

NWX-DISEASE CONTROL & PREVENT

**Moderator: Dale Babcock
March 4, 2015
11:00 am**

Coordinator: Welcome and thank you for standing by. All participants will be in a listen only mode until the question and answer session. Today's conference is being recorded. If you have any objections you may disconnect at this time. I would now like to turn the meeting over to Dr. Andrew Kroger - sir you may begin.

Andrew Kroger: Thank you very much and welcome to Current Issues in Immunization NetConferences a CDC NetConference. I am Andrew Kroger a Medical Officer in the Immunization Services Division of the National Center for Immunization and Respiratory Diseases or NCIRD at the CDC and I will be the moderator for today's session.

We're happy to bring you the latest immunization updates to your office laptop or conference room.

To participate in today's program you need a telephone connection and a separate internet connection. The learning objectives for this session are one - describe an emerging immunization issue. Two - list a recent immunization recommendation made by the Advisory Committee on Immunization Practices or ACIP. Three - locate resources relevant to current immunization practice

and four - obtain - assess and apply patient information to determine the need for immunization. Today is March 4, 2015 and we have two topics for today's NetConference. First Captain Raymond Strikas -- Team Lead for the Education Team in the Communications and Education Branch Immunization Services Division at NCIRD, CDC -- will discuss the 2015 childhood and adolescent immunization schedule.

Then Dr. David Kim - Medical Epidemiologist and Deputy Associate Director for Adult Immunization - Immunization Services Division - NCIRD at CDC -- will give an update on the adult immunization schedule. A question and answer session will follow.

Please make a note of the following information - if you have technical trouble please dial Star Zero on your telephone. If you would like to ask a question please press Star One on the phone.

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Presentations will not include any discussion of the unlabeled use of a product or a product under investigational use with the exception of Dr. Strikas' discussion on MMR vaccine in a manner recommended by the Advisory Committee on Immunization Practices, but not approved by the Food and Drug Administration. CDC does not accept any commercial support.

So before proceeding to the first presentation we offer this interactive pre-conference question. We'll allow ten seconds for your answer. We're not going to reveal the results of this particular question right now, but we'll tell you the answer at the end of today's program. So the question is a true or false question. A healthy two year old child has received Hib vaccine at two months and twelve months of age. The child should receive another dose of Hib vaccine now - true or false - take ten seconds. Okay thank you very much so now we will proceed to the first presentation - (Ray).

Raymond Strikas: Thank you Andrew. I'm going to discuss with you the 2015 Childhood and Adolescent Immunization Schedule and its changes since 2014. I'll discuss recent vaccine coverage data for children and adolescents - I'll also review the vaccine safety and cost affecting this data for children as well as CDC resources and I'll conclude by reviewing CDC resources for talking with parents and or guardians about children's vaccines.

To start I'll begin briefly by describing the 2015 childhood - adolescent immunization schedule and the changes in the last year. You should all be aware the schedule represents the consensus recommendation of CDC's Advisory Committee on Immunization Practices or ACIP - the American Academy of Pediatrics - the American Academy of Family Physicians and the American College of Obstetricians and Gynecologists.

This is Figure One of the 2015 schedule which was modified for 2015 to highlight the recommendations for influenza vaccination for children who receive live attenuated influenza vaccine which may only be administered beginning at two years of age. And for children six months through eight years of age who need two doses of any influenza vaccine in the first year

vaccinated and in subsequent years they require only one dose of influenza vaccine.

Therefore it's demonstrated by the vertical red arrow that points down. The gold bar for LAIV - live attenuated influenza vaccine or inactivated influenza vaccine or IIV - one or two doses extends from two to eight years that is to the midpoint of the column for seven to ten years of age. And a new gold bar stating one dose extends from nine to eighteen years to reflect these changes and clarifications.

The bottom red arrow pointing to the right denotes a purple bar that was added for measles - mumps - rubella vaccine for children six through eleven months of age, noting the recommendation to vaccinate such children that plan to travel or live abroad. And this is the off label ACIP recommendation that Andrew mentioned at the outset of the introduction for this program.

This is Figure Two - the catch up immunization schedule. *Haemophilus Influenzae* Type b or Hib conjugate vaccine - pneumococcal conjugate vaccine and tetanus, diphtheria acellular pertussis – (Tdap) and varicella vaccine catch up schedules were updated to provide more clarity as noted in the areas circled red. Minimum ages were noted as not applicable for children seven years of age or older for Hepatitis A and B - Polio - Meningococcal - MMR and varicella vaccines as noted inside the green oval at the lower left of the figure.

In the footnotes there's a theory of tetanus - acellular pertussis or Tdap vaccine footnote circled in red - had language added stating if the fourth dose of Tdap vaccine was administered four months or more after the third dose at an appropriate age it can be counted as a valid dose and need not be repeated after the recommended six month interval between doses three and four. This

is intended for prospective validation of vaccination and really not for vaccine forecasting or scheduling vaccination visits.

The pneumococcal vaccine footnote was updated to provide clear guidance for vaccination of persons with high risk conditions and states now administer one dose of PCV13 if any incomplete schedule of three doses of PCV that is PCV7 or PCV13 was received previously and administer two doses of PCV13 at least eight weeks apart if the child's unvaccinated or any incomplete schedule of fewer than three doses of any PCV that is PCV7 and or PCV13 vaccine received previously.

The influenza vaccine footnote was updated to reflect revised contraindications for the live attenuated influenza vaccine - LAIV - that is LAIV should not be administered to some persons including persons who have experienced severe allergic reactions to LAIV - any of its components or to a previous dose if any other influenza vaccine.

Children two through 17 years receiving aspirin or aspirin-containing products - persons who are allergic to eggs - pregnant women – immunosuppressed persons - children two through four years of age with asthma or had wheezing in the past 12 months or persons who have taken influenza antiviral medication in the previous 48 hours. All other contraindications and precautions to use of LAIV are in the ACIP influenza vaccine recommendations published in the Morbidity Mortality Weekly Report or MMWR of August 15, 2014.

The meningococcal conjugate vaccine footnote was revised to more clearly present recommendations for use of the three meningococcal conjugate vaccines in those with anatomic or functional asplenia or persistent complement component deficiencies - age two months or older. The schedule

was published before meningococcal B vaccines were licensed and ACIP considered the use so meningococcal B vaccines are not discussed in the schedule.

To improve use of the childhood and adolescent immunization schedules particularly the catch-up schedule CDC and partner organizations have developed job aids to be used with the current catch up schedule. In addition to testing the job aids CDC asked practicing providers their current usage of the catch up schedule - its ease of use and how it might be improved so that a catch-up schedule can be more user friendly. These job aids are located on our website with the childhood schedule at the URL or Web link listed at the bottom of this slide.

The job aids for three vaccines were created to pose the greatest challenges in our judgment for providers. These are *Haemophilus influenzae* type b or Hib vaccine, pneumococcal conjugate or PCV13 vaccine, and diphtheria, tetanus acellular pertussis or DTaP, tetanus, diphtheria, acellular pertussis or Tdap and tetanus diphtheria or Td vaccines. The draft job aides were tested with healthcare providers to determine ease of use - comprehensive ability - likely manners of use and how they can be improved.

Healthcare providers who we interviewed included family practitioners - pediatricians - nurses in both public and private health settings - nurse practitioners - physician assistants - medical assistants and state registry staff. So here's an example of the pneumococcal conjugate or PCV job aid - let me walk you through an example of how it works using a sample problem. You have a 23 month old - healthy patient - who received PCV13 at two - eleven and fifteen months of age. Is this patient complete with the PCV13 vaccination series?

First find the age which is the only age listed here - 12 to 23 months on the far left hand column, then count the number of shots received which is three at the bottom of the second column and when the doses were given and we note one or more doses was given at or after 12 months of age and, therefore, reading over in the grey column or fifth one over it says no further doses are needed. Let me now discuss briefly some updates on child and adolescent immunization coverage.

In 2013 national vaccination coverage data among children age 19 to 35 months with the combined vaccine series of the vaccines listed on the slide was 70.4% similar to coverage in 2012 with a slight improvement. The combined vaccine series is four or more doses DTaP, DT or DTP vaccines - three or more doses of polio vaccines - one or more doses of MMR - three or more doses of Hepatitis B - three or four doses of Hib vaccine - one or more doses of varicella and four or more doses of pneumococcal conjugate vaccine. These data were published from the National Immunization Survey in the August 29, 2014 MMWR.

Data from 2013 National Immunization Survey for Teens - NIS-Teen shows some progress is made in human papillomavirus through HPV vaccination coverage in girls since 2012. That's demonstrated in the green and purple lines in the middle of the graph. From 2007 - 2011 vaccination coverage significantly increased each year for all doses of HPV vaccine the rates lagged behind those of other recommended vaccines for teens that is Tdap and meningococcal conjugate vaccine which are the blue and red lines at the top of the graph.

HPV coverage increased in 2012 and 2013 from 53.8% to 57.3% for one or more HPV doses among females - 13 to 17 years of age and from 20.8% to 34.6% for one more HPV doses among males. Completion of the three dose

HPV series increased since 2012, but is still low at 37.6% for females and 13.9% for males and coverage varied by state and local jurisdiction. The strong and high coverage rates for Tdap - meningococcal vaccines demonstrate that not only are most pre-teens and teens getting to the doctor they're also receiving these two recommended adolescent vaccines and therefore making improvements in HPV vaccine coverage should be possible.

To review some vaccine safety data you should be aware of, I want to note that the Institute of Medicine published a review of the United States Childhood Immunization Schedule Safety in 2013 portrayed on the slide. Their review concluded there was no existing evidence that the schedule is unsafe.

Going forward the IOM Committee concluded there's not ethical implement any study requiring that some children receive fewer vaccines than recommended as part of their childhood schedule because this would need to see endanger children's lives. The committee concluded data from existing surveillance systems such as the CDC's vaccine safety data link could be used and offers the best means for ongoing research efforts regarding the safety of the schedule.

The IOM Committee also recommend a future federal research approaches should collect and assess evidence regarding public confidence and concerns about the entire childhood schedule to improve communication with healthcare professionals - between healthcare professionals and the public regarding safety.

Also we should strive to standardize the definition of key elements to the schedule and relevant health outcomes - establish research priorities in the basis of demonological evidence - biological plausibility of an adverse event

being related to the vaccine and feasibility to study and last we continue to fund and support the vaccine safety data link project and related projects to study the safety of the recommended childhood immunization schedule.

This screen is a screen shot of CDC's vaccine safety Website which hosts much useful information for professionals - parents and patients. The URL or Web Link is at the bottom of the slide. And this is a link to provider resource - vaccine conversations with parents which I'll mention briefly to close out this part of our program. Before I get to those conversations I want to point out three other pieces of information you may find useful.

Graphics with useful information and may be useful as you talk to parents about either the journey - your child's vaccine - how the vaccines are produced - approved - manufactured - the process of adding a vaccine to the routine childhood immunization schedule in the orange graphic in the middle and the description how the Food and Drug Administration or FDA and CDC monitor vaccine safety in the green graphic on the right. So some reminders for work that you all do and we successfully do with getting children vaccinated.

But it's an ongoing challenge as has been discussed in the recent measles outbreak and one of the rec tips or recommendations we have for you in talking with parents or guardians of children as you approach vaccination for these children. Take time to listen to their concerns. Solicit and welcome their questions. Try to keep the conversation going if they are declining vaccination that particular day - balance the science you have with anecdotal information about their child or other children that you've seen.

Acknowledge the benefits and the risks of vaccination because no vaccine is 100% safe nor is it 100% effective. Respect the parent or guardian before they

even make decisions for the child. Do the things you usually do to reduce the stress of shots by comforting children at the time of and after vaccination. Document the parent's questions and concerns. Follow up with parents and guardians if they choose not to vaccinate at that particular visit and don't give up.

And I know this is a challenge and a struggle when you have limited time with any one parent or child, but it is the work that needs to be done to continue our successful vaccination programs in the United States. One last piece of recent publication information - (unintelligible) from CDC compared the routine childhood vaccination schedule success through 2009 compared to no vaccination and found that your work by vaccinating children routinely prevents 42,000 early deaths - 20 million cases of vaccine preventable disease and saves \$13.5 billion in direct medical costs and \$68.8 billion in total societal costs - published in Pediatrics in 2014 in the reference below.

Let me close this segment by pointing some contact and information for you to reach us if you wish to. The CDC info phone number is there as is the CDC info website for general inquiries as well as vaccine inquiries. If you have vaccines-only inquiries it may be more direct to go to NIP at cdc.gov. Our Website is cdc.gov/vaccines - we have a Twitter handle listed there as well as the vaccine safety website that I mentioned earlier. Thank you very much - Andrew back to you.

Andrew Kroger: Thank you very much Ray and now we will turn the mike over to David Kim – David?

David Kim: Thank you very much Andrew. So on to the adult immunization schedule update for 2015. Before I get into the adult immunization schedule I'd like to provide you with some background information on the burden of vaccine-

preventable diseases for adults. In a word it's substantial in the United States. Influenza causes over 200 thousand hospitalizations and three thousand to 49 thousand deaths each year.

The majority of these hospitalizations and deaths occur among adults. In 2013, invasive pneumococcal disease caused an estimated 35,000 cases and 3500 deaths, almost all of which occurred among adults. Pertussis, or whooping cough, commonly thought to be a childhood disease, still caused 9000 adults to get sick in 2012. Plus there are many, many cases of hepatitis B and zoster, or shingles, occurring among adults every year.

In the recently published article in the Morbidity and Mortality Weekly Report, or MMWR, CDC found that the adult immunization coverage rates remain low overall in the United States. These data are from the CDC's National Health Interview Surveys. For example, the pneumococcal vaccination rate for adults age 19 to 64 years at high risk for pneumococcal disease was 21% in 2013 - far below the Healthy People 2020 target of 60%. The pneumococcal immunization rate for all adults 65 years old or older was 60% in 2013, also well below the Healthy People 2020 target of 90%.

The coverage rate for the Zoster vaccine which is recommended for persons 60 years old or older was 24% in 2013 - below the target of 30%. Although the coverage rates for immunizations for adults remain low, there are slivers of encouraging signs. The Zoster vaccination rate, for example, while still below the Healthy People 2020 target of 30% seems to be on the rise. In addition, more young woman 19 to 26 years of age seem to be getting the human papillomavirus, or HPV, vaccine.

The tetanus-diphtheria-pertussis vaccine - Tdap - coverage rate for adults 19 to 64 years of age appear to be increasing. Tdap is specifically recommended for healthcare workers. When we look at healthcare providers who are 19 to

64 years of age, their Tdap coverage rate seems to be increasing. While these improvements are encouraging, the adult immunization rates remain too low overall. While the HPV coverage for young women seems to be improving, HPV coverage for young men was still languishing at under six percent.

And while Tdap coverage for healthcare professionals 19 to 64 years of age seems to be getting better, Hepatitis B vaccine coverage for healthcare professionals was merely 62%, far below the Healthy People 2020 target of 90%. It is clear that we have a lot of work ahead of us to get our adults vaccinated. The adult immunization schedule is updated annually by the Advisory Committee and the Immunization Practices - ACIP. It summarizes the ACIP decision, policy, and recommendations in the previous year.

The 2015 Adult Immunization Schedule was published in the MMWR and the Annals of Internal Medicine in February. One significance of the publication of the Adult Immunization Schedule is that the vaccines included in the schedule must be covered with no out-of-pocket expense to people with private insurance. Affordable Care Act beneficiaries are also covered.

The Adult Immunization Schedule was also reviewed and approved the American College of Physicians, the American College of Family Physicians, the American College Obstetricians and Gynecologists, and the American College of Nurse Midwives.

There are three changes in the 2015 Adult Immunization Schedule from the 2014 schedule. The first and most significant change is the recommendation that all adults 65 years old and older be give the 13-valent pneumococcal conjugate vaccine, or PCV13, in series with the 23-valent pneumococcal polysaccharide vaccine, or PPSV23. Previously only adults age 19 to 64 years

with certain health conditions like immunocompromising conditions, asplenia, or cerebrospinal fluid leaks were recommended to receive PCV13.

I will discuss pneumococcal vaccination in detail later. Additional changes in the 2015 Adult Immunization Schedule are: one - adjusting precautions and contraindications for live attenuated influenza vaccine or LAIV. The phrase that “influenza antiviral use within the last 48 hours” that was precaution for LAIV, was changed to a contraindication. Additionally, the phrase “asthma and chronic lung diseases; cardiovascular, renal, and hepatic diseases; and diabetes and other conditions” as a contraindication for LAIV was changed to a precaution.

Two, the approved use of Recombinant Influenza Vaccine, RIV, was expanded to include all persons 18 years of age or older. This is a change from the previous recommendation that RIV is recommended for persons age 18 through 49 years. It should be noted that the age limit for LAIV is still 49 years.

This is the 2015 Adult Immunization Schedule - it consists of two figures accompanying footnotes and a contraindications and precautions table.

The first figure graphically lays out the Adult Immunization Schedule by vaccines and age. This figure must be read and interpreted with footnotes. Yellow bars mean recommended and the purple bars mean recommended if there are other risk factors such as medical conditions, occupational risk, and life style. The only change on this 2015 figure from the 2014 figure is the change of the color of the bar from purple to yellow for PCV13 for adults 65 years old and older.

The change is highlighted in red on this slide. This is the second figure that lays out the Adult Immunization Schedule by medical and other indications.

There are no changes on this 2015 figure from the 2014 figure. Although relatively few changes were made for the 2015 Adult Immunization Schedule, it generated a considerable discussion because of the complex pneumococcal vaccination schedule. Therefore, the 2015 Adult Immunization Schedule that was published in the February issue of the Annals of Internal Medicine was dedicated to explaining the pneumococcal vaccination.

The complex dosing, frequency, order, and intervals of the ACIP recommendations on pneumococcal vaccines have been constructed from, and limited by, available science. Work is ongoing to simplify the pneumococcal vaccine recommendations yet maintain the scientific integrity that is behind the recommendations.

This table included in the annals article outlines “if then” scenarios. It contains patient presentations, taking into account his or her age, health status, and other risk factors, and vaccination history to determine what the pneumococcal vaccination sequence should be.

Let’s go through some of these scenarios. For a patient who is 65 years of age or older who did not receive PCV13 or PPSV23 in the past or whose pneumococcal vaccination history is unknown, PCV13 should be given, followed by PPSV23 six to twelve months later. The 2010 Adult Immunization Schedule recommended that adults who are 65 years of age or older receive PPSV23. So, today, a significant portion of the older populations belong in this category.

So what should be done for these patients under the 2015 Adult Immunization Schedule? Well, they should simply get PCV13. Providers do need to make sure that it’s been at least a year since the PPSV23 was given.

Okay. So moving on to the third subbullet under the heading adults 65 years and older. If this patient was 65 years of age or older, had received PPSV23 at age 50, perhaps because he or she had diabetes or is a smoker, then PCV13 should be given, followed by PPSV23 six to twelve months later.

Okay. So jumping down several categories. For a patient who is between 19 and 64 years of age and who has an immunocompromising condition such as HIV infection or multiple myeloma, who had received one dose of PPSV23 in the past, PCV 13 should be administered at least one year from when the PPSV23 was given, followed by another PPSV23 at least eight weeks after the PCV13 and at least five years since the first PPSV23. When the patient described in the previous slide turns 65, he or she then fits under the heading, “adults greater than or equal to 65 years.”

The patient will now need another PPSV23 given six to twelve months after the PCV13 and at least five years from the last PPSV23. This is a flow diagram, also included in the annals article, designed to assist the busy healthcare provider to reach a decision on which pneumococcal vaccine to give to whom and when.

The box in the upper left hand corner is the adult population with no health or other risk. These adults simply get PCV13 when they reach age 65 followed by PPSV23 six to twelve months later. That in essence is the new recommendation. Scheduling complexities arise when health and other risk factors are present. Patients with health and other risk factors can be grouped into five categories as seen by the five other boxes across the top.

The decision tree narrows down to three paths. Pneumococcal vaccine sequence and intervals can be visualized more clearly in this figure. Here’s some additional general information on the pneumococcal vaccines. First,

only one dose PCV13 is needed for each adult. The timing of PCV13 is dependent on the age and health condition of the adult. If an adult was vaccinated with PPSV23 after age 65 years, no additional doses of PPSV23 is indicated. When both PCV13 and PPSV23 are indicated, PCV13 should be administered first. PCV13 and PPSV23 should not be administered during the same visit in other words.

For adults whose pneumococcal vaccination history is incomplete or unknown, both PCV13 and PPSV23 should be administered when indicated. But, again, they should not be administered during the same visit. Lastly, note that for adults 65 years of age or older, PPSV23 should be administered six to twelve months, that's six to twelve months, after PCV13.

But for adults 19 through 64 years with immunocompromising conditions, anatomical or functional asplenia, or cerebrospinal fluid leak or cochlear implant, PPSV23 should be administered at least eight weeks, that's eight weeks, after PCV13. So note the interval change or difference.

Of course pneumococcal vaccines are not the only vaccines for adults. As we discussed earlier, vaccine preventable diseases are serious causes of morbidity and mortality among adults. Numerous surveys and studies have shown that healthcare providers believe that immunizations are important for adults.

What's more, our adult patients are receptive to getting vaccinated when vaccines are recommended by their trusted healthcare providers. However, there's a disconnect. Adult patients' awareness of the vaccines they need is low. That's the opportunity we should seize as healthcare providers.

By increasing our adult patients' awareness for vaccines and talking to them about the vaccines they need, we can have a significant impact in improving

their health and the health of their community. To seize that opportunity, the National Vaccine Advisory Committee published the Adult Immunization Practice Standards in 2014. It states that all providers, regardless of whether they provide vaccine services or not, have a role in ensuring that their adult patients are up-to-date on their vaccines.

It's a call to action for healthcare professionals--doctors, - nurses, primary care and specialty care providers, nurse practitioners, physician assistants, and pharmacists, and others--to assess the immunization status of their patients at every opportunity, strongly recommend that they get the vaccines they need, either administer the vaccines or refer the patients to a place where they can get the vaccines they need, and to ensure that vaccination records are documented centrally and shared by multiple providers, that is, submit the vaccination record to their state vaccine registry.

The adult immunization practice Standards is supported by numerous professional - medical organizations and public health organizations. Immunization programs at state and local health departments are eager to work with providers to support their vaccination efforts regardless of whether they administer vaccines or refer patients out to vaccine providers and to enroll them in state vaccine registries.

In conclusion, I'd like to restate that the burden of vaccine preventable diseases for adults is high, but the vaccination coverage rates for adults are low. I covered that the ACIP Adult Immunization Schedule gets updated and presented to you the major changes in the 2015 Adult Immunization Schedule. One new recommendation to remember is that all adults 65 years of age or older should receive PCV13 followed by PPSV23 in six to twelve months. I emphasize that healthcare providers feel that vaccines for adults are important

and that the adults will follow healthcare provider's recommendations for vaccines.

However, patients are not getting that message from their providers. This presents an opportunity for providers, that is, us, to play a key role in improving adult immunization in the United States. We can do so by assessing adult patients for the vaccines they need, making strong recommendations that they get the vaccines, either administering the vaccines or referring the patients to a vaccine provider, and documenting the vaccines received by a patient in state vaccine registries. Let us start by talking vaccines with our adult patients. Thank you and I turn this back over to Andrew.

Andrew Kroger: Thank you very much David. I would now like to present another polling question so please input your polling information within ten seconds of my read of the question. Here's the question - a 50 year old man with diabetes received a dose of PPSV23 today - when should the next dose of pneumococcal vaccine be administered and which vaccine? So the selections are PCV13 in six to twelve months - PCV13 at age 65 years - PPSV23 in six to twelve months or PPSV23 at age 65 years - so take ten seconds to answer.

Okay, time is up, so the correct answer is PCV13 at 65 years and let's take a look and see how you all did. So looks like 48% selected the correct answer - PCV13 at age 65 years. A fair number of you selected PCV13 in six to twelve months so let's talk about this.

So at age 50 after receiving PPSV23 the man is current on pneumococcal vaccination - actually until age 65. At age 65 he should receive PCV13 and so that's why that's the correct answer. Now note that after that dose of PCV13 at age 65 years he should receive PPSV23 six to twelve months later.

Some other important points - keep in mind that PCV13 should be administered at least one year after PPSV23. And then for adults 65 years of age and older that received PCV13 - PPSV23 should be administered six to twelve months after PCV13 and at least five years after the last dose PPSV23 if PPSV23 was given for some other reason - for example; a chronic health condition or an immunocompromising condition.

I'd like to take this opportunity now to explain the first polling question we had - remember it was a healthy two year child who had a dose of Hib vaccine at two months of age and twelve months of age. It was a true or false question - another dose of Hib vaccine should be given now. The correct answer A - true and here are the - I don't know if it's possible to show the results, but here are the results and 76% of you said true so that's good and 23% of you said false.

So now let me quickly go through the childhood catch up schedule. This schedule consists of two tables really based on age group. Since our child is two years of age you would select the table at the top of the catch up schedule that covers children from birth through six years of age.

What you're going to do actually is select the row that discusses *Haemophilus influenzae* type b vaccine and take a look at that. So here's a close up of that - two doses have already been given so a cursory glance the first two columns after the name of the vaccine should indicate that these first two doses are valid and that an additional dose is in fact needed.

So what you would do then is you would go back to the main table of the catch up schedule and it is clear from the bars on this table that this third dose is in fact lapsed in this child. So then you want to go back to the catch up schedule and, again, look at the column which actually has a header dose -

two to dose - three - it's the third column over from the name of the vaccine.
And you note that there are really three options for the interval.

The first one is four weeks, but you can see right away - after looking at the language that this value is for children younger than 12 months of age. That doesn't apply in our case. The second option is for an eight week interval and note there are three sets of criteria for using this interval and you should check them all. The second bullet does in fact apply as one dose - the child is between 12 and through 59 months of age - right?

One dose was given before the first birthday and one dose was given after the first birthday, but before 15 months of age. So that means that eight week interval is the correct choice for this child and now note that the actual passage of time since the second dose has been one year; it was given at 12 months age and the child is now 24 months of age so give dose three now.

So now I'm going to invite our listeners to call in and ask questions about the presentations today. To do that please dial Star 1 on your telephone - tell us your first and last name and I'm going to temporarily turn the mike over to our operator and then come back and give some housekeeping information while the questions fill the queue so I'll turn the mike over to the operator now.

Coordinator: Thank you and once again press Star 1 to ask a question over the phone.

Andrew Kroger: While we wait for the queue to fill I'd like to give some continuing education information. First a recast and a copy of the slides that will be available on the Web page at www.cdc.gov/vaccines/ed/ciinc - these will be available the week of March 16, 2015.

For CE credit please go to www.2a.cdc.gov/tceonline. The course number for this Net Conference is EC2064 and the verification code is Schedules15. Please remember CE credit expires April 6, 2015. So now I'm happy to take the first question that we have - is (XXXX) there?

Coordinator: (XXXX) your line is open for questions.

(XXXXX): I did not have a question - I was trying to answer the quiz - there was no way for me to do it online. It wasn't accepting anything so I do not have a question.

Andrew Kroger: Okay we'll try and work on that for our technology and sorry about that. We'll take the next question in the queue.

Coordinator: Thank you and currently we are showing no questions, but as a reminder please press Star 1 at this time to ask a question over the phone line.

Andrew Kroger: Okay well I'll take this opportunity actually to ask a question of Ray. We've often heard that providers have difficulty using the childhood catch up schedule basically the way the items are listed in a tabular format - patients may not have received as many doses as all of those columns suggest. The information in each cell represents an interval too as well as action step so is there anything we can suggest for providers that are having these difficulties?

Raymond Strikas: Yes - thank you Andrew. So this is a reminder to be aware -- as I said during the presentation -- that there are these job aids and what the job aids do and Andrew showed you the (unintelligible) influenza example on how to answer the question.

What the job aids do is take each of those options and instead of having them condensed in one column or one row they are broken out and the child's age is presented which is how you think about the child who comes to you in different age ranges from zero on up to 59 months for HIB - for example.

The number of doses received - which vaccine was received - was it PRP-OMP or another Hib vaccine or you don't know which HIB vaccine was received. And then was it received before or after the first year of life depending on the age of the child so all those circumstances are handled in the job aids for Hib - DTaP and for pneumococcal conjugate vaccine. And then I think these are useful tools that we would suggest you try and use. Obviously they are sort of static - on the Website they're easy to use.

It's been recommended to us - we try to make them interactive so you can plug in values and then have the answer come out to you that way. And that's something we'll work on, but right now these tables are available and we recommend you use them - thank you.

Andrew Kroger: All right thank you very much Ray. Do we have any questions in the queue?

Coordinator: Thank you we do. Our first question from (XXXXXXX) - your line is open.

(XXXXXXX): Yes the only question that I had was about the expirations for the conference itself and that was - it says April 15th, so this only good CE's for like a month?

Andrew Kroger: So that is when our - the CE credit does expire so you should, you know, try to obtain your CE credit by that point in time.

(XXXXXXX): Oh okay.

Andrew Kroger: Yes that's how long you'll be able to actually acquire the CE credit and obtain it.

(XXXXXXXX): Okay - thank you.

Andrew Kroger: You're welcome. Take the next question in the queue.

Coordinator: Your next question is from (XXXXXX) - sir your line's open.

(XXXXXX): Yes thank you for taking my question. I have a question regarding adult immunizations and there's a recommendation of separating the Zoster or Shingles vaccine by 28 days from Pneumovax or PPSV23 by 28 days. Now is there a similar separation recommendation of 28 days - separating the Zoster vaccine and PPC13 that's newly recommended for patients 65 years of age and older?

David Kim: Thank you very much for that question. Currently there's no discussion on the separation of the two vaccines - Zoster and PCV13 so if you would like like that question to be addressed, then we can certainly forward that information on to the disease experts who deal with Zoster and pneumococcal vaccines that the work group can address that.

(XXXXXXXX): Okay.

((Crosstalk))

Raymond Strikas: Ray Strikas - sorry I'd add one thing that there is a difference here between the manufacturer who recommends a 28 day interval between Zoster and pneumococcal polysaccharide vaccine or Pneumovax and ACIP and CDC in

that we don't recommend an interval between the two vaccines that is Zoster and Pneumovax because there's at least one paper published - there's no increase risk of Zoster if a pneumococcal vaccine is given at the same time as Zoster.

So as I said there's a difference of opinion. You correctly point out what's in the package insert, but I should acknowledge there are data that support giving the two vaccines together and not missing an opportunity for vaccination at least the polysaccharide vaccine.

(XXXXXXX): Okay - yes because I know that in the PCV13 insert there is no recommendation for separation and the representative that I spoke to said that the company has completely different - possibly a different recommendation so I just wanted to confirm what the ACIP recommendation was so thank you for taking my question.

Andrew Kroger: You're welcome and thank you for those thorough answers. We'll take the next question in the queue.

Coordinator: (XXXXXXX) your line is open.

(XXXXXXX): Hi I'm sorry I since found the information, but I wanted to know exactly where the job aids were located on the CDC Website, but I have since found them.

Raymond Strikas: I'm glad - this is Ray - I'm glad that you found them. they are as you noted if you go looking for the childhood schedule and click on the link before you go to the schedule itself there's a host of resources such as the slides of the schedule - explanations of the changes since last year and at the very bottom right -- if I recall -- there's a link to the job aids so I'm glad you found them.

(XXXXXXXX): I did - thank you.

Andrew Kroger: You're welcome. We'll take the next question in the queue.

Coordinator: (XXXXXXXX) your line is open.

(XXXXXXX): Hi I wanted to comment about the catch up schedule and what we do here and see if we're on track. I think the catch up schedule is rather challenging to read - it's formatting. We tend to use the ACIP recommended and minimum ages and intervals between doses. We find that easier to read and use. Are we going wrong by using that?

Raymond Strikas: This is Ray - no in general I would say no I don't think you're going wrong because what the catch up schedule endeavors to do is to use minimum intervals and ages for administration. Now it's not, you know, I can't think through all the possibilities and I expect there's some variations across the vaccines, but the catch up schedule is developed and reviewed every year with the subject matter experts for each of the vaccines listed.

And those people are the ones that write the disease specific and vaccine specific recommendations so in general there should be (unintelligible) agreement between minimum intervals and ages and what's in the catch up schedule.

I wouldn't be surprised if there was some differences, but I can't think of any right now. But if you're doing what you described in general you should be okay the vast majority of the time.

(XXXXXX): I just thought for folks who are struggling with trying to follow the catch up schedule that the minimum ages and intervals sheet works very well for us and we just find it easier to follow than the printed color catch up schedule.

Raymond Strikas: Okay thank you so it's a reminder for us to reevaluate it again and see if we can improve it, but thank you for your comment.

(XXXXXX): You're welcome - thank you.

Andrew Kroger: Thank you. We'll take the next question in the queue.

Coordinator: (XXXXXX) your line is open.

(XXXXXX): I just want a clarification again on the childhood immunization schedule - the DTaP - Number Four interval being four months is for validation when reviewing records and not for scheduling or administering vaccines at four months instead of the six month interval - correct?

Raymond Strikas: That's correct. It's more of a tool for retrospective assessment of records and vaccination of a child comes you as a healthcare provider and you see the child - for example got DTaP four with only a four or five month interval between it and DTaP three, but the child was at least 12 months of age when DTaP four was given you could count the dose. We don't recommend scheduling children that way because the longer interval between the doses offers better protection so that six month interval what's desired.

But, you know the data suggests that the four month interval would be acceptable and as most of you are likely aware we'd like to avoid giving extra DTaP doses if we can and that was part of the rational for making that change.

Although that footnote has been present in the general recommendations and immunization and in the intervals table - Table Number One - for a number of years and we felt we'd simply make sure it was available to the perhaps wider audience that looks at the schedule on a regular basis - thank you.

(XXXXXXX): Thank you.

Andrew Kroger: Great - we'll take the next question in the queue.

Coordinator: (XXXXXXX) your line is open.

(XXXXXXX): Yes hi - I work for a preschool program and one my roles that I do is check children's immunization to make sure that they are current with CDC childhood immunization and children that we service are three and four and what I've seen is that some of the children here they come in with - it can be between four to six (Hepatitis) B shots and I was wondering will that have any effect on the child's immunity system, you know, as they get older or does that have any affect at all?

Raymond Strikas: This is Ray Strikas again - I'm not aware of adverse events other than, you know, local reactions and they're not noted to be profoundly increased if someone's got an additional dose of Hepatitis B vaccine. It's unfortunate the children got more vaccine than perhaps was indicated. I hope most of these kids if not all of them got the vaccine at least the last dose separated from the previous dose at an appropriate (minimum) interval so that they are up to date after receiving that many doses, but we're not aware of any long term adverse events. And in deed for high risk people and for healthcare personnel if people - these are people who should be tested for antibody - Hepatitis B surface antibody after vaccination and if they don't respond after three doses it's recommended that they get a second series.

And, again, we're not aware of significant adverse events or reactions following a second series in most populations of adults or immunocompromised persons of any age.

So I'm not aware that there should be concern for those children who perhaps because they went to more than one practitioner who didn't have their records received extra doses of Hepatitis B - we're not aware expected adverse - long term events from that extra vaccination.

(XXXXXX): Thank you very much.

Andrew Kroger: Thank you - we'll take the next question in the queue.

Coordinator: (XXXXXX) your line is open.

(XXXXXX): Okay I have a concern about the four day rule being used with the vaccine administration, but something like the Hepatitis A - the second dose. If somebody came in like two days before it's time is that counted as being valid?

Raymond Strikas: Yes what you're talking about (Sylvia) is the four day grace period and Dr. Kroger may wish to comment further after I'm done because he's more expert on this - since he writes the general recommendations. On immunization that ACIP has agreed that for most vaccines if a person shows up four days or less before the minimum interval or minimum age for a vaccine one may give the vaccine if there's concern the person won't come back at the appropriate time.

So your example someone has gotten Hepatitis A vaccine five months and 28 days ago and shows up two days early or just happens to be there for some

scheduling reason and the question is can you give the second dose Hepatitis A vaccine and the answer is yes because you're within what we call the four day grace period and that second dose should be valid and should be counted.

Now the one caveat to that is for children for school purposes one has to be sure that the school - that the state's immunization information system or registry will accept the dose given within the grace period that is up to four days early because I'm not sure that all states necessarily accept the grace period. If you're talking about an adult a Hepatitis A vaccine is generally not required for adults for work or other purposes and you're just trying to meet the guidelines for vaccination.

CDC would say that that's an appropriate way to vaccinate the person and just record it - try to put it in the immunization information registry as well as in your clinical record and ideally give the patient a record of the vaccination and so they know they received the second dose.

(XXXXXXX): Okay - thank you.

Andrew Kroger: Thank you - we'll take the next question in the queue.

Coordinator: (XXXXXXX) your line is open.

(XXXXXXX): Thank you for taking my question. My question is regarding our older clients that are 65 and older with regards to the recommendations of the Prevnar 13. Is Medicare going to pay for that since - I know Medicare has only paid for one - Pneumovax - so are the clients being told that they're going to have to pay for this out of their pocket?

David Kim: Thanks very much for that question. The Centers for Medicare or Medicaid Services, CMS, updated their Medicare coverage requirements in September 2014 so that Medicare will cover certain vaccines as they relate to the changed ACIP recommendation on pneumococcal vaccination.

So, as before, the initial pneumococcal vaccines for all Medicare beneficiaries will remain under Medicare Part B. And they've added this provision subsequent to the ACIP recommendation on pneumococcal vaccination. And it specifically reads that a different second pneumococcal vaccine will be covered one year after the first vaccine was administered. That is, eleven full months have passed following the month in which last pneumococcal vaccine was administered is covered.

Now what this says is that the PCV13 to PPSV23 sequence for persons 65 years of age and older at the interval being six to twelve months, the CMS decision pushes the interval to essentially the very end of six to twelve months. So the current recommendation that PPSV23 be administered six to twelve months after PCV13 that's ACIP recommendation, but for CMS, for Medicare coverage purposes, that's going to have to be pushed to eleven months or towards a latter end of the interval period.

(XXXXXX): Okay - thank you that clarifies a lot for us.

Andrew Kroger: Thank you very much for your question. I think due to time restraints we're going to now move one to some closing information and review some housekeeping items. Thank you all for your questions. So for continuing education credits please go to www.2a.cdc.gov/tceonline - the course number for the Net Conference is EC2064 and the verification code is Schedules 15 - I'll repeat that - Schedules 15 - s - c - h - e - d - u - l - e - s 15. Keep in mind that CE credit or your ability to get CE credit for this Net Conference will

expire on April 6, 2015. Once you become familiar with the online system you'll find it easy to use and a great way to keep track of the CE credit earned from CDC Training Programs.

If you're having any difficulty or new to the system you can get assistance by phoning 1-800-41-Train - spelled T - r - a - i - n. That corresponds to the phone number 41-87246. The phone - that line is staffed from 8:00 am to 4:00 pm Eastern Time. To get help by way of email you can contact ce@cdc.gov.

We received many great questions today - if you were unable to ask your question today or if you have other questions related to this Net Conference you can contact us at the email question and answer service at the address - nipinfo@cdc.gov. Another way you can ask a question is to contact the CDC Info Program and one way to do that is to call 1-800-CDC-INFO. This phone line is staffed 8:00 am to 8:00 pm - Monday through Friday.

Another way to contact the CDC Info Service Program is to go to the CDC Homepage at www.cdc.gov and scroll down and at the bottom of that page click on the link which says contact CDC Info. This is a general question and answer service that handles not only immunization related questions, but other public health related questions as well so your question will be triaged accordingly.

With that I would like to thank everyone for joining us today - with very special thanks to our subject matter experts Dr. Raymond Strikas and Dr. David Kim. Thank you very much from Atlanta and have a great day.

Coordinator: Thank you this does conclude today's conference - you may disconnect at this time.

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