

**Head Start and Child Care Programs:  
An Important Part of Community Readiness and Response to Seasonal Influenza**

Sean Diederich: Welcome and thank you for standing by. My name is Sean Diederich. I am the Program Coordinator for Disaster Preparedness and Response Initiatives at the American Academy of Pediatrics. I am pleased to welcome you today's webinar. The webinar today will describe recommendations for this year's influenza season, discuss why it's important for everyone who works in Head Start and child care to be vaccinated for flu, and share strategies that can be used in early childhood settings to prevent and control the spread of influenza.

Before we begin the presentation, I have a few announcements. All participants will be muted throughout the entire presentation. There is a lot to cover within the next hour. You may submit questions and comments at any time using the question box in the Tools panel on the left-hand side of your screen. Staff will reply to your question, or we will ask the presenters to respond to common questions near the end of the webinar. The webinar is being recorded, and an archived version, along with the slides, will be available.

This presentation will be available on the Health Portal on the Early Childhood Learning and Knowledge Center website for later viewing. If you need technical assistance during the webinar, please call 1-800-843-9166, or e-mail [support@readytalk.com](mailto:support@readytalk.com). You can also ask for assistance through the question box in the left-hand corner of your screen.

Participants will receive a certificate of participation upon completion of an online evaluation. A link to the evaluation will be available when the webinar closes. Participants must complete the online evaluation in order to receive a certificate. Only participants in the live presentation will be eligible.

For today's session, we have two expert speakers. Our first speaker, Dr. Hank Bernstein, is a Professor of Pediatrics at Hofstra North Shore- LIJ School of Medicine. He has served as a general pediatrician in private practice in academia at urban, suburban, and rural children's hospitals to promote the health and well-being of children, their families, and the communities where they live. Besides various administrative, teaching, and care responsibilities, he leads several national initiatives in medical education and clinical primary care research.

Dr. Bernstein spearheads Pedalink, an AAP online home for lifelong learning. And he is the associate editor of Red Book Online, the web-based online home of the report of the American Academy of Pediatrics Committee on Infectious Diseases, whose responsibility it is to develop and revise AAP guidelines for control of infectious diseases in children. Dr. Bernstein maintains a certification through the American Board of Pediatrics.

He completed his residence training in pediatrics at St. Christopher's Hospital for Children in Philadelphia after earning his medical degree from the University of Medicine and Dentistry of New Jersey- School of Orthopedic Medicine. Dr. Bernstein also earned a Master's degree in health care management at the Harvard School of Public Health in 2013.

Our second speaker will be Dr. Timothy Shope. Dr. Shope is an Associate Professor of Pediatrics at the University of Pittsburgh School of Medicine. He retired from the Navy in 2011, where he served as a child care health consultant for the Navy's mid-Atlantic region, and for the Department of Defense for

10 years. He also served on the American Academy of Pediatrics Executive Committee of the section on early education and child care for four years.

He is the co-editor of *Managing Infectious Diseases in Child Care and Schools: Third Edition*, The Technical Panel Chair for *Caring for Our Children: Third Edition*, and is the co-author of *Curriculum for Managing Infectious Diseases and Early Education in Child Care Settings*, as well as a subject matter expert for the *Managing Infectious Diseases in Early Education and Child Care* online module. Please keep an eye out for the fourth edition of *Managing Infectious Diseases in Child Care and Schools* this spring.

And with that, I will invite Dr. Bernstein to begin his presentation.

Dr. Hank Bernstein: Thank you, Sean.

Children in child care are vulnerable to infectious diseases, because this might be the first time they are exposed to these germs. They also may be too young to have developed protection. And as we all know, infants and toddlers tend to touch everything around them, and often put their hands and other objects into their mouths.

Children in group care, play and eat closely together. This makes it easy to spread germs. Although the caregivers and children might know what they are supposed to do to prevent the spread of germs such as washing hands, covering their cough, getting vaccinated, and staying home when ill, it's not always easy for all of us to do these things all of the time.

Influenza is a common and serious public health problem, as you can see on this slide. It contributes significantly to patient morbidity and mortality, and creates a huge financial burden on health care systems. You can see the impact here each year in comparison with other vaccine-preventable diseases.

So here's the first question. Which of the following could be symptoms of flu? Select all that apply. So we'll take a moment. And as you can see, headache, chills, sore throat, and cough all can be symptoms of influenza. And although the flu can cause a sore throat, it is not always evident on physical exam.

Influenza, again, known most commonly as the flu, is a contagious disease caused by the influenza virus. It infects the respiratory or breathing system-- that's the nose, the throat, and the lungs-- as well as involving other parts of the whole body. Besides the signs and symptoms of the flu mentioned earlier-- headache, chills, sore throat, and cough-- the flu also causes a sudden fever and other signs or symptoms as listed on this slide.

Influenza is spread person-to-person primarily by respiratory droplets created by coughing and sneezing. Contact with these respiratory droplets, or droplets that are contaminating surfaces, is another possible mode of transmission.

Both adults and children can spread infection while developing an illness, the incubation period, or while recovering from the illness with viral shedding. They may also be contagious if they are infected, but do not show symptoms early on. People of all ages can therefore infect one another, even when they do not show signs of being sick. This makes it especially challenging to control the spread of germs.

The incubation period is a time between being exposed to a disease and when the signs of illness start. The typical incubation period for influenza is one to four days, with an average of two days. The contagious period is the time during which an illness can spread person-to-person. It lasts from the day before symptoms appear until about seven days after the onset of the flu. Shedding of the influenza virus tends to last longer in children and those with compromised immune systems.

This slide shows the difference between the common cold and the flu. And as we all know, there are various viruses that cause an influenza-like illness. The flu and the common cold, which is caused by rhinovirus, are both respiratory illnesses. But they are distinctly different viruses.

But these illnesses are sometimes difficult to tell apart, because they cause similar symptoms. With the flu, symptoms such as the fever, body aches, tiredness, etc. are quite common and intense. The common cold, on the other hand, is usually milder, most often causing just a runny nose or a stuffy nose, and maybe a little low-grade fever. And unlike the common cold, the flu tends to cause severe illness, and even life threatening complications in people of all ages. There are vaccines and diagnostic tests available for the flu, but not generally used for the common cold.

Influenza causes a heavy disease burden on the US society in an average year. It's highly contagious. And this acute respiratory disease is responsible for 50 to 60 million infections and illnesses, resulting in over 25 million physician visits, hundreds of thousands of hospitalizations, and thousands of deaths each and every year.

As you can see on this slide, during the past 31 years, the peak month of influenza activity has most often been February. Influenza activity, as you can see though, can start as early as October. And you also recognize that it can occur back down in April and May during the spring.

Therefore, in general, we suggest vaccine essentially throughout the year, because influenza season is unpredictable. As I mentioned, it may start early. So the vaccine should be given as soon as the vaccine is available locally, preferably by October. And it should continue until the end of June each year, which marks the end of the flu season.

Although children with certain medical conditions are at higher risk of complications, substantial proportions of seasonal influenza illness and death occur among healthy children. Among children hospitalized with laboratory-confirmed influenza so far this season, more than half-- 53 percent-- did not have any underlying medical condition. 18 percent had underlying asthma, and 18 percent had an underlying neurologic disorder.

So far in the 2015-2016 influenza season, as you can see on the right side of this slide, there have been 13 laboratory-confirmed influenza-associated pediatric deaths. Last season, there were 148 pediatric deaths reported. And going back to 2009-2010 pandemic, there were 348 pediatric deaths. Before the pandemic, less than 100 deaths per year were reported.

As I've already mentioned, the influenza virus is very unpredictable. Some flu seasons are mild, while others are much more severe. That's where we end up with outbreaks, and it extends out to pandemics as we're all familiar with from 2009 to 2010.

Here's another quiz question. There are how many new strains in the seasonal influenza vaccine for 2015-2016?

The correct answer is C, two new strains in the vaccine this particular season compared with the vaccine last season.

Both trivalent and quadrivalent influenza vaccines are available this season. The quadrivalent vaccines contain the same three strains as the trivalent vaccine, as well as an additional B strain.

The H3N2 and B/Yamagata strain present in both the trivalent and the quadrivalent vaccines have changed from those included in last flu season's vaccine. The decision about which strains to be included in the vaccines are based on global influenza virus surveillance data related to the epidemiology and antigenic characteristics, and the serologic response to last season's vaccines.

How effective a flu vaccine is depends on several factors, especially how well the strains included in the vaccine match those strains that are circulating in a community. In the 2014-2015 season, as depicted on the left side of this screen, you can see that the influenza strains circulating in the population were genetically drifted, meaning they did not match well to those strains in the vaccine. This mismatch resulted in low vaccine effectiveness last flu season.

Fortunately, so far this season, in the 2015-2016 season, the strains included in the vaccine match well with those circulating throughout communities. So we expect the vaccine to be much more effective this season compared with the last one.

There are two ways to receive the flu vaccine-- the flu shot and the nasal spray. The shot is an inactivated vaccine that contains killed virus, and is given by injection. The nasal spray is made with live, weakened flu virus, and it's approved for healthy people two years through 49 years of age who are not pregnant. This season, the nasal spray is available only as a quadrivalent vaccine.

No preferences is expressed for IIV, the inactivated vaccine, or LAIV, the nasal spray vaccine, for anyone who receives the vaccines, particularly young children. The two vaccines are considered interchangeable, and the vaccination should never be delayed to obtain one product over the other. The risk of adverse events associated with the vaccines may include fever, and wheezing, and serious adverse effects. But those are extraordinarily rare, and are similar between the two products.

Here's another case. Jane is an 18-month-old and received one dose of influenza vaccine last season. How many doses does she need this season?

The correct answer is two doses, given at least four weeks apart.

Children, the first time they receive the vaccine, need two doses-- one to prime their immune system, and one to allow them to develop an appropriate amount of protection. And as you are aware, infants younger than six months of age are too young to be immunized with influenza vaccine. Children nine years of age and older always need just one dose each season.

But as I mentioned before, children six months through eight years of age need two doses to be adequately primed. So we basically look to see if a child has ever received two or more total doses of a

flu vaccine before July 1st of 2015. If they did, they only need one dose this season. If they did not, then they will need two doses.

Another quiz question. For whom is influenza vaccine not recommended?

Infants younger than six months of age are too young to be immunized with the influenza vaccine. It is not licensed for children this age. All other groups on this list can, and should, receive the influenza vaccine each year. The American Academy of Pediatrics and the CDC both recommend that all people six months of age and older, including all children and adolescents, receive the flu vaccine each year.

Now in this case, a three-year-old named Jack once got an itchy rash after eating eggs. His parents are concerned, because they heard that influenza vaccine is made in eggs. What do you tell them? And select all that apply.

The correct answers are B and D. Children with egg allergy still should get the flu vaccine. Research shows that the flu shot is safe for nearly all children with any severity of egg allergy. We also know that, as I mentioned earlier, we should get the vaccine as soon as it's available in the local community.

There is enough scientific information now to show that the flu vaccine can be given in a single age-appropriate dose, and it is well-tolerated by nearly all children and adults who have egg allergies. Studies suggest the safety in administering the nasal flu vaccine to egg-allergic people also have been recently published. So any child who has a mild skin reaction to egg-- that's hives, which is an itchy, blotchy, raised skin rash can receive either flu vaccine safely at their doctor's office. If a child has had a severe reaction to egg such as facial swelling, wheezing, trouble breathing, her pediatrician should check with an allergist before giving the flu vaccine.

There are special populations that we need to be sure that we reach out to. Children commonly need medical care because of influenza, especially those under five years of age that are often in child care programs. Each year, an average of 20,000 children under the age of five are hospitalized because of influenza complications.

Health care personnel can cause influenza outbreaks, because they have increased patient contact. And this can cause increased financial burden on health systems, and obviously significant morbidity and mortality. Although immunization is the best way to prevent such outbreaks, vaccination rates among health care personnel remain well below national targets.

Household contacts of high risk children under five should also receive the flu vaccine every year, because we mentioned that we want to decrease the exposure of flu to these children under five years of age who are at risk for having more complications should they get the flu. And lastly, pregnant women with influenza are at increased risk for hospitalization and death. And vaccination is the best way to protect them, and the vaccine is recommended for a pregnant woman in any trimester. And the mother will pass on the antibodies that she develops to protect herself against flu, she'll pass those on to her newborn baby to protect the young infant in the first six months of life, because he or she cannot receive the flu vaccine.

This is the latest immunization schedule. And as you can see, flu vaccine is recommended for everyone beginning at six months of age. As you can see here, that through November 2015 according to data

from the National Immunization Survey, the estimated national coverage for children six months through 17 years is at 39 percent. This early flu vaccination coverage rate is similar to the coverage that we saw at the same time last flu season. So we're hoping that the rate of vaccine coverage exceeds the 59 percent seen last year.

Now another quiz question is, did you receive the influenza vaccine last year? Or I should say, even this year? And obviously, the best answer would be yes, because everyone should receive the flu vaccine to protect themselves, as well as protecting those at risk for complications of flu.

The vaccine is the single best way to prevent the flu, and protection from the vaccine only lasts for one flu season. The virus strains in the vaccine changed this season compared to last season so protection needs to be updated this year.

You can see here that adult immunization schedule also recommends the vaccine for everyone. And it is important to vaccinate adults, because as many as 50,000 adults die annually from vaccine-preventable diseases. And the cost of treating these vaccine-preventable diseases exceeds \$10 billion each year.

And as we've mentioned earlier, adults are a major source of disease transmission to children. And children are a major source of disease transmission to adults.

So the question is, does cocooning make sense? And cocooning is a vaccination strategy that aims to reduce the infection in children by immunizing their parents and their caregivers. This has not necessarily been proven in a randomized, controlled trial. But the concept of cocooning is particularly important to help protect infants under six months of age, because they are too young to receive the flu vaccine.

For the 2015-2016 flu season, through November of 2015-- that this flu season through November-- the data suggests that the estimated national coverage among all adults 18 to 64 years of age is 34 percent. About 60 percent of adults 65 years of age and older have been vaccinated as of November. And according to a CDC internet panel survey, 40 percent of pregnant women and 67 percent of health care personnel had been vaccinated by November.

So as you can see, all of these groups that there's significant room for improvement. And we do hope that the vaccine rates increase by the end of this flu season.

According to a study in Australia, 91 percent of the public thinks that nurses and doctors have an obligation to be vaccinated. And similarly, 90 percent of the public think that child care providers have an obligation to be vaccinated. This cross-sectional study was conducted by computer-assisted telephone interviewing from April to May 2011. And almost 2,000 families were interviewed.

Health care-associated influenza outbreaks lead to increased patient morbidity and mortality. And although immunization is the best way to prevent such outbreaks, vaccine rates for health care personnel and child care providers continue to be sub-optimal. It is important to recognize that near universal coverage was achieved among health care personnel who reported being subjected to an employment requirement for vaccination. Unfortunately, only a small percentage of the health care personnel in the United States reported being subjected to such a requirement.

There are prescription medications, anti-viral drugs, that can be used to treat influenza. But these drugs are never a substitute for influenza vaccine. And although not 100 percent effective, the flu vaccine is the first and the best way to prevent influenza. Anti-viral drugs should be considered a second line of defense in treating influenza should you get sick.

And that's the end of this portion of our webinar. And I'll now pass the mic over to my friend Dr. Tim Shope.

Thank you.

Dr. Tim Shope: Thanks, Dr. Bernstein. And thanks for everybody for joining us today. It's great to be here.

I am going to continue, and build on what Dr. Bernstein has already covered about general information about influenza and influenza vaccine, and apply it to early education and child care settings. And talk about what you need to know, and what you can do to improve vaccination rates.

So again, just to reemphasize what's unique about the children for whom you care, younger children are at higher risk of influenza complications. The young children and the very old are at a higher risk of death, hospitalization, school absence, doctor's visits, ear infections. And despite our best attempts, they like to be very close to each other. So we can't prevent them from putting a finger up a nose, and then into their friend's mouth. This is common behavior. And then they cough, and sneeze, and touch things, and that makes it very hard to stop the spread.

Also children bring influenza home to families and spread it into communities. So you're really, in the early education and child care setting, at the front line for controlling influenza every year.

So let's talk about this case. You're the director of a child care center. Last year during the flu season, two infants from your center were hospitalized with complications from influenza. Fortunately, they recovered and did not suffer any long-term health problems. However, this experience made you determined to do the best possible job to address this season's expected influenza outbreak.

So let's just pause for a second, and think about what you could do to control influenza in your child care setting. What are the strategies that you can employ? Perhaps you could write that down on a piece of paper right now, briefly.

And some of the possible answers you could have listed would be immunize, infection control and prevention, and exclusion, which is denying admission of an ill child or staff member to a facility, or asking them to leave if they're already present and become ill during the day.

So of those three methods for preventing and controlling influenza, which do you think is most effective? I'll give you a second to look at this.

Immunization is the most effective. Now we're going to discuss each of these three, and try to give you some numbers so you have an idea of how effective each one of the three strategies are.

So immunization with flu is by far the most effective mechanism with flu vaccines. Infection control, we're talking about hygiene, teaching children how to cough or sneeze into a shoulder or an elbow, and observation for symptoms of illness. These techniques are good to do, but they're less effective than protecting children with the flu vaccine. And exclusion by denying admission might help, but it's much less effective than immunizing.

So here are some numbers. Now these vary a lot by year. But influenza immunization, the intranasal vaccine in prior years has been shown to be more effective than the shot, although more recent studies have shown that to be a little bit in question. So we're still teasing that out. Last year, either the intranasal or the shot were not very effective. But in most years, we're talking about upwards of 80 percent effective. So very effective.

Now if a child did not get immunized, what are the chances that that child would get sick from the flu? It varies again by season, but anywhere from a 10 percent to 40 percent chance that children who are in child care will get ill or sick from getting influenza.

Now interestingly, in studies where blood has been drawn, it's been shown that more than half of children develop antibodies to influenza each season if they have not been immunized. So they get infected, but actually don't have symptoms. And it's possible that those children who are infected but not having symptoms can also pass the virus on to other people. In other words, they're contagious or infectious.

So the vaccine is quite good. But even though it isn't 100 percent effective, if you get vaccinated, you're much less likely to catch the flu or to get seriously ill.

Okay so we've seen this sneeze slide. Just imagine all those droplets flying through the air and contacting the mucous membranes, the eyes, the inside of the nose, or the mouth, or landing on surfaces. And that's how influenza spreads. As you can imagine, you can't put up a shield to prevent those droplets from spreading. So it's very difficult.

So we try to use infection control through hand hygiene, surface cleaning, sanitizing and disinfecting, and cough and sneeze etiquette, which is very difficult in young children. Obviously, that's not going to prevent that big spray that you saw in that sneeze from landing on other people. Now the recommendations that exist for how frequently, and proper procedures for all of these techniques, are contained in Caring for Our Children. I have the link there. And CFCO is a searchable database, and it's available online for free.

We also have Managing Infectious Diseases in Child Care and Schools. A third edition is available now, and the fourth edition is being prepared and ready for release this spring. And that's available for purchase. The nice thing about this, as opposed to Caring for Our Children is that there are handouts that can be copied and given to parents to explain why you're excluding or not excluding certain conditions.

Okay. So here are some numbers. Remember that influenza vaccination rates were upwards of 80 percent. So infection control studies show that in older, school aged children, that we can reduce the influenza spread quite well, maybe greater than 50 percent. But it's not very good in younger children.

Anywhere from 17 percent to 35 percent reduction in respiratory or influenza-like illness has been demonstrated in various studies.

The most effective was one in which both the children and the caregivers used hourly hand sanitizer, which is obviously not very practical. Using a standard regimen as recommended in Caring for Our Children, rigorously adhering to that showed only about a 17 percent reduction. And that only applied to children under two years of age, and did not apply to children between two and five years of age.

So the prior statistics had to do with illness, but when we look at absence, which is what we all care about quite a bit, interventions only show a very small-- around 10 percent-- decrease in absence.

So that's a little depressing. It's not as effective as immunization. But I'm not saying that we shouldn't do these infection control procedures. We absolutely should continue to do them. And the regimens should not change for influenza season. But you should perhaps use more frequent alcohol-based hand sanitizer, or hand washing. That may help reduce the spread quite a bit.

But it's important to keep in mind that using these infection control regimens helps prevent other infections that are not spread through the air in droplets, like influenza, especially diarrhea. So definitely continue to do that.

Okay. Let's go to another case here, the case of who's in and who's snot. A teacher caregiver in a toddler room sees reports in the media that it's flu season. She sees that Suzy has been flushed, laying on the floor for the past hour, and has a runny nose, and she wants to be held all the time. The caregiver takes her temperature, and it's 104 degrees Fahrenheit.

When Suzy's mother is called, she's frustrated that she has to come pick her up. When she arrives, she noticed that Suzy's classmate, Bobby, also has a runny nose. Why doesn't he need to be excluded too, she asks. Bobby's playful and running around with the other children.

So when we talk about exclusion, we don't actually know whether exclusion reduces the spread of influenza. We do know that when children have fever and respiratory symptoms, and have influenza, the amount of respiratory virus that they have in their secretions is the greatest during that time when they have the fever. We can't exclude everyone who might have influenza like Suzy. Although she looks like she has influenza because she has a fever, she could have another illness if she's not requiring too much care and she's participating in activities.

Now Suzy was sick. She was requiring extra care, and not participating, as you might expect, with a fever of 104. Whereas Bobby had a runny nose, may have had influenza, but more likely had a common cold. And he's participating in activities perfectly well. So that's why Bobby can stay.

But by targeting kids with fever, and respiratory symptoms, and inability to participate, this approach may reduce some of the spread of influenza, which can be a fatal disease, as we discussed.

So in general, exclusion should not be solely for the prevention of the spread of disease. We can't tell who has influenza versus common cold viruses. And as was pointed out earlier, influenza virus may be shed. A child is still infectious for more than a week after the initial infection. And lots of children are infected or infectious with influenza, but they don't show symptoms.

So we should exclude if the child is unable to participate in normal activities, requires too much care for the staff to be able to care for the ill child, and attend to the needs of other children also. Or if a child has fever with respiratory symptoms of cough, runny nose, and sore throat until the fever resolves without fever-reducing medicines. And you can look to Managing Infectious Diseases or Caring for Our Children for other general exclusion criteria.

So after considering the effectiveness of the various options for controlling flu, you decide to really focus on immunization this year. And you develop a strategy for adults and for children. And so what are some of the ideas to increase immunization rates in adults? How do you think you can convince adults to get immunized?

So there are several strategies. The first that we really recommend is to require the receipt of the flu vaccine to be involved with the program, as a condition of employment. Obviously, Dr. Bernstein presented data that showed that when the flu vaccine is required, immunization rates are much higher.

You can try to use logic. That works with some people. Appeal to intellect and their sense of consciousness. And we can address reasons why adults don't get immunized. We're going to talk about all three of those in more depth here.

So requiring the flu vaccine. Obviously, health care systems require it, some of them, as a condition of employment. And really, we don't see any reason why child care should be any different. You're trying to protect those children from yourself. And there's a duty to protect those children, especially the children under six months that can't get the flu vaccine yet. It's not solely an individual decision that you make for yourself. You're making it for other people for whom you care. There also could be children who are immuno-compromized and perhaps cannot get immunized.

Influenza vaccine is an American Committee for Immunization Practices recommended immunization. Recommended is different than required. Every immunization that we commonly give and require is actually recommended by the ACIP. They don't use words like require. Require is what states do when they legislate what needs to be given or not. But that just shows the ACIP considers influenza to be on the same level as all the other immunizations that we readily give and say are required.

Influenza vaccine is now required by reference to the ACIP in Connecticut and New Jersey. And there's no reason why you can't develop language that requires influenza vaccine in your own program. Don't wait until the state legislature.

Okay. So appealing to intellect and consciousness using logic. Now there is definite data to show that getting influenza causes folks to miss work. And by getting the vaccine, you can prevent that illness and lost work. So there is the financial reason, especially for caregivers that are on hourly wages. They lose wages.

Preventing the spread into the community and to families. Obviously caregivers could bring this illness into their own home and cause a lot of problems that way. And just basically appealing to caregivers to the example and show that this is the right thing to do for the community and for the programs in which you work.

Okay. But we have to consider, what are the reasons why adults don't get vaccinated? And there's a common belief that healthy people don't need the flu. And it's true that most years, an adult won't get infected with the flu. But when they do, they're sick and they're not happy. Physicians need to recommend the flu vaccine, and that doesn't happen as frequently as we would like. And part of that is if people don't go see their doctor, they're less likely to receive that recommendation.

Now also adults are afraid of certain vaccine side effects, afraid of needles. And there's cost and the inconvenience of having to go to the doctor. Now keep in mind that the flu vaccine can be given as an injection or intranasal, so that addresses one of the fears.

So in general, we want to use three strategies. We want to use education. We want to improve the access to immunizations, and eliminate costs or provide incentives. Here we see our intrepid AAP staff rolling up their sleeves getting ready to get their flu vaccine. Great example.

Okay. So through education, you don't have to write your own materials. You can use materials that are readily available from the Centers for Disease Control at this link provided on the slide. And we can inform staff about influenza vaccine recommendations. It's annual. You can use the word "required." I encourage you to do that.

And try to address barriers or health beliefs. Some of those barriers are, I don't ever get the flu. Well, there is a 10 percent or a 20 percent chance each year. Do you want to roll the dice on that, and be out for seven days possibly? The flu vaccine causes me to get sick. No, it causes very mild local injection site soreness or a little achyness, but it's much less severe than the actual disease itself that we're trying to prevent. Some people just don't trust the flu vaccine, have a distrust for authority, or the government in general. Obviously, it's not a secret plot to make everybody sick. That would not be a very smart thing for us to encourage that to happen.

Now when discussing access, there are actually ways in which you can bring influenza vaccine on site to the program. The health department may help with this, your local health department. Or your health consultant may work with doctors offices for adults or for children. There's ways for them to get reimbursed by giving immunizations on site. There's also a company-- Passport Health is one example, I'm sure there are several others-- that will actually bring vaccine on site for a small fee. So you can look into that and see if that is possible to work into your own particular setting.

If you can't arrange on site, then you can make it convenient for staff to get it. Find out information about local sites where they can go, perhaps during the workday or give scheduled time off out. Basically you want to incorporate annual influenza vaccine into part of the routine. Make it a habit.

All right. So there are also cost issues. Studies show that influenza immunization is cost effective for employers. And therefore, some businesses pay for the vaccines. So it's free for the employee. And one study showed the two most important predictors of vaccination for those already receiving it free on site were giving a \$5 gift card or being able to choose the shot versus the nasal. Just basically gives people a sense of control, I think, and that makes it more likely.

So there are several questions that we've had previously that I just wanted to list here. What are the main side effects from the vaccine? We've gone over that. Local soreness, a little nasal congestion for the nasal vaccine, some achyness, and rarely, low-grade temperature. Are you contagious after the

immunization, or can you still be around children? You are not contagious. You can still be around children.

Can you get the flu vaccine if you're sick with a cold? Yes, you can. If you have a lot of congestion, the nasal flu vaccine might not be the one you want. Go with injection instead. If you get immunized early, will it still be effective if there is a late outbreak? Yes. Immunity should last throughout the flu season.

If you already had the flu, should you still get the flu vaccine? Yes. There's more than one type of flu that goes around each year. And you don't know for sure, when you have flu-like symptoms, if you actually got the influenza virus. Can the flu shot give you the flu? No, it cannot.

Last year seemed to be a very active flu season in our area. Why is it that so many people were vaccinated, yet still became ill with the flu? Well actually last year the flu vaccine was not as effective as we had hoped. We make an educated guess and try to match the flu vaccine with what we expect the virus to look like each year. But it changes each year.

Okay. So we're going to move from adults to strategies for children. And it's a little more challenging with children, because we're trying to get compliance. But we have to act through the parent, and through the ability to get a health care visit. But the model should be the same for other vaccines, which are just as required. And we are able to get everybody vaccinated with measles and chicken pox every year. We should be able to do the same with the flu.

So there's definitely a role for educating parents. And I would refer to influenza with parents just like we talk about in adults. Use the word "required." You can go to information from the CDC. You can educate the children that are at higher risk for both contracting the flu and having more severe influenza complications.

Use multiple methods of communication, and discuss the possibility of death or hospitalization. I think that's really important that people understand this. In fact, the chances of a child dying from influenza are higher than the chances of any of the other immunizations that we give in the United States.

So there's multiple resources that you can use to give to caregivers and parents. And these are here. We don't need to go in detail. Just know that they're there, and you don't have to invent them yourself.

Now, we can appeal to the parent's pocketbook. Days that a child misses from care leads to lost work for the parent, and lost income, and possibly a lost job. And children can be sick for seven days with fever with influenza. So that's a very important argument to make. Also review when a child with potential influenza would be excluded.

Now there's also a sense of duty to society. Vaccinating young children in child care reduces infection rates in household contacts. There's a 42 percent reduction in flu-like illness in all household contacts when children are immunized compared to when they're not. And an 80 percent reduction in school aged contacts. So they are less likely to make their older siblings ill when they're vaccinated.

And also back to the school age children, a little older children, is more effective at reducing flu spread than vaccinating the adults. The adults get the flu from the children. So if we just vaccinate 20 percent of

school children, that's more effective than vaccinating 90 percent of all adults in reducing the mortality of older adults greater than 64-year-olds. So really trying to target those children.

Okay. We talked about mandating or requiring influenza vaccine. Some states are adopting that. Develop your own rules. Don't wait. Require it for yours. And make sure that they get the regular health check-ups, because that's what promotes the immunization, that contact with physicians.

Okay. You can also, besides arranging on-site vaccinations for adults, you can do the same thing for children. And you could also consider a voucher towards reduced fees, some token amount like \$5 less for one week for children who are immunized.

Okay. So just like adults, we've had questions pertaining to children receiving influenza vaccine. Can infants or toddlers receive the flu vaccine at the same time as the other required vaccinations? Absolutely. Does required immunizations open up a possibility of a family to claim discrimination if they currently get a religious waiver? That's something that you'll have to talk with your legal representatives. But I haven't heard of any case where there's been any action against the child care program for requiring any immunizations.

Is the intranasal vaccine still contraindicated for those with asthma or other chronic health conditions? Yes, it is. And I've had parents tell me the flu shot gave their child the flu, and that's why they don't get it. How can one help the person understand that the vaccine does not cause them to get sick? We've talked about this a lot. The flu vaccine doesn't cause the flu. There are a lot of other viruses going around at the time of vaccination that look like the flu, and that's why that belief persists. And we just need to keep chipping away and try to convince parents to understand that.

Okay. So we also encourage you to have a community outreach plan, an influenza plan, that is written that describes what you do to prevent and control influenza. Form a committee of staff members, parents, and guardians, and the health consultant to help develop the plan. And assign one person who's responsible for monitoring the plans. And identify who's in the program's community as the legal authority to close child care programs, which did occur during the H1N1 pandemic in some cases.

So how do you do that? There's a nice standard on CFOC as to how to develop your community plan. And you can refer to that.

So just reflect a little bit what you have done this year, or you're going to do to increase influenza vaccination in your program. So my idea is offering free flu immunizations for employees. Nurse consultants to give the flu immunization. A nurse can come from an office. These are all programs that other child care programs have actually put into practice.

Directors can encourage employees to take a flu quiz. And there's the link there. Putting up CDC posters and circulate frequently. Asking questions can be encouraged. And a health consultant or health professionals can talk individually with your staff before flu vaccines are offered on-site to answer any questions.

So take home points are that influenza is the most common cause of vaccine-preventable deaths in children each year. A lot of people don't realize how serious influenza is. And children can spread influenza to caregivers, families, and the community. Immunizations is the most effective prevention

tactic. Infection control is also important, but not as effective. And exclusion should be used when needed, but not as a method to primarily reduce spread. In child care, programs have an important role and opportunity to improve immunization rates.

Okay. So there's resources that you can look at here. We've had those scattered throughout the talk. And I just want to put a plug-in for the new center at the AAP, National Center on Early Childhood Health and Wellness. And acknowledgments for funding for this. And we have just a little bit of time for some questions here. Thank you very much.

Sean: Thank you very much, Dr. Shope and Dr. Bernstein for your presentations. This now concludes the presentation portion of the webinar, and we'll have a brief question and answer period. And again, if we are unable to get to your questions via this live webinar, we will respond to you after the webinar. So the first question we had come through the system is, is it safe for children with asthma to take the nasal vaccination?

Dr. Shope: So we would say, no. There's a potential increased risk of wheezing in children who have asthma who get the nasal flu vaccine.

Sean: Thank you very much. And then a follow up to that question, when is the best time to get it if your child does have asthma?

Dr. Shope: As early as possible. And to get the inactivated, or the shot as soon as it's available.

Sean: Thank you very much. The next question we have is, do we need to be concerned about additives in vaccines?

Dr. Shope: Hank, do you want to take that one?

Dr. Bernstein? Okay, I'll take that.

Dr. Bernstein: I'm here. Sorry about that. I had muted myself. People always express some concerns about additives with vaccines. But that has not been a problem with any of the influenza products that have been produced. I know that people worry about Thimerosal, for example. But many of the influenza vaccines are single-dose products.

Sean: Thank you very much, Dr. Bernstein. The next question we have is, my child only got one flu vaccine in the first year. Should they get one or two this year?

Dr. Bernstein: So because they only had one dose of influenza vaccine prior to July 1, 2015, appropriately they should get two doses in order to be primed and then protected. I'm assuming we're talking about a child between six months and eight years of age. If the child we're talking about is nine or older, they only need one dose.

Sean: Thank you very much. And I believe we have time for one more question. When does the flu vaccine expire each year?

Dr. Bernstein: It expires actually June 30, which is why on the one slide that I shared in the calendar that we should basically be offering vaccine throughout the calendar year, each year it expires June 30. In order to make a distinction between the vaccine that contains certain strains for one flu season and then the introduction of the new vaccine for the upcoming flu season.

Sean: Thank you very much for that response. And I would like to thank both of you for this very engaging presentation. Just a reminder that the AAP has updated its online training module, Influenza Prevention and Control: Strategies for Early Education and Child Care Providers for the 2015-2016 flu season, available at [www.healthychildcare.org/flu](http://www.healthychildcare.org/flu).

The AAP also developed an Influenza Prevention and Control handout that includes strategies for early education and child care programs. This handout is available in English and Spanish. Additional infection prevention resources are also available on the Early Childhood Learning and Knowledge Center in the Health portal.

If you want more information or have additional questions, please e-mail us at [health@ecetta.info](mailto:health@ecetta.info).

This concludes today's webinar. Thank you for your participation.

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