



**DR. WILLIAM SCHAFFNER:** So good morning, everyone. I'm Dr. Bill Schaffner. I'm the immediate past president of the National Foundation for Infectious Diseases and I'm pleased to welcome you here on behalf of the National Foundation for Infectious Diseases. I'm also professor of preventive medicine and infectious diseases at the Vanderbilt University School of Medicine in Nashville, Tennessee. Those of you on Twitter can follow this news conference using the hashtag fight flu.

Early each fall, the NFID gathers partners from the public health and medical communities to make sure that the public has the information it needs to prepare for the coming influenza season. We know an awful lot about flu; most important, we know how unpredictable and how deadly it can be. This was particularly evident last year.

We are honored to have with us today Dr. Howard Koh, who's the Assistant Secretary for Health at the U.S. Department of Health and Human Services, who will provide some updates on an exciting mapping tool to track flu, flu vaccination coverage in real time and how the Affordable Care Act relates to flu and pneumococcal vaccines.

Dr. Anne Schuchat, who's Assistant Surgeon General, U.S. Public Health Service, and director of CDC's National Center for Immunization and Respiratory Diseases, will give us the latest flu vaccine coverage rates from the 2012-2013 season. And I can tell you, we're excited about these findings.

We also have with us Dr. Paul Biddinger who as Chief of Emergency Preparedness and Medical Director of the emergency room at the Massachusetts General Hospital, deals with flu on the front lines. He'll talk about the impact of flu on individual patients and his community.

Dr. Richard Liebowitz, Senior Vice President and Chief Medical Officer of the New York Presbyterian Hospital, leads vaccination efforts for employees there. He'll talk about how



vaccinating employees, especially healthcare workers, makes good sense both from a patient care as well as from an employer perspective.

Now, we also have with us representatives of other leading medical and public health organizations who are here ready to address the need for everyone six months and older to get vaccinated. A full list of our colleagues is available to you in your press kits, and all of them are available to answer questions or to participate in interviews following the news conference.

Last year, last year we had the earliest onset of flu in nearly a decade. The U.S. experienced particularly high morbidity and mortality with very high hospitalization rates and reports of deaths in children. The knowledge that much of this suffering could have been prevented with vaccination remains, to me, especially troubling.

You know, you don't have to think about it anymore. Influenza vaccination is recommended for everyone, everyone, in the United States six months and older. This recommendation is based on a large body of scientific evidence and public health knowledge. We have an ample vaccine supply and more vaccine options this year than ever before. There are also plenty of places to get vaccinated. So we're telling you and through you the American public, take advantage of these advances. Get vaccinated surely to protect yourself, but also to protect your family and your community. If you get vaccinated, you can't give the flu to them.

Influenza season is also a good time for patients to ask whether they need a pneumococcal vaccine. Pneumococcal disease causes pneumonia, meningitis, blood poisoning and other serious infections. A vaccination is recommended for everyone 65 years of age and older. Younger persons may need it if they have certain risk conditions such as heart, lung or liver problems, diabetes, asthma, or who are smokers. Pneumococcal vaccination is also very important for people who have compromised immune systems.

After you hear from all of my colleagues at the table up here, we'll have a Q&A session and we'll talk about that in a moment. It's now my pleasure to kick things off welcoming Dr. Koh.

**DR. HOWARD KOH:** Thank you so much, and welcome everyone. First, thank you, Dr. Schaffner, for your always dedicated and joyous leadership of these efforts, and it's great to join you and my other wonderful colleagues on this panel. And we are very, very grateful to the National Foundation for Infectious Diseases for hosting this event.

Our message today is simple: everyone six months of age and older should receive flu vaccination. And if you have certain medical conditions that put you at higher risk, like heart disease, asthma, or diabetes, or if you're pregnant or a healthcare professional, vaccination is especially important. Don't hesitate, vaccinate.

We've been promoting this universal recommendation for several years now, but this year we highlight some new themes. This year, we're promoting immunization as health reform enters full implementation. This year, we're emphasizing that flu vaccination should be a national standard promoted by all, not just some, but all providers. Furthermore, all adults can leverage flu vaccination opportunities to assess their need for other adult vaccinations as well. This year, we have more options for flu vaccines on the market than ever before. And finally, this year we have some great new online tools to aid the public.

So, let's start by quickly reviewing the past several flu seasons before we summarize what's going to happen this year. In 2009, you remember we witnessed an H1N1 pandemic that led to thousands of hospitalizations and deaths. Then two years later, in 2011, the season was very mild. And then in contrast last year, as Dr. Schaffner pointed out, influenza activity started earlier than usual, was intense, and remained elevated for 15 consecutive weeks.

As one indicator of severity last season, we tragically witnessed some 164 pediatric deaths. That's the highest number reported since data collection began except for the 2009 pandemic year. So let me emphasize once again, flu is predictably unpredictable. When it comes to flu, we can't look to the past to predict the future. We must do everything possible now to be prepared and protected.

This year, we're recommending flu vaccination in a historic time when the Affordable Care Act enters full implementation. As I hope you all know, a major emphasis for health reform is on prevention and public health. Too many Americans are not receiving the full preventive services they need and deserve. And hence, they cannot yet reach their full potential for health.

We don't want cost to be a barrier to prevention. So the Affordable Care Act requires coverage of certain high value preventive services without cost sharing. That means no deductibles, no co pays and no co insurance. Under the law, all recommended vaccines including flu vaccines are fully covered, and this applies to new private plans as well as public plans like Medicare, Medicaid and CHIP.

October 1, next week, five days from now, marks the beginning of open enrollment when millions can sign up for insurance coverage at new health insurance marketplaces opening in every state. These marketplaces will offer Americans a one stop shopping opportunity to learn about new coverage options for them. So we hope that open enrollment can connect people to the insurance coverage they need and deserve. We encourage everyone to learn more at [Healthcare.gov](http://Healthcare.gov), or call 1-800-318-2596, our 24/7 call center.

In another important development, this month our National Vaccine Advisory Committee approved recommendations for national adult immunization standards. That means guidelines to healthcare providers for immunization practice. The standards now recommend that all providers, not some, but all providers bear responsibility to insure that adults receive

immunizations they need. We believe that flu vaccination also represents an opportunity to assess ongoing needs for other adult vaccinations as well. Overall for adults, some ten vaccinations are currently recommended including flu vaccine, zoster vaccine to protect against shingles, Tdap vaccine to protect against whooping cough and other diseases, just to name a few.

So this year, we recommend that all adults visit [vaccines.gov](http://vaccines.gov) to see which vaccines are recommended for them and then to engage and consult with their healthcare providers to receive these valuable preventive services.

Another message for this season is that this year, we will have more options for flu vaccines on the market than ever before. In addition to the traditional trivalent vaccine, which works against three strains, options now include a quadrivalent vaccine designed to protect against four strains, as well as new options for people with egg allergies and a high dose vaccine for older adults.

My colleague, Dr. Schuchat, will tell you more about all these new options. We do not recommend any one form of vaccine over another. Overall, the best vaccine is the one that's delivered.

And we are very pleased to recommend some new online tools to help the public. This year, we're very pleased to highlight again the vaccine finder tool. Please visit [vaccines.gov](http://vaccines.gov) to find this vaccine finder tool managed by Harvard's health map in collaboration with our Department of Health and Human Services. Once you find the tool, simply type in your zip code and the mapping tool will inform you of all the locations in your area that offer vaccines, including flu vaccine. And we hope this will be a tool that's very convenient for everyone across the country and make vaccines accessible.

Furthermore, while you're on [vaccines.gov](http://vaccines.gov) please visit another online tool that we are very proud to unveil today. This is a tool that helps track communities and monitor how they are doing with

respect to flu vaccination rates. I am very indebted to my colleagues at the National Vaccine Program Office, Department of Health and Human Services, and the Centers for Medicare and Medicaid Services, CMS, who have created this mapping tool. I have a screen shot here, hopefully it's being flashed-- there it is-- and if you go on the tool, you can see that the tool tracks vaccination rates for Americans 65 years of age and older covered through Medicare fee for service, and this is data that we get through Medicaid claims information.

These data are updated every week so you can track flu vaccination rates in your community, in your zip code, in real time throughout the season. You can zoom in on any state, here we're zooming in on Virginia, but you can choose your state or your zip code. And we hope that if you see these data, every community can use this information to understand their vaccination rates, improve their vaccination rates, address disparities by race and ethnicity, and help make prevention come alive.

Remember, this map focuses on Medicare populations and that's particularly important since 90 percent of flu related deaths and more than 60 percent of flu related hospitalizations each year occur in people 65 years and older.

So as I close, I remind you that the flu vaccine is newly formulated each year to keep up with the flu viruses as they change. That's why each year, we stress that together with hand washing and cough hygiene that vaccination can offer the best protection we have against influenza.

Over the past 50-plus years, hundreds of millions of people have been safely vaccinated against the flu. Flu vaccination represents a simple investment that we can make year in and year out to maximize the gift of health. Thank you very much, and I'll turn it back to Dr. Schaffner.

(Applause)

**DR. WILLIAM SCHAFFNER:** Thanks, Howard, very good. That kicked us off very well. Anne? CDC's Dr. Schuchat.

**DR. ANNE SCHUCHAT:** Great. You know, I'm used to speaking to many of you with bad news, and I'm really excited this year because I have some good news. Last season, more people were vaccinated against influenza in the United States than in previous seasons. Coming up this fall, we have more vaccine options than we have ever had against influenza. Today, I'm going to give a little bit of a report card on how we did last season. I want to mention that I'll talk about overall vaccination coverage that is posted at CDC's website, CDC.gov, adult and pediatric vaccination coverage including state specific coverage, lots of information on our website.

I'll also be talking about two key populations. These are highlighted in today's MMWR, vaccination against influenza in pregnant women, and vaccination in healthcare personnel. Standing with this group of healthcare personnel, a very key population.

So, really good news in children. We had 57 percent of children were vaccinated against influenza last season, the 2012-13 season. That is a five percentage point increase from the previous year, and a 13 percentage point increase from two years ago. So 57 percent of children vaccinated against influenza.

We also saw an increase in adults. We saw 42 percent of adults were vaccinated against influenza, and that was about a three percentage point increase from the previous year. Overall, there continues to be variation between states. In children, we see a range of about 40 percentage point difference between the best state and the worst off state. I want to do a shout out to Rhode Island which had-- anybody here from Rhode Island? Okay. Rhode Island achieved a tremendous result with 82 percent of children in Rhode Island being vaccinated. That was 38 percentage points higher than the lowest state. So really great work in Rhode Island, and this shows us this can be done.

In adults, I want to give a shout out to South Dakota. Fifty-three percent of adults were vaccinated in South Dakota. We have a lot of room for improvement in adult vaccination all around, including with influenza. But we did do better this past season than we had in previous years.

We track influenza vaccination coverage by race and ethnicity. We do continue to see unfortunate disparities in adult influenza vaccination. Whites and Asians have almost ten percentage points higher vaccination coverage against influenza than do blacks and Hispanics. In children, we don't see those patterns. In fact, Hispanics had among the highest vaccination rates, significantly higher than among whites. So in kids, we're doing better all around including in the terrible disparities that we used to have, and in adults, more room for improvement.

So now let me turn to some key populations. I want to talk about pregnant women. Many of you will remember in 2009, the pandemic hit especially hard in pregnant women. It was a wakeup call to all of us, and I want to congratulate obstetricians who really took the challenge. Obstetricians, nurse midwives, family physicians, have really been-- I see a friendly obstetrician cheering over there, she is available for questions later. But, essentially, we've really changed the social norm in pregnancy care. And vaccination is good for moms and it's good for babies, too. We know that's a key motivator for women as well as for their providers.

The data on pregnancy and on healthcare providers come from internet surveys. We're using these now to get information more quickly than we can from some of our other strategies. So the internet panel reported in today's MMWR showed that 51 percent of pregnant women were vaccinated against influenza last season, more than half. We still have room to go there, but it's so much better than a few years earlier, real night and day from before 2009.

In particular, when a clinician recommended the vaccine, and also offered it right in their practice, 71 percent of pregnant women were vaccinated. So that is the way to go. We know that when a doctor or a clinician recommended the vaccine and didn't offer it, 46 percent of pregnant women were vaccinated. And when the clinician neither recommended nor offered, just forget about it, only 16 percent of pregnant women. Pregnant women really look to their caregiver for advice to protect themselves and the baby. And we know a clinician recommendation is a key influencer. So, pregnant women, more than half vaccinated, but let's get the other half.

With healthcare personnel, as I mentioned, as a healthcare personnel myself, as a physician, I'm really pleased to say that we have good news particularly for physicians, for pharmacists, for nurse practitioners and physician assistants. This is, again, internet data; 92 percent of physicians in the internet survey this past year had gotten influenza vaccine. That is extraordinary compared with where we were a few years ago.

Pharmacists were neck and neck, 89 percent of pharmacists. We have a famous pharmacist over here, so they're going to take on the physicians next year, I think. So we better keep up our act. And nurse practitioners and physician assistants were close at 89 percent also.

Non-clinical personnel, 65 percent. Now, that's better than the whole adult population, but working around patients, we really want everyone working around patients to be vaccinated to protect not just themselves and their family, but the people they take care of who are often so vulnerable.

Location matters. Hospitals are doing the best. We saw significantly higher vaccination among healthcare personnel working in hospitals at 83 percent. And really, like the worst news that I'm going to give you today, is this one. Long-term care facilities where the evidence on the value of vaccinating caregivers is the strongest and the population is the weakest. Only 59 percent of healthcare personnel working in long-term care facilities had gotten the flu vaccine last year. We

have not made progress in this population. Why is that? Well, when we look at the factors that lead to higher rates of influenza vaccination, we might have some keys. When influenza vaccine is offered for free and it's offered more than one day in a healthcare facility, more people are vaccinated. That is a significant predictor of vaccination. When it's for free, and offered just one day, that's still much better than when it's not for free or it's not offered even one day.

And so we know that in the long-term care facilities where, again, the patients are the most vulnerable, they're the least likely to be offering vaccine or offering it for free. And those workers may just not have gotten access to it. But as Dr. Koh mentioned, access should not be the problem with insurance coverage and many opportunities. So we hope that we can do better with healthcare physicians. We're pleased with the progress in physicians, pharmacists, nurse practitioners, and physician assistants. Lots of work to do in the long-term care facilities.

So I want to briefly turn to the vaccine options that are available this year. There's something for everyone this year. There's so many options, I'm going to really do this quickly. But I would say that industry and the government and the private sector have really been investing in getting more options out there for influenza. This doesn't just help us for seasonal flu, this improves our preparedness against pandemics in the future.

Usually, we've been vaccinating against three types of influenza with a trivalent vaccine. This year for the first time, some companies are offering quadrivalent vaccine that targets four types of flu. The trivalent vaccine attacks two types of A and one B. And the quadrivalent vaccine adds a second B that it targets. So this potentially broadens the protection that's available.

There are many ways that the trivalent is being offered. There's the standard vaccine that's grown up in eggs. That is around, you can get that, it's given as a shot. There's the standard vaccine that's egg free that's called a recombinant vaccine that's given as a shot. That's new this year, an

exciting advance in our preparedness. We might be able to make vaccines quicker or more amounts of them with that approach. It's an exciting new licensed product.

There's also, for this year the first time, a cell culture based influenza vaccine being offered here in the United States, a trivalent vaccine. Again, diversifying the way that we make vaccines so we're not as dependent on the virus growing well in eggs.

And there is, as for the past couple years, a high dose vaccine grown in eggs that's available for people 65 and over. There's also a standard dose vaccine given with a tiny needle intradermally, or into the skin, instead of the usual that's given into the muscle. So a number of options of the trivalent vaccine.

And then there are two options for the quadrivalent vaccine. There's a shot and then there's also a nasal spray. All of the nasal spray that's being offered this year is going to be the quadrivalent formulation. Only a small percentage of the shots that are being given this year will be the quadrivalent formulation. So, as Dr. Koh mentioned, the best influenza vaccine is the one that's delivered. CDC does not recommend one vaccine over another or one type of vaccine over another. The most important thing is to be vaccinated.

I want to talk about supply, but again I never like to talk about supply. Usually, it's because there's some horrible thing to say. What I can say is that the companies expect to be producing at least 135 million doses of influenza vaccine, and they've already distributed 73 million doses. So you've probably seen in your doctors offices, in clinics, in the pharmacies, in the stores, the vaccine is out there and now is the time to get it.

You need to get vaccinated before you're exposed to influenza for the vaccine to work. So that first cough or fever is not the time to think about influenza vaccination. Today is the time to start thinking about it and to make the time for yourself and those you love. Remember that

vaccination is the best way to protect yourself against the flu. It protects you and those you care about, your loved ones, those you're around. Even healthy people can get the flu and it can be serious, so get vaccinated. Thank you. (Applause)

**DR. WILLIAM SCHAFFNER:** Thank you very much, Anne. I'm going to switch gears here for a moment. You have heard an enthusiastic call to arms from Dr. Koh and Dr. Schuchat. And now we're going to switch from that to a local perspective. When flu strikes a community, people come into the emergency room in streams. Dr. Paul Biddinger will tell you about his perspective from the emergency room at the Massachusetts General Hospital. Paul?

**DR. PAUL BIDDINGER:** Good morning, thank you so much. I'd like to put a bit of a human face onto flu and make sure people understand what can happen. This January, just over nine months ago, the city of Boston where I practice, declared a public health emergency because of the number of flu cases. More than 700 laboratory diagnosed cases and several tragic deaths prompted this declaration.

Primary care physicians offices, community health centers, and certainly emergency departments were overrun with the number of flu victims seeking care. And I took care of a good number of those patients who came in and they looked at me and said, "Boy, flu is not a cold. I feel awful. I never, ever want to go through this again." Many of them looked concerned, worried that they were exposing their young children, their elderly parents, others to this illness that can be so severe for them. And they really started to understand that this could have been prevented, or at least mitigated, and wished that they had done something like get vaccinated.

Our emergency department at Massachusetts General Hospital during the worst of the outbreak had more patients awaiting admission in the hospital which was completely full than we had beds for many mornings in a row. Patients waited in many hospitals in Boston for more than a day just trying to be admitted with, again, severe symptoms, severe illness. And this is something

that no one wanted to go through again, and hopefully motivates at least them and their families to get vaccinated. But I hope motivates all of you to avoid getting the illness.

I started discussing the events of last December, January, February with my colleagues and I was struck by how many of them also shared tragic cases; a 35 year old teacher, a 6 year old child, a 3 year old child who came about as close to death as you can come, intubated in the intensive care unit with complications from influenza. This can happen and although it's thankfully rare, as you heard from previous speakers, there were tragically several pediatric deaths, more pediatric deaths from last year's flu season that we saw. No one wants to go through that.

As an emergency physician, I feel a sense of regret, most of us feel a sense of regret when someone comes into the hospital after a car accident when they weren't wearing their seat belt and those injuries could have been lessened or could have been prevented. Flu vaccination is very, very similar. Get your shot now, don't wait until it's in your community. Lessen your chance of illness or death. Get that flu vaccine, don't feel that sense of regret.

I've seen it on the front lines. It's something we should all be doing and I hope with the wonderful options that you've just heard so much about, we'll be able to move those numbers even higher, do better for ourselves and our colleagues. Thank you. (Applause)

**DR. WILLIAM SCHAFFNER:** Thanks, Paul, that makes it real. Now, we in the healthcare environment have a special responsibility to protect our patients, and Dr. Liebowitz is going to come up here and tell us about immunizing in such an environment. Rich?

**DR. RICHARD LIEBOWITZ:** Thank you very much, and good morning. One of the advantages of going last is you get to build off all of the wonderful information you've already been given. So Doctors Koh, Schuchat and Biddinger have done such a wonderful job, I'm going to talk to you about the perspective of a chief medical officer in a large academic medical center.

One of the things I'm responsible for is overseeing the medical care that's delivered in my institution. We all agree that one of the things that should happen in a hospital is we're there to make people better, not to create a situation where people get worse. The very first tenet of medical care is do no harm.

We always look for decreasing risks of things that go on throughout the year. But flu season represents a time that really represents a special challenge to the hospital. We, luckily, have an early and effective intervention that works in terms of decreasing the risk of transmitting flu from our employees, from our doctors, to our patients. The last thing I want to do is ever have a conversation with a family in terms of why your loved one got sick in our hospital, because somebody from our staff transmitted flu to your loved one as a patient.

The good news is, as I say, we have ways of dealing with this in immunization as well as hand hygiene and cough hygiene, are very, very effective in terms of preventing the transmission of flu. How effective are we in my hospital? I'll give you some of my data. Very much like what Dr. Schuchat talked about, 90 percent of my medical staff gets immunized, and that's great. When I look at my non-medical staff, it's between 70 and 75 percent. These are good numbers, but these are not good enough numbers and clearly our goal is 100 percent immunization.

How are we going to do that? One of the key things we think is education. It's amazing to me how ill informed some medical staff, some medical workers are. We've had a very active flu immunization program, and by active I mean we go to all our staff, and they're given two options. They either have the flu shot or they actively decline. And by actively decline, they sign a sheet of paper saying they understand the risks involved and they choose not to have the flu.

Last year, we started a new intervention. What we did is rather than just have our staff decline, they then had to sit through a 25 minute video that explained the risks of flu. Now, some say it's

the time that made the difference, but I would like to think it's really understanding what the implications of not having a flu shot are that has increased our rate of immunization.

So, this year's going to be a little bit different in the state of New York as well, because our Department of Health has passed a regulation that all healthcare workers either need to be immunized or while they're in the hospital wear a mask. And the only time they don't wear the mask is when they're in the cafeteria eating. Again, the mask is minimally effective, not effective as getting a flu vaccine. So I'm hoping rather than avoiding the stigma of wearing a mask, that people will do the right thing. Because what we're really trying to do is protect our patients.

So as a chief medical officer I would ask everybody involved in the care of patients, as well as any chief executive officer in any company, to really actively encourage flu immunization for their employees, for their families, and for the general public. Thank you. (Applause)

**DR. WILLIAM SCHAFFNER:** Thank you, Richard. So thank you all for sharing this information. It's encouraging to hear that as a nation more of us, indeed, are getting the message and getting vaccinated every year. There are no good reasons, as you have heard, to skip the influenza vaccine. And influenza vaccine in the refrigerator never yet prevented a single case of influenza.

Some still believe that the vaccine-- (Laughter)-- can cause the flu. That simply is not true. It does take ten days to two weeks to build up immunity after the vaccine. In the interim, if you come in contact with the virus, you can get influenza or perhaps a common cold, which is why it's important to get vaccinated now. And people are still confusing influenza with other viruses that circulate during the winter months, so they may say they have the flu when, in fact, they didn't.

To encourage everyone to get vaccinated, Dr. Koh will join NFID in leading by example. In fact, NFID invites business and community leaders from across the nation to join this flu prevention initiative. Visit [NFID.org/lead](http://NFID.org/lead) to learn how to sign up. And while you're on the NFID website, we'll hope you'll look at our new flu public service announcement, Freddy the Flu Detective, which launches today and focuses on CDC's take three approach for influenza prevention.

While vaccination is the best way to protect against the flu, frequent hand washing and covering your sneezes and coughs are also important. For those who come down with influenza, prompt use of antiviral medications may help shorten the duration of the illness and prevent, of course, the most severe complications.

Later this season, NFID will be releasing results from a national survey on flu knowledge and behaviors including breakout data from ten key states. Please keep an eye out for this announcement.

Now, I'd like Sharon from Medstar Visiting Nurse Association to the podium, come on up Sharon, where she'll vaccinate Dr. Koh. (Laughter)

**DR. HOWARD KOH:** Didn't hurt at all.

**DR. WILLIAM SCHAFFNER:** He's a tough guy.

**DR. HOWARD KOH:** Round of applause for Sharon. (Applause)

**DR. WILLIAM SCHAFFNER:** So we want to thank Medstar for providing influenza vaccinations this morning. So we're going to move to the Q&A. Now, this portion of the event is reserved for the media. We have two roving microphones. Indicate if you have a question and someone will come over with the mic. Please remember, identify yourself if you would and the

media outlet that you represent. For media participating via the webcast, please email your question as indicated on the webcast. If you're on the teleconference, the operator will come on the line momentarily to advise you about how to submit your question.

And finally, if any of you would like to schedule private interviews with any of the speakers or the representatives of the supporting organizations who are here, these folks can take care of that for you after the news conference is complete.

Once we conclude the Q&A session, I encourage everyone here to select a paddle and get vaccinated. In fact, we may not let you leave unless you get vaccinated. So, I'd like to open it all now to the Q&A, please. So there's a question right here.

**NOEL WAGHORN:** Hi, Noel Waghorn from the AP. I had a couple of questions. I'm curious about the-- since there are multiple different forms of a way to get the immunization against influenza, if there's any difference in the efficacy, particularly in the newer vaccines or newer methods? And secondly, more closely, you mentioned a 90 percent immunization rate among hospital medical staff and 70 percent. What are the reasons that the medical staff give for not wanting to receive the vaccine, particularly since they work in a hospital?

**DR. WILLIAM SCHAFFNER:** So Anne, I wonder if you would tackle the first question about relative efficacy?

**DR. ANNE SCHUCHAT:** You know, just as we say that influenza is unpredictable, there are a lot of qualifications about vaccine efficacy with influenza because every year is different. The flu vaccines are made up every year specially, the vaccine strains that are circulating are different, and populations are different. So vaccine efficacy in a frail elderly person will not be as good as vaccine efficacy in a young, healthy person.

The CDC's advisory committee on immunization practices has been formally grading the evidence about vaccines and the differences in vaccines. And we don't recommend one vaccine over another. There are some restrictions on which populations can get certain vaccines. The nasal spray vaccine, which is recommend, is only available for people who are healthy, not pregnant, who are between the ages of two and 49. So, that vaccine is recommended for that age group, non-pregnant otherwise healthy people. But we don't differentiate at this point in preferences of one vaccine over another.

The high dose influenza vaccine is licensed only for people 65 and over and that was developed to try to overcome some of the weaknesses that elderly people have with immune response to flu vaccines. There is information that will be coming out soon about the performance of the vaccine and CDC's looking forward to the public review of data about how well that vaccine works in clinical trials.

**DR. WILLIAM SCHAFFNER:** The influenza vaccine is a good vaccine, a very good vaccine, but it's not a perfect vaccine. And as Dr. Koh said earlier, it's the vaccine that works is the vaccine that's delivered. I like to paraphrase Voltaire, that old French philosopher who said, "Waiting for perfection is the greatest enemy of the current good." And we can do a lot of good by providing vaccine and getting it ourselves. Rich, do you want to talk about that question concerning healthcare immunization?

**DR. RICHARD LIEBOWITZ:** Sure. And when I talk about healthcare professionals, I'm talking about not only physicians, nurse practitioners, physician assistants as well. The most common response I get is, "I've never had the flu before, and I don't feel like I need the flu shot." The second is, "I've had a flu shot and I had a reaction to it." And when you talk about what those reactions are, it's anything from "I got a sore arm" to any other of a number of complaints which clearly are not related to the flu.

The third thing is there's somewhat of a libertarian streak in folks, and when you talk to them it's "I don't want to do it because you're requiring me to do it," which is a very interesting philosophy to have. But ultimately, those are the folks who when they sit down, they see the video and you spend some time with education, those are the folks who you can convince to get the flu shot.

**DR. WILLIAM SCHAFFNER:** We have a question here from Mark Siegel from FOX News. What's our prediction of the severity of the season this year based on FluNet or any other source? Flu will be here this year. It will cause some severe illness, that we can predict. Does anybody else want to say anything because I think gambling on the severity of flu seasons in the past has led to a lot of people losing money, right? So, we don't do that very much. What we do predict is that flu will be here and it will make people sick and we need to prevent as much of that as possible. We're happy to take some other questions. Yes?

**MIRIAM TUCKER:** I'm Miriam Tucker with Medscape. Is there a difference in cost among the different types of vaccines? And I'm just wondering, which one are we getting back here?

**DR. ANNE SCHUCHAT:** Yeah, the costs do differ. CDC's website posts the costs for the public sector contracts that we have, both the pediatric and adult vaccine costs, or prices that we pay, and the public sector costs are usually about 18 percent or so less than the private sector costs. The type of vaccine being offered here, I don't know.

**DR. WILLIAM SCHAFFNER:** Well, we have a variety of different kinds of vaccines here. And, you know, costs to patients, I think, Miriam, is probably what you had in mind. And as what Dr. Koh will tell you, under Medicaid and Medicare, there is first dollar coverage. Many private insurance schemes have first dollar coverage. My son actually has a deductible, so Dad pays. Other questions? Yes, please?

\_\_\_: Hi. What happens if it does end up being a bad season? Can you order more vaccinations or are you guys topped out and you can't order anymore? Can you make more in the middle of the season, if it came to that?

**DR. ANNE SCHUCHAT:** Yeah, the companies have told us they're planning to produce at least 135 million doses, although they may be producing more than that. And I do believe that orders-- people can still be ordering vaccine now. But a key thing to say is it's not optimal to wait until we see how the season's going to go to get vaccinated or to order vaccine. You need to get vaccine at least two weeks before you're exposed to the virus to have an antibody level. And we're really keen to get people vaccinated beginning now so they'll be protected throughout the flu season.

As you heard, last year it came early and it came hard and we'd like to get as many people as possible vaccinated before that.

**DR. WILLIAM SCHAFFNER:** So talking about being immunized early, here's a point we'd like to make. Dr. Peters from the American Academy of Pediatrics, children under nine years of age who've never been vaccinated before, they need to be vaccinated twice, don't they?

**DR. PETERS:** They sure do, right. And that, again, relates to the issue of insuring that they-- there you go. Now, you can see me. It was a disembodied voice back there. So children under nine years of age, if they've not had two vaccines before, need to get two this season and that ensures they have an adequate immune response. And I would say I agree, speaking of vaccinating early, it is so important for young children over the age of six months to get their flu vaccine so that they can protect themselves and stay healthy.

**DR. WILLIAM SCHAFFNER:** Thank you. I think we have a question here.

**MAGGIE FOX:** Maggie Fox with NBC News. Dr. Liebowitz, can you tell us a little bit more about what you've done to shame healthcare personnel into getting vaccinated? And if anyone can comment on whether some of these policies can translate into the wider population?

**DR. RICHARD LIEBOWITZ:** Sure. I would prefer not to label it as shaming. I'd prefer to think of it as an informed conversation. (Laughter) And so basically what we've done, really, is gotten down to what the real issue is and put aside one's personal sense of "I'm fine, I'm not going to get it," and really put it in the context of you're doing this not just for yourself, but you're doing it for your family and for the patients that you're taking care of.

And I think that when you get that one to one contact with people, you're much more effective in terms of having people understand why it's an important thing to do and getting successful transition into being immunized rather than non-immunized.

**DR. WILLIAM SCHAFFNER:** Maggie, go right ahead?

**MAGGIE FOX:** Have you seen a difference in the uptake since you started doing this?

**DR. RICHARD LIEBOWITZ:** Absolutely, yes. So particularly in our non-medical staff. So I think that there is more of an education gap in our non-medical staff and so those are the folks that really seeing the video has made a huge difference. With the physicians themselves, that's the more face to face conversation.

\_\_: How boring is this video you showed them?

**DR. RICHARD LIEBOWITZ:** there are a lot better things I can do with 20 or 25 minutes. But it's information. The intent is not to bore, the intent is really to hit home on the message in terms of why immunization is important.

**DR. WILLIAM SCHAFFNER:** So, Mitch, tell us a little bit about the role of pharmacists in providing influenza immunization? Dr. Mitch Rothholz from the American Pharmacists Association.

**DR. MITCH ROTHHOLZ:** Thank you, Bill. Pharmacists are accessible to the public, we're a major player in what we term the immunization neighborhood. And so, what we're encouraging patients to do is to find a provider that they're comfortable getting immunized and get immunized, as the message goes. And just to play off of the healthcare personnel, we have challenged our pharmacists that if we're going to be out there advocating the public to get immunized, we need to walk the walk. And we have policy, just like a lot of other organizations, that encourage our members to get immunized so we serve as a good example for the public.

**DR. WILLIAM SCHAFFNER:** Thank you, Mitch. We are ready to take some questions over the phone if there are any. I don't think we have any at the moment, but I've got a question from Michael Smith from Medpage Today. Anne, I'm going to have to direct this one to you. The two surveys in the morbidity mortality weekly report, the MMWR, are based on, Michael says, self selected internet panels. How generalizable do you think those results are?

**DR. ANNE SCHUCHAT:** The question is very good about the validity of internet samples. These are relatively new and we believe that these are a reasonable approach. But they haven't necessarily been validated fully. We've been using internet surveys for healthcare providers for a couple of years now, and so we do feel like the same systems are being used and we can look year by year. But we do plan to compare them with final results of the national household interview survey which won't have available results until next year.

In general, though, people are being enrolled without knowing what the survey's about, so they're self selected to participate. And those people might be different than other people, but

they're not being selected because they know they are going to be answering questions about influenza vaccine.

**DR. WILLIAM SCHAFFNER:** I think we do have another phone question.

**MARNIE JAMISON:** Hi, this is Marnie from the *Orlando Sentinel*. I just have a question about effectiveness. I've seen the number from last year's flu season, the shot was about 60 percent effective. Can you explain what that means? Does that mean four out of ten people who get the shot will get the flu? I know that's not what it means, but could you put that into some context for me? Can you give us some indication of how effective we think the flu shot might be this year?

**DR. WILLIAM SCHAFFNER:** Thank you.

**DR. ANNE SCHUCHAT:** Yeah, the flu vaccine effectiveness data vary by year and they vary by the host, whether a person is frail and elderly or whether the person is young and healthy. But in general, when a lot of different studies are looked at and a lot of seasons are looked at, we see about 60 percent effectiveness. And that means that your risk is reduced 60 percent. So, you have a significantly lower risk than if you didn't get vaccinated, but you don't have zero risk of getting flu.

We know that effectiveness is better when the flu vaccine matches the viruses are circulating and when the individual being vaccinated is healthy and has a good immune system. And that's one reason that we're vaccinating everybody now six months and over, because the frailest, the people with the weakest immune systems, won't have as good an effect of the vaccine themselves. But if we vaccinate the people around them, they may be less likely to encounter the flu viruses and get sick. So that's the reason for vaccinating, to protect those you love. It's not just about protecting yourself, but protecting yourself from spreading the virus to other people.

**DR. WILLIAM SCHAFFNER:** Thanks, Anne. I'd like to take this opportunity to emphasize the importance of immunizing pregnant women. Dr. Laura Riley, why don't you step up here and say a word or two about that? Dr. Riley is here representing the American College of Obstetricians and Gynecologists.

**DR. LAURA RILEY:** I'm ready, I'm getting my flu vaccine. We really need pregnant women to get vaccinated. I think we've had multiple flu seasons where we've seen what the effect that flu can have on pregnancy, and that's at all gestational ages of pregnancy. As everyone here has said, for those of us taking care of pregnant women, we know because we've seen some bad outcomes. We've seen bad outcomes for moms and we've seen bad outcomes for babies. Prematurity is on the list, moms being in intensive care units, and these are young, healthy people landing in some really bad situations. So, I can only say that flu vaccine is definitely our first method of preventing this disease from even coming into contact for moms as well as babies.

The other thing I think is really important, it's important for all of us, but I think pregnant women are particularly sensitive about is this safe for my baby? And I think that one of the good things that came out of H1N1 was there were a lot of studies done in pregnancy and looking at the outcomes for moms and babies. And there's a lot of data out there now showing that flu vaccine is safe. We knew it was safe before, but now we have even more studies in the literature to alleviate that concern about the safety of the vaccine.

And so I feel I as a provider who takes care of thousands of pregnant women and babies, I feel comfortable vaccinating all of my patients at any gestational age. So first trimester, second trimester of pregnancy, you're about to have your baby, go ahead and be vaccinated. That's going to be the best protection for your baby. In fact, that's going to be the only protection for your baby until they're six months of age and can get their own flu vaccine. Thank you.

**DR. WILLIAM SCHAFFNER:** Thanks, Laura. So from Lisa Schnirring from CIDRAP News, we now have a question. Have any of us seen flu starting out yet in any parts of the country? How about you, Paul? What's going on in Boston?

**DR. PAUL BIDDINGER:** So, we haven't yet seen flu in the emergency department, but we have had a couple of people that have been hospitalized with flu, and I believe speaking with Dr. Riley earlier, we've seen a couple of pregnant women with flu as well. I'd like to underscore, based on our experience, that that means now is the time to get vaccinated. So many people this January, February, got vaccinated after the peak had hit and though we always encourage vaccination and it's a good thing to get vaccinated, you'll avoid that regret if you get vaccinated now before it's in your community.

**DR. WILLIAM SCHAFFNER:** Excellent, because we've had a confirmed case of influenza in the community come to our institution at Vanderbilt and we've said exactly the same thing. If you needed another reason to get vaccinated, that's it. Further questions, please? Here's one.

**LAURAN NEERGAARD:** Lauran Neergaard with AP. Two things: first of all, do you have any sense of why there was such an important increase in child vaccinations last year, but not an accompanying adult increase? Are the parents figuring they've done the best for their child, they've had to make a pediatric visit, they don't want to make their own visit? What's the disconnect there?

And secondly, I realize you're not recommending one vaccine over another, but are you encouraging the industry to go ahead and rapidly adopt quadrivalent vaccines?

**DR. ANNE SCHUCHAT:** Thanks for those questions. The issue of why children are doing better than adults is probably multifactorial. I want to say how well pediatricians and those who care for young children are doing. Seventy-seven percent of babies and toddlers six months to 23

months of age received a flu vaccine last year. That is extraordinary, that's starting to get into the range of the routine childhood vaccines they've been giving for decades.

And I would say that pediatricians are great at giving vaccines and they understand that influenza can be very serious for children and they've really taken up that charge. And parents, I think, have heard the voices of Families Fighting Flu. They've seen these terrible reports in their newspapers and TV and they know that influenza can be serious, even for healthy children.

So we're very encouraged that the pediatric community and parents are getting the message. We know that adults are not as good at getting any vaccines and providers for adults have been slower to take up the message. You know, the obstetricians have really been leading the way in making change in one group of adult patients, but we have a lot of work to do with others.

You don't want to have to have a member of your family die or lose a patient from this disease to get the message that it can be serious. Influenza vaccines are not perfect, but they're the best way to protect yourself and your family against influenza right now.

Now, in terms of the quadrivalent, my understanding is that companies this year have adopted some quadrivalent vaccine, but they're intending to make more and more of it. So this year, you may not be able to find it if you're looking for it. But we're expecting over the years ahead that there'll be more supply available.

One of the values of making the quadrivalent vaccines is to protect against that second type of B that might be circulating. But another value of companies investing in that is they're essentially expanding their capacity, increasing the warm base that we have for pandemics because we know that when we have the next pandemic, we need a large manufacturing base. So every year that we produce and distribute and use more and more flu vaccines, we have a better base to be prepared for the next pandemic.

**DR. WILLIAM SCHAFFNER:** So Howard, would you like to get in on this?

**DR. HOWARD KOH:** I'll respond to the first question and say for kids, we have an increasing expectation for immunization and prevention and more of a system for immunization and prevention led by the pediatricians as Dr. Schuchat mentioned. For adults, we need to get to a better system for prevention. And that starts by raising awareness that there are some ten recommended vaccines for adults with flu being one of them. And so we are working hard now and in the future to keep talking about the need for adult immunizations, make sure that people are aware of that need. Go on [vaccines.gov](http://vaccines.gov) to take the test and see which adult immunizations are recommended for you at your age and stage of life and make sure that all adult providers are involved in that process as well.

**DR. WILLIAM SCHAFFNER:** Thank you. I think we have one more message via the phone, a question from the phone?

**WILLIAM WARE:** Actually, the previous question answered my question about the quadrivalent, when that would be available and how people can get it.

**DR. WILLIAM SCHAFFNER:** And I'd like to thank you all for your participation, my colleagues certainly, my colleagues sitting there, and all of you for bringing this important message to the American people. When in doubt, get vaccinated. And as the Nike ad says, just do it. (Laughter) We have vaccine available for all of you at the rear. Thank you very much. (Applause)

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