccine tends to be particularly effective in children. So sometimes the vaccine effectiveness will exceed the numbers in childhood than it does overall.
So last year, for example, the vaccine was 67 percent – this is at the end of the season – 67 percent effective against H1N1, that strain. Less, or about 36 percent effective against H3N2. But children who, again, are the ones who are spreading a lot of it around, are uniquely responsive to the flu vaccine. So it works well in them. And we have great hope, again. I can look at my son's classroom and I can't tell you which kid's going to get flu or not. But I can tell you that if the child's vaccinated, they're much less likely to die from flu. And that eight of 10 kids who died from flu last year didn't have a flu vaccine.

**DR. BILL SCHAFFNER:** Yes, please.

**KIMBERLY LEONARD:** Hi, thanks for taking my question. Kimberly Leonard with the Washington Examiner. I wanted to ask you to go over the FluMist guidelines. I know they've changed; I know it's back on the market. And can families be confident that they'll have adequate protection?

**DR. DAN JERNIGAN:** The Advisory Committee on Immunization Practices, or ACIP, did make a recommendation earlier in the year for FluMist. So the recommendation sits there for FluMist to be used. There were some concerns initially about one of the components not being as effective. The company did a lot of studies, did some studies in animals, they did shedding studies in people, and through that they were able to provide data that the Advisory Committee felt was definitely sufficient for the vaccine to be recommended again. So it may not be in as high supply this year, partly because the production didn't start until later, but it is available out there.

**DR. BILL SCHAFFNER:** We have one or more questions on the phone.

**OPERATOR:** We have a question from the line of Allison Aubrey with NPR.

**ALLISON AUBREY:** Hi, there, thanks for taking my call. I'm wondering, for those of you who are clinicians, I know there's some data among college-aged students or people on college campuses asking,
"Well, if you don't get a flu vaccine, what is the reason?" The top reason seemed to be, "Oh, it's a hassle, I don't know where to go," or, "I don't really think it'll make a difference because I don't really think I'm at risk." I'm wondering if those reasons for not being vaccinated that are shown in this survey data among college students are similar to what you would hear from other parts of the population; older people, for instance.

**DR. BILL SCHAFFNER:** Well, I would think that influenza vaccine is available just about everywhere you want to look. It's in doctors' offices, clinics, senior citizen centers, some employers are giving vaccine. It's in pharmacies ready to be administered. Of course, making it as convenient and easy as possible so that getting the vaccine is not a barrier is terribly important. Brian Wall from the American Pharmacists Association, why don't you step up here for a moment and tell us what the pharmacists are doing to try to promote vaccine?

**BRIAN WALL:** Good morning, everyone, Brian Wall with the American Pharmacists Association. So pharmacists have already been stocking the vaccine in their pharmacies, and they're already promoting for everyone to get the vaccine. So this includes the flu vaccine, along with pneumococcal, which we were talking about today, but again additional vaccines beyond that that patients may be recommended for according to CDC vaccine schedules.

So I encourage you all to speak with your local pharmacies. As one of the most accessible healthcare providers, pharmacists stand ready to provide vaccinations as needed.

**DR. BILL SCHAFFNER:** Thank you very much. Dr. Riley, you have a follow-up.

**DR. LAURA RILEY:** I just wanted to make a comment about the healthy people thinking that they're not at risk. That's the point of those of us in this room right now, to get the message out, because I think that college students aren't any different than young, healthy pregnant women and high school students
who think they're invincible. People just don't realize that the flu can make them really sick, not necessarily kill you, but could make you really sick, because it's a really nasty virus.

And I think that that's the message that needs to get out to the general public, whether it's college students, pregnant women, just understanding that it's not just the old people that get it or the sick people that get it, it's anybody walking down the street.

DR. JEROME ADAMS:  And Allison, this is Vice Admiral Adams, the Surgeon General. I think it's a great question that you asked. Number one, we have to make sure folks understand, again, that it is not just about them. Every college student who thinks they're invincible has a grandmother, has a grandfather, has nieces and nephews, has brothers and sisters who they can pass the flu along to. And they need to understand that they don't want their grandmother or their niece or nephew to be one of those 80,000 who died from the flu last year. So they have a responsibility to protect not only themselves, but their loved ones and those around them when they come home for Thanksgiving and Christmas and want to pick up the new niece or nephew. That's number one.

Number two, we've got to do a better job as advocates of taking advantage of our touch points. Because we're all busy. We all remember when we were in college; we thought we had a thousand things to do. Gosh, I wish I could go back to that time. [laughter] But we thought we were so busy. We need to make sure we're having flu vaccination campaigns on campuses, at basketball games, at football games, at places where people are going to congregate so that it is easy for them.

And then finally, I tell folks make an appointment, make a flu appointment. I'm not supposed to plug other books, but Malcolm Gladwell's one of my favorite authors and he talks about this in *Tipping Point*, the idea that if you just make an appointment for folks and give them a direction. He talked about kids on college campuses before. They knew where the health center was and they knew the value of going
into the health center, but until there was an appointment made and a specific direction to go, folks didn't do it.

And that's why today's important and that's why these flu campaigns are important. It's about utilizing the touch points and helping create that idea in their mind that now's the time that I'm going to do it, before the end of October.

**DR. BILL SCHAFFNER:** We have another phone question.

**OPERATOR:** Your next question comes from the line of Blake Dodge with Bloomberg News.

**BLAKE DODGE:** Hi, thank you for taking my question. I know it's difficult to predict what can happen with seasonal flu, but I'm wondering if we're expecting this to be a more mild season given the activities in the Southern Hemisphere.

**DR. BILL SCHAFFNER:** Did you understand that question?

**DR. DAN JERNIGAN:** I think he's asking the longstanding question of, is it going to be a mild or a bad season. And so, if you think about last season, there were a number of people who were predicting a mild season last season as well. So at this point, it is way too early to know. In the Southern Hemisphere, they did have not as bad a season. They had more of an H1N1-predominant season. We're seeing a little of H1 now, but, boy, I just would not take my chances. I think I would get the vaccine now and you don't have to worry about whether it's a mild or severe season.

**DR. JEROME ADAMS:** And I almost think that's the wrong question to be asking, even though we ask it every year. Because at the end of the day, by the time we figure out if it's a bad flu season or not, then a lot of the damage has been done. It takes a while, even after you get a flu shot for the immunity to build up; it's already spread. And so, we want everyone to look at every flu season as if it's going to be a
bad flu season. We want everyone to get vaccinated, ideally before October, so that way we can ensure that it won't be a bad flu season.

**DR. WENDY SUE SWANSON:** One thing, too, on the young invincibles and the college students, I think it is very similar – Allison, your question is, do we have data on other communities. I don't have data to point to, but I certainly understand the kind of mom-to-mom community doesn't feel as vulnerable. As a reminder, about half of the children who died last year were otherwise healthy kids; they didn't have an underlying unique vulnerability.

So I think, again, these communities can feel invincible, and yet they're not that way. And we have to remember that. So it's, again, sharing the messages in those communities I think that can help build trust. And college students are in a community where they share more infection, so they do have a risk factor if they're in a university setting, living in a dormitory. So they're not as young and invincible as they may perceive.

**DONNA YOUNG:** Donna Young with S&P Global News. With 80,000 deaths now, is it time for the government just to put the money forward, pay for the vaccines for every American, every person that's in the United States, as well as put more funding – I know the government puts a lot of funding into vaccines, but certainly not enough. So is it time that they really gear up now for the universal flu vaccine even more than what they've done? I know Dr. Fauci's been making a big push for this. But when there are that many deaths, is it time for the government to step up even more now and put the funding towards the flu?

**DR. JEROME ADAMS:** The quickest way to get in trouble as a government official is to respond to comments about funding. But I will say two things. Number one, we've got the Vaccines for Children Program. I was a former state health officer for Indiana and I can tell you that cost is not one of the reasons that people say they aren't getting the flu shot. It's practically not a barrier because we make it
available to folks, to our older individuals, paid for through Medicare. We make it available through Medicaid, through the Vaccines for Children Program. We're pushing it out all over the country.

And to your point about Dr. Fauci and the universal vaccine, we are leaning into that. There is funding going towards uncovering a universal vaccine.

And so, on both ends we're trying to come up with a better and better vaccine, but making sure that the vaccine which is effective, which is safe, and which does help people can be available to as many folks as possible.

And can I sneak in a question here? I have a question for Joe. Joe Thomas, can you come up because, again, we spend too much of our time preaching to the choir. And we're trying to reach the folks out there who aren't getting vaccinated, the young invincibles. And I don't know who looks more young and invincible than Joe. But how do we reach out to celebrities, to athletes? How do we get folks to understand that vaccines are safe and effective and help them understand the part that they play in promoting vaccinations?

**JOE THOMAS:** Well, I think events like this are really important, seeing the leaders of the community being able to go up and get their vaccines. I think that's important because people look up to these great guys that are up on stage like this that have really good things to say. And I think you lead by example, that's just the way I kind of led my football life. I wanted to do the right things in the classroom, on the football field, on the practice field. And it's the same thing off the field.

**DR. JEROME ADAMS:** Who should we be tagging? Should we be tagging the Browns? Who should we be looping in to this?
JOE THOMAS: The Browns definitely need to be tagged because they're the hot team right now in the NFL. They're almost America's team this year. [laughter]

DR. JEROME ADAMS: Fantastic. Well, again, thank you for being here, and thank you for that.

JOE THOMAS: Thank you.

DONNA YOUNG: Can I get Dr. Schaffner to also [respond]?

DR. BILL SCHAFFNER: Thank you, Donna. [I] will respond very quickly. You know, we have remarkable both private and public resources to provide influenza vaccine. And between the two, not everyone, but the vast majority of the population [does] have direct access to influenza vaccine at little or no cost. Because [of] private insurers, almost every program covers influenza vaccine. So that part, I think, although not completely covered, I think we're really doing a very good job.

Apropos of the research, I can tell you, in the government laboratories, in industry laboratories, in academic laboratories, the lights are on in the research laboratories at night trying to make an enhanced, we call it universal, but clearly enhanced universal influenza vaccines. We would all like to have a better vaccine, but I like to, as you and others know, paraphrase that old French philosopher, Voltaire, "Waiting for perfection is the great enemy of the current good." We have a pretty darn good influenza vaccine, which can do an awful lot of good, as my colleagues have testified today.

So we all ought to get it. The recommendations are simple. Stop thinking about it. If you're older than 6 months of age, roll up that sleeve and get vaccinated. Thank you very much.

The Surgeon General took my role in introducing Joe Thomas. And so, Joe, come on up here again. You all know that he's a former Cleveland Browns NFL football player and the 2006 Outland Trophy winner.
That's the best defensive guy. He's also an NFID flu ambassador, and a new dad, who will be getting vaccinated today to encourage everyone to tackle the flu season.

NFID is the proud sponsor of the Outland Trophy this year. Remember, when you get vaccinated, you protect yourself and your team. And if Joe will permit [it], actually you'll protect the other team, too. We're all in this together. [laughter]

**DR. JEROME ADAMS:** And I'm going to hold Joe's hand for this.

**JOE THOMAS:** Thank you, I appreciate it. [laughter]

[vaccination given]

**DR. JEROME ADAMS:** Don't make fun of him because his muscles aren't as big as mine. [laughter]

**DR. BILL SCHAFNER:** And he didn't bend the needle. [laughter]

**JOE THOMAS:** Thank you much, appreciate it, thank you. [applause]

**DR. BILL SCHAFNER:** Joe, thank you very much.

**JOE THOMAS:** Thanks for having me.

**DR. BILL SCHAFNER:** Surgeon General, thank you very much. My colleagues, thank you very much. And thanks to all of you for doing what you do each and every year to get the word out about this important message. We would like to prevent as much illness as possible each and every year. We can't do it without you. We appreciate your coming to be with us in person, on the phone, on the Web, to get
the word out that flu can be prevented and can be modulated. I hope we have a mild season and I hope we have one where there's a maximum of prevention.

Thank you very much. And the vaccine clinic is available to you. So please, avail yourself of this opportunity and get vaccinated right now. Thank you very much. [applause]

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