

Maternal and Child Health Issues related to the Current Outbreak of the New Influenza Virus of Swine Origin.

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Coordinator: Good afternoon and thank you all for holding. Your lines have been placed on a listen only mode until the question and answer portion of today's conference. I would like to remind all parties the call is now being recorded. If you have any objections to please disconnect at this time.

I would now like to turn the call over to Dr. Sonja Rasmussen. Thank you. You may begin.

Sonja Rasmussen: Good afternoon. The goal of today's call is to share information on CDC's activities related to the outbreak of the new influenza virus of swine origin or H1N1 specifically focusing on maternal and child health issues.

I will begin today's call with about ten minutes discussing issues related to pregnant women. This will be followed by about 20 minutes discussion related to children including treatment, childcare, infant feeding and children with special healthcare needs.

This discussion will be led by Beth Stevenson and she will be joined by Doctors Georgina Peacock, Stuart Shapira, Ralph Cordell, Katherine Shealy and Tim Uyeki.

The last 30 minutes of the call will be for questions. We anticipate that there may be more questions than we will have time to respond to and that there will be questions for which we do not have answers.

This is a rapidly evolving outbreak and information is coming in quickly. We will use the questions from today's call to help direct development of future guidelines as well as to make us aware of topics that need to be discussed on future calls.

I wanted to just note that much of the information we will discuss today is available on the CDC Web site as interim guidelines. And we are working hard to put together additional guidelines as questions are raised and as the situation changes.

We will begin with issues related to pregnancy. I will be talking about why we believe pregnant women may be at increased risk, what is known about influenza's effect on the fetus and the current guidelines for treatment and prophylaxis for pregnant women recommended by CDC.

Human infections with the new influenza virus of swine origin also known as Influenza A H1N1 or Swine Flu were first identified in April of 2009 with cases in the United States and Mexico. Epidemiology and clinical presentations of these infections are currently under investigation.

At this point, data are insufficient to determine who is at higher risk for complications of this influenza virus. However, based on previous experience

with influenza, it is reasonable to assume that pregnant women will be at higher risk for morbidity and mortality related to this new virus.

In addition, the public health response needs to take into account the affects of maternal influenza infection, its associated fever and medications for prophylaxis and treatment on both the mother and the fetus.

Several physiologic changes occur during pregnancy that can affect disease pathogenesis or treatment options. These include mechanical changes such as decreased lung capacity and increased heart rate and changes in the immune system.

The immune system of pregnant women needs to adapt so that it can tolerate the fetus and that results in a shift away from cell mediated and toward humeral immunity.

This means that women are at an increased risk of complications related to certain infections including influenza. Evidence that influenza can be more severe in pregnant women comes from observations during previous pandemics and from studies among pregnant women who had seasonal influenza.

An excess of influenza associated deaths among pregnant women was reported during the pandemics of 1918, 19 and 1957, 1958. In addition, case reports and several epidemiologic studies conducted during seasonal influenza indicate that pregnancy increases the risk for complications for the mother.

Pregnant women with Influenza A H1N1 would be expected to present with typical acute respiratory illness - with cough, sore throat, rhinorrhea and with fever.

Many pregnant women, we expect, would go on to have a typical course of uncomplicated influenza. However, for some pregnant women, illness may progress rapidly and might be complicated by secondary bacterial infections, including pneumonia.

Fetal distress associated with severe maternal illness can occur. Pregnant women who have suspected Influenza A H1N1 virus infection should be tested and specimens from women who have (unsubtypable) Influenza A virus infections should have specimens sent to the State Public Health Laboratory for additional testing.

Influenza's effects on the fetus are less clear. One of the more well studied adverse effects of influenza is its associated fever. A meta-analysis - a recent meta-analysis found that maternal fever during the first trimester of pregnancy was associated with a two-fold risk of neuro tube defects like Anencephaly and Spina Bifida.

And a fever in late pregnancy has been shown to be associated with an increased risk for adverse neo-natal and developmental outcome.

Some studies have suggested that the risk for neuro tube defects might be mitigated by use of anti-fever medications. Thus, because of the risk that fever appears to pose to the fetus, fever in pregnant women should be treated, and Acetaminophen or Tylenol appears to be the best option for treatment of fever during pregnancy.

The currently circulating Influenza A H1N1 virus is sensitive to antiviral medications - oseltamivir or Tamiflu, and zanamivir or Relenza, but is resistant to the other antiviral medications - amantadine or rimantadine.

These medications are classified by the FDA as Category C. That is there are no adequate or well-controlled studies in pregnant women available.

However, considering the limited available evidence and the consequences of untreated influenza for the pregnant woman, any potential risk to the fetus appears to be outweighed by the benefits of anti-influenza medications.

Therefore, pregnant women who meet current case definitions for confirmed, probable or suspected Influenza A H1N1 infection should receive empiric antiviral treatment.

Pregnant women who are close contacts with persons with suspected, probable or confirmed infection should receive chemoprophylaxis. These recommendations for treatment in chemoprophylaxis are the same ones used for others who are at higher risk of complications from influenza.

Antiviral treatment with these medications should be initiated as soon as possible after the onset of influenza symptoms with benefits expected to be greatest if started within 48 hours of onset based on studies of seasonal influenza.

However, some data indicate benefit for hospitalized patients even if treatment is started more than 48 hours after onset.

Recommended duration of treatment is five days. That is for treatment and for chemoprophylaxis is ten days. Recommendations for use of antivirals for pregnant women might change as additional data on the benefits and the risks of antiviral therapy in pregnant women become available and as we begin to understand this virus more.

Because of its systemic activity, oseltamivir is preferred for treatment of pregnant women. The drug of choice for prophylaxis however is less clear. Zanamivir may be preferable because of its limited systemic absorption, however respiratory complications and the medication delivery system challenges that may be associated with zanamivir because of its inhaled route of administration need to be considered especially in women at risk for respiratory problems.

There is no vaccine available yet to prevent Influenza A H1N1. The risk for infection with this virus might be reduced by taking steps to decrease the chance of being exposed to respiratory infections and these include frequent hand washing, covering of cough, having ill persons stay home except to seek medical care and to minimize contact with others in the household who may be ill with the influenza infection.

When possible, it is best to avoid having women who are pregnant serve as the caretaker for persons with confirmed, probable or suspected infection. And there are some additional measures that can limit transmission of a new influenza strain such as voluntary home quarantine and reduction of unnecessary social contacts and possibly for persons at increased risks considering avoidance of crowded settings.

So at this point I am going to turn the discussion over to Beth Stevenson who is going to lead the discussion on children.

Beth Stevenson: Thank you Sonja. While we are still coming to understand this influenza, historically whether we are talking about seasonal influenza or pandemic influenza, influenza has affected children differently than adults.

And these differences are reflected in infection rates, complication rates and mortality rates. Little is currently known about H1N1 and how that may affect children. However we think the infection may be similar to other (in flu) infections.

And typically flu infections cause mild disease in children. But children under five years old are more likely to have serious illness than older children. And although rare, severe respiratory illness such as pneumonia and death have been reported with flu infections in children.

Flu infections tend to be more severe in children with chronic medical conditions. And given the limited time within this hour call, while there are certainly a wide range of issues to consider related to children in H1N1, including issues of infectious disease prevention practices, vaccinations, medication availability, hospital capacity and mental health concerns. We are going to focus today on - we decided to take some issues and a selected group of issues and a brief overview of treatment and the guidance for clinicians.

We are going to talk a little bit about childcare issues, infant feeding, and we are also going to talk a little bit about special needs children.

We would encourage questions on a wide range of topics and issues. However - and encourage you to ask your questions which in themselves will help guide future guidance and possible calls.

There are a team of people here at CDC. This is just a small subset here who are going to talk briefly to provide some thoughts around children. But I would like to introduce them to you now but they are a subset and we have got a team behind us.

First I am going to talk - introduce Doctor Tim Uyeki from the Influenza Division. And he will talk briefly about some of the guidance that they have come up with.

Tim Uyeki: Thanks very much. Good afternoon. What I would like to do is talk a little bit about the current situation and how it affects children and then go into some specific recommendations.

So as you know, this is a very rapidly evolving situation. We are seeing spread of this new swine origin Influenza A H1N1 virus throughout many - throughout the U.S.

We have had several outbreaks in schools and universities with high attack rates. Of the confirmed cases that have been reported to CDC, the majority have been in non-hospitalized individuals. We have had hospitalized cases and we have had one death to date. I would expect that the number of hospitalized patients and deaths will increase.

Now most of I would say the great majority of cases that have been reported in the United States have been actually among persons less than 18 years of age. And so children have been heavily affected.

Most of the signs and symptoms have been fever and typical influenza like illness symptoms such as cough, runny nose, sore throat, headache, muscle aches. But in addition, there has been a relatively high proportion of gastrointestinal symptoms such as vomiting and diarrhea. So it is not just your typical upper respiratory tract symptom.

In terms of hospitalized cases, we have had some children that have been hospitalized. Some of these have been young children such as less than two

years of age who we know are at high risk for complications of seasonal influenza.

There have also been some cases in children who have been hospitalized who had underlying chronic medical conditions.

At this point, it is really too early to sort out the epidemiology to be able to tell what specific high risk groups there are among those affected. However, at this moment it does look that children are quite susceptible to this virus. I would expect attack rates to continue to be high among pediatric population.

And therefore, one thing that is really important to point out is as most of the pediatricians know, no child should be given aspirin or an aspirin containing product, no salicylate products to avoid the risk of Reye Syndrome with any kind of influenza virus infection and aspirin or an aspirin containing product.

Now, most of the illness has been uncomplicated - excuse me - has been uncomplicated, not requiring hospitalization. So we are suggesting that most ill persons stay home and try to avoid contact.

In terms of specific treatment for this virus, as you heard, the virus is sensitive to oseltamivir Tamiflu and zanamivir Relenza. And there are different recommendations for antiviral treatment.

And clearly we would prioritize any child that is hospitalized who is a suspected, probable or confirmed case with this new virus infection should be treated empirically with either oseltamivir or zanamivir.

Now oseltamivir is approved for treatment of influenza and for this virus for children age one and older. However, there is an emergency use authorization

that was granted by the FDA to allow the dosing and administration of this drug, oseltamivir to children less than one year of age.

And for the specific dosing on that, I would refer you to our guidance specifically the interim guidance for clinicians on the prevention and treatment of this virus infection in young children on the CDC Web pages.

Similarly with zanamivir it is not approved for treatment in all ages. It is actually approved for treatment of children age seven years and older. And we - although it is approved for chemoprophylaxis of children age five years and older, we are working with FDA to see if there can be an authorization for dosing to a younger age.

But zanamivir is an orally administered - or orally inhaled powdered drug and it requires a special disk inhaler device. And it is possible that not all children may be able to have this drug delivered appropriately. So that is an issue. But Oseltamivir now is approved for all pediatric aged doses.

In terms of chemoprophylaxis, we have recommended really prophylaxis for contact of a confirmed case or a probable case of this new swine H1N1 virus. In terms of persons who have underlying high risk conditions, and that could be a child with severe asthma, a child with congenital heart disease, something like that. Those children should be considered if they are a contact of a confirmed or probable suspected case should be - I think chemoprophylaxis should be considered.

So we have that guidance on our Web pages and I will be happy to try to respond to some additional questions later. Thank you.

Beth Stevenson: Now I would like to introduce Dr. Georgina Peacock who is going to be talking briefly about children with special healthcare needs.

Georgina Peacock: Thank you and good afternoon. We are currently working on some guidance for children with special healthcare needs. And this guidance will be posted shortly.

What we do know from seasonal flu is that there are certain children that are at higher risk for complications from influenza infection. It is important to note that a recent study on influenza associated death in children found that about half of the child deaths that were among children had an underlying medical condition.

Underlying medical conditions can include all children with immune suppression, chronic kidney disease, heart disease, HIV and AIDS, diabetes, asthma or other problems with the lungs, cystic fibrosis, those children on long term aspirin therapy for chronic disorders and those children with any condition that affect lung function.

These include children with chronic neurologic conditions such as intellectual and developmental disabilities, cerebral palsy, seizure disorders, metabolic conditions and other neuromuscular disorders.

In addition, other children with increased risk for complications are those with poor nutritional or fluid intake because of prolonged vomiting and diarrhea, and children with an underlying metabolic disorder who are unable to tolerate long periods of fasting.

Finally because many children with neurologic and metabolic conditions do not have - may not have the ability to report the onset or worsening of

symptoms, there may be a delay in identification of influenza infection and that can lead to additional complications.

Therefore, parents and caregivers of children in these special populations should monitor for signs and symptoms of influenza. And if they suspect an influenza infection or they have a concern about an exposure to a known probable or suspected infection, those parents should consult their child's healthcare provider to assess the need for evaluation or possible anti-influenza treatment and prevention.

And I will be happy to answer questions at the end of this call also.

Beth Stevenson: Thank you Georgina. Now I would like to introduce Dr. Katherine Shealy who will talk about infant feeding.

Katherine Shealy: Thank you. I will be talking a little bit about what we know about infant feeding and respiratory illness, considerations for breast feeding mothers and infants and what is known about infant feeding decisions relating to treatment and prophylaxis.

As mentioned earlier, information about the new influenza virus is reasonably based on previous experience with influenza and respiratory illness. In addition to medical conditions, infant feeding practices are strong determinants of an infant's risk of respiratory infection.

A critical strategy to help protect the infant's health overall is exclusive breast feeding. Infants who are not breastfed are particularly vulnerable to respiratory illness including influenza and face a significantly higher risk of hospitalization for severe respiratory infection.

A recent meta-analysis found an overall 72% reduction in the risk of hospitalization secondary to respiratory disease in infants who are exclusively breastfed for four or more months compared to those who were formula fed.

In general, clinicians should actively encourage and support women to breastfeed. This is especially important in light of the significantly increased risk to the infant of hospitalization for severe respiratory infections when they are not breastfed.

They should - clinicians should take steps to ensure new mothers are able to begin breastfeeding as soon as possible after birth and to continue breastfeeding frequently.

The ideal timeframe for exclusive breastfeeding, meaning the baby receives only breast milk and no other foods or liquids is about the first six months of life.

After complimentary foods are introduced, the breastfeeding should continue past the first year of life. Parents and caregivers can protect infants from the spread of germs that cause respiratory illnesses like Influenza A H1N1 by taking some specific steps, including: washing adults and infants hands frequently with soap and water, especially after infants place their hands in the mouth; keeping infants and mothers as close together as possible and encouraging early and frequent skin to skin contact between mothers and newborns; limiting sharing of toys and other items that have been in infants' mouths; keeping pacifiers and including their pacifier ring and handle and other items out of adults' mouths or other infants' mouths prior to giving to the infant; and of course practicing cough and sneeze etiquette, and all of the other recommendations that have - exist for the general population.

Clinicians who work with mothers whose infants receive both breast milk and formula can help mothers increase the frequency of breast feedings and increase the proportion - I am sorry, an increase of proportion of the infant feeds that are breast milk in order to increase the infection protection that the infant receives.

Protective steps are particularly important for parents and caregivers of the vulnerable population of infants who are not breastfed.

Antiviral - I am sorry, breastfeeding is not a contraindication for antiviral medication treatment or prophylaxis. Those - oseltamivir and zanamivir are categorized as L3 medications due to the lack of human data.

If a mother becomes ill, she should continue breastfeeding and increase her feeding frequency. If her illness prevents safe feeding at the breast, she should be encouraged to express her milk and so it could be fed to the baby.

The risk for transmission of Swine Influenza through breast milk is unknown. However, reports of viremia with seasonal influenza infection are extremely rare.

Infants that are too ill to feed at the breast should be fed expressed milk. Ill infants may also be able to use donor human milk from HMBANA certified milk bank which can be found at [H-M-B-A-N-A-A dot org](http://H-M-B-A-N-A-A.org).

And at this point, I will turn it back over to Beth.

Beth Stevenson: And for - the final brief presentation will be from Dr. Ralph Cordell talking about childcare issues.

Ralph Cordell: Thank you Beth. We have developed a number of recommendation guidelines who for out of home children providers and this includes folks who are involved with both center based and family childcare programs.

First of all, we are recommending that these people review their plans for responding to a pandemic if they have got one and make sure they are up to date and the parents know what they are.

If they have not developed a plan, we - there is a checklist on the Web site that gives some guidance and also we are developing some materials that should be up there shortly.

We are asking that they remind parents and that they enforce policies about having ill children and staff stay home during their illness. And especially children with symptoms of influenza like illness should not come to school or to childcare.

We have already talked to you about what those symptoms are that these children should be recommended to their healthcare provider who will determine whether or not influenza testing is needed and when the child can return to childcare.

That health departments in areas where persons are infected with these strains may have - may recommend more rigid exclusion policies. So it is important that childcare providers stay informed on what is happening in their community, that children with influenza may be infectious for up to ten days after illness onset. And that if a child has been confirmed to have these strains then they need to seek the advice of either the child's healthcare provider or the health department about when the child is able to return to the childcare program.

It is important that they become familiar, if they are not already, with the state and local plans for responding to milder severe pandemic. In some cases it may be recommended that these facilities be closed, and that they need to develop some plans as to what they are going to do in that case and also pass this information onto their parents.

We have a set of guidelines, CDC guidelines and recommendations for preventing the spread of influenza in childcare settings. This is actually on our general flu site. And they need to make sure that the staff are aware or familiar with these guidelines.

These include things like hygiene, hand washing, the importance of these other issues to help prevent infection in these settings.

And also they need to help provide information onto parents on the stuff that they can take to prevent influenza. They need to be monitoring postings on the CDC Web site and remain in communication with their state or local health department or licensing agency or possibly their resource or referral agency depending on their area that they are in just to make sure that they know what is going on and what recommendations are current.

They can work with either child's healthcare provider if the child has symptoms of respiratory illness and they are unclear as to just what to do with that.

As I said earlier, we are developing material on planning, on teaching children hand washing and good hygiene and that should be up within the next couple of days.

I will be happy to answer any questions at the end of this call.

Beth Stevenson: Thank you Ralph. And now we would like to open it up to questions.

Coordinator: Thank you. And at this time, if you would like to ask a question, please press star 1 on your touchtone phone and you will be prompted to record your name.

Please unmute your phone and record your name clearly when prompted.
Your name is required to introduce your question.

Once again to ask a question, please press star 1. One moment please for the first question.

The first question.

Question: I just - I was watching the state health department. I wanted to clarify when they are recommending chemoprophylaxis for women who are pregnant and for children.

Tim Uyeki: Thank you for that question. We have guidance up there currently that focused upon chemoprophylaxis for contacts of confirmed cases. And I did say contacts of confirmed probable or suspect cases.

I think certainly if you have someone in the home who is a confirmed case or a very, forgive this terminology, very highly suspected to have this virus infection, the issue is trying to prevent severe complications.

We do not know the risk groups right now for this specific virus, but the assumption is that persons who are at high risk for complications of seasonal

influenza are at risk for complications of swine origin Influenza A H1N1 virus.

So that is why we said children with any chronic conditions that put them at a high risk group for seasonal influenza complications and pregnant women are known to be high risk groups for seasonal influenza complications as well as during pandemics.

So, I think it is - if there is someone that is confirmed in the home or very suspected to have this infection, that individual should be isolated away from other home contact. That is the number one prevention.

The other is that chemoprophylaxis of those high risk contacts could be beneficial. And the question is we would recommend - I think our guidance says ten days of chemoprophylaxis with oseltamivir, and it should be initiated as soon as possible after the onset of the illness in the index case in the home.

Coordinator: Thank you. Our next question.

Question: Hi. This is Mike. First I just wanted to thank you all for the information you are sharing. This is wonderful and really informative. Thank you guys for all the hard work you are doing and for everyone out in the states that is working just as hard. I really appreciate it.

I was wondering if you could just expand briefly on the emergency use authorizations and how we can communicate that. I am sure parents might be confused and scared to try something on their kids that may not necessarily have gone through full clinical trials. How can we communicate that better going forward?

Tim Uyeki: Well thank you. That is actually a really good point of not frightening parents. There is actually unpublished data that FDA has reviewed and it is available but not published yet to suggest that there is safety in use of these drugs down to very young ages.

And I think that FDA when they make their - when they approve age groups, they like to see a lot more data. But we felt that we would approach FDA because we know that there may be young infants that may get infected that - I am sure there will be, and will have complications.

But how to communicate that, I think what we will try to do is try to put out some talking points or some better way to explain that on our Web page in terms of guidance.

I think that there is no evidence of any severe adverse events given the limited data in oseltamivir treatment in infants less than one. That does not mean that when you administer this drug to a large number of children that you would not see some rare events.

But I guess - I think the biggest concern that parents might have is sort of the less than six month age group. I think an 8-month old or say a 10-month old may not be as concerning as a 12-month old where the drug is approved for. So it is really younger infants.

I think we just have to try to craft some language that might help with that but that is a challenge for all of you.

Question cont'd: Great. Thank you.

Coordinator: Thank you. Our next question.

Question: Hi. Thanks for having me on the call. My question was that so far I have not seen any indication that there have been any pigs that have been infected with this. So my question is about food safety. Is it safe to eat pork or to cook and serve pork?

Tim Uyeki: So thanks for that question. It is absolutely completely safe to eat cooked pork. I would not recommend eating raw or undercooked pork for prevention of transmission of lots of other infectious diseases, but let me say a few things to that.

This is a swine origin Influenza A virus. There are swine influenza viruses that are circulating among pigs in the United States. This is an endemic problem in the United States.

But eating pork, cooked pork, from pigs in the United States is not a risk. This is not how this virus is being transmitted and it has not been found in the United States in pigs. It is certainly possible that it might go from a human to a pig and that could be a problem, but cooking pork kills this virus.

And in addition, this virus is being transmitted from human to human in a sustained manner. So the transmission is person to person. It is not involving a pig.

At some point, this virus probably did come from a pig and probably somewhat recently and perhaps it may have started outside the United States. But this - pork is completely safe to eat. It has no role in transmission of this virus as long as it is cooked. And it is human to human right now.

Coordinator: Our next question.

Question: My question is you mentioned that pregnant mothers should not care for the sick child, and I wondered if that applied to pregnant healthcare workers.

Sonja Rasmussen: Yes. We are in the process of putting together some occupational guidelines and we hope that those are going to be available in - within the next 24 hours. They are - we have put those together and they are going through the CDC clearance process. So I do not want to say anything definitive right now, but guidelines will be placed on the Web site in the near future.

Question cont'd: Okay. Thank you.

Coordinator: Thank you. Our next question.

Question: Hello. I may have come on late and so you may have addressed this. But I did look at the Web site and I did not say - it was blank both on the antiviral section and the young children's section. They are both blank. And maybe it is a problem with my system, but I could see other things. Is it not posted yet?

Tim Uyeki: We do have guidance posted specifically on antiviral treatment for children in chemoprophylaxis, and that is available. It is important to realize that there are recommended age groups for the two drugs that we would recommend, oseltamivir and zanamivir for seasonal influenza, but in addition, the Food and Drug Administration has approved an emergency use authorization allowing the use of oseltamivir for children less than one year of age as well.

Question cont'd: My point is that on the Web site it is blank. There is nothing written there on both the antiviral section and the young children's section. If you go there, you see - I at least I see the banners on the side, but there is nothing written in the center piece.

And I can see other sections you have talked about. I have gone to the site and I can access the information that is provided. But on those two sections alone, it is blank.

Beth Stevenson: And, you know, just to sort of people to know how to get to the various guidance online, you go to CDC dot gov forward slash, I think it is H1N1 right now, H1N1 flu. And that is - at that Web site, you will see several, on the left-hand side, several banners. One would be related to guidance for clinicians, and you can scroll down and see the variety of guidance for clinicians.

There is also a heading called What's New. And if you go down, you will see all the guidance from a variety of things. I think there are about a dozen things related to children specifically up there.

Question cont'd: My point is that it is not there.

Sonja Rasmussen: We will check those Web sites and make sure that the guidance is there. There are issues with the CDC server as you can imagine. We are having a huge capacity of visitors...

Question cont'd: Yes.

Sonja Rasmussen: ...so...

Question cont'd: Thank you.

Sonja Rasmussen: ...but we will double check and make sure that those are posted and available.

Coordinator: Thank you. Our next question. Please check your mute feature.

Question: Hello? Hello? This is (Susan Bleasdale). I had a question regarding mother baby. There is pretty stringent suggestions for isolation from the CDC regarding airborne (unintelligible).

However, if you had a mother and child that the mother is influenza positive at delivery, I am concerned about the issues of separating the child from the mother at birth, and obviously some of the benefits that you talked about from breastfeeding, but also concerned because both of these populations are high risk populations. Can you speak to that at all?

Katherine Shealy: Well it is an excellent question and it is really a complexity of the mother baby as a very interdependent unit especially in those early days.

I am going to defer to Doctor Uyeki about the para-natal transmission, but as far as presentation of an ill mother later, you know, after delivery when she has been in close contact with the infant after the baby has been born and she becomes ill, the infant's exposure has already happened.

And so the continuation of breastfeeding is really a priority as the most evidence based way to help protect that infant's immune system especially in those early months.

Tim Uyeki: So what I would suggest is that obviously there is a balance here. We want to really prevent transmission from the mother to the infant. The infant - if the infant became infected, this infant would likely be quite sick.

At the same time, we do not to interrupt the mother child - mother infant bond. So there are some steps that you can take is certainly masking the

mother. The mother could be treated so administered oseltamivir treatment or zanamivir treatment.

I guess the issue then becomes a question of whether or not to give chemoprophylaxis with oseltamivir for the infant. I think that I would leave that up to the judgment of the attending pediatrician. It is a very difficult - we have no data to guide us really.

This drug has not really been used in newborns and so we would simply have no data. But we have some rough guidance in terms of dosing available for chemoprophylaxis.

I think even though we do not want to separate the mother infant bond, certainly the mother's breast milk could be pumped as well.

((Crosstalk))

Katherine Shealy: And in addition to the bonding, (onset) of that early contact, the development of the infant's immune system from the skin to skin contact with the mother especially in that early para-natal period is critical.

And so I think in the event of the maternal illness or an infant illness, it would be especially important to make sure that the only liquid that goes into that infant is breast milk. And that they be able to have safe skin to skin contact as much as possible and limit exposure to other opportunities for infection as much as possible.

Tim Uyeki: And you would want to gown the mother as much as possible as well as try to disinfect the breast area prior to breastfeeding. I mean I think that this is a real - you do the best you can in the situations.

We do not really have good guidance to help guide. And when I say disinfect, I mean soap and water is reasonable to use. Would you - what are your thoughts on that?

Katherine Shealy: The experience from other viral transmissions is really that the bacterial flora in the breast area is distinctly calibrated to actually protect the infant. We, you know, this is something we do not know, but reasonable precaution to protect that infant would make a lot of sense.

A significant concern would be a neonate who is not breastfeeding in the event of maternal illness. And in that situation, it would probably be much more warranted to have the separation because the baby would not be getting any of the antibodies that the mother has produced to protect against that infection. And so that baby is at a significantly higher risk. So that is kind of a more clear cut separation from the infection standpoint.

Tim Uyeki: What I am concerned here is that we do not know enough about transmission with this new virus. And so, a mother, if she is symptomatic, presumably coughing right at delivery, right after delivery might have this virus. If exposed in the breast area, the virus might be present on the skin.

So it is something that - it is a balance between trying to do as much as you can to protect the infant as well as not interrupting the bond.

Katherine Shealy: So in that event, that mother absolutely would need to be very strongly encouraged to provide breast milk for her baby because that baby...

Tim Uyeki: Right.

Katherine Shealy: ...would especially need it in that situation.

Tim Uyeki: Right.

Katherine Shealy: Even if it is just for the short time that she (will)...

Question cont'd: Thank you.

Coordinator: Thank you. Our next question.

Question: Hi. Thank you very much for the guidelines too on the Web site. They are very helpful. My question was not related to that, but regarding the previous question, I think it would be helpful to have some guidelines as to what to do with the baby if the baby is born to an infected or suspected mother as far as contagion and risk to the other babies in the nursery and healthcare workers.

But my question is regarding pregnant woman, it seems to me that the decision to treat is really a clinical decision. There is no role for the culture or for the testing in that decision. Is there any role for testing then in these pregnant woman because in our place or places where there have been one or more cases, that means every pregnant woman who comes in with respiratory symptoms or flu-like symptoms will need to be treated.

Is there any role for testing in determining how long to treat, whether to stop if it is negative, and maybe even affecting whether we treat somebody in the first trimester. Doctor Rasmussen described clearly the risk to pregnancy, but that risk may not start in the first trimester.

Tim Uyeki: So this is a very difficult question here. The first - your first point about guidance - we are working on that in terms of the mother infant and protection of transmission and also for healthcare workers caring for the infant.

Your question about empiric treatment versus testing, it really would depend upon the prevalence or how much activity there is with this virus in that community. If there is widespread transmission, if a pregnant woman is seen with influenza like illness, there is a very good chance that this is going to be due to this virus infection.

However, you are right. It is not the only cause of influenza like illness. And so there is a role for testing. Obviously it is not practical to test every patient, particularly if there is widespread disease, but the use of rapid influenza diagnostic tests might be useful.

If you get an Influenza A positive, that might be reasonable enough. If they are - right now the influenza season has really declined. And what we are seeing is an increase with this new virus infection.

So if you use the rapid influenza test, it was positive, I think you could assume that this pregnant woman was infected with this new virus. And again, pregnant women are at high risk for complications of influenza.

There has been at least one pregnant woman hospitalized with this new virus infection. We know from past pandemics, pregnant women are at high risk for complications. And I think the issue of treatment has to be seriously considered.

Question cont'd: Thank you. But if we have a PCR that is negative, should we stop the treatment? That is my question.

Tim Uyeki: So that is a very good question. I think that you have, as a clinician, have to look for other etiologies. And if the infection is still suspected, then additional specific testing, as well as continued treatment is warranted.

Question cont'd: Thank you.

Coordinator: Thank you. Our next question is from Dr. Esther Nash.

Question: Yes hello. Thank you very much. My question relates to the previous one and it is about rapid influenza testing for children or for adults for that matter. We are starting to see more requests for the rapid tests that (are) the result returned for Influenza A within 15 to 20 minutes. Do you have an idea of the role in the evaluation of children presenting with symptoms?

Tim Uyeki: So thanks for that question. So, I think it is going to depend on the setting. In a community where this virus has not been previously detected, that would not be the best use of the test.

However, if there is confirmed swine origin Influenza A H1N1 virus affecting, you know, if you have outbreaks in schools and fair amount of activity in the community, again that is a setting in which you could use this test, and if you get a positive, it is likely to be indicative of this new swine origin infection.

However, it is a little bit challenging for two reasons. Right now there is - some states are still experiencing seasonal influenza activity. And this - a rapid test is not specific for this virus infection. It could indicate seasonal influenza virus infection.

The other is that if the rapid test is negative, it does not exclude this new swine virus infection.

So I think in general a positive test is a reasonably good predictor that a patient has this new virus infection, but it is not specific. I think practically speaking they are starting to be used a lot. And with more infection occurring in various locations, it may be that a positive test is a good indicator to go ahead and manage the patient, treat the patient as indicated.

Question cont'd: Right. Thank you. And as you are going through your Web site updates, I would just suggest that you put that information there. Rapid testing information is on the site, but it links back to seasonal influenza only.

Tim Uyeki: We have a guidance that should go up later today or in the next 24 hours. We are working on it.

Question cont'd: Great. Thank you.

Coordinator: Thank you. Our next question.

Question: Hello. I have a question about employees. I know that you said occupational guidelines will be out in the next 24 hours. What do we do for pregnant employees who are currently working in our offices today? What do you suggest we follow?

Tim Uyeki: Are you referring to a pregnant woman who is not sick at all or a pregnant woman who is sick?

Question cont'd: Well maybe we should go to both scenarios? Like somebody has been exposed. How about that one?

Tim Uyeki: So...

Katherine Shealy: Exposed to a known person with known or...

((Crosstalk))

Question cont'd: A positive.

Katherine Shealy: ...fected, that person would be recommended to have prophylaxis.

Question cont'd: Okay. So prophylaxis. And...

Katherine Shealy: Current guidelines. And I wanted to just emphasize again, these are all interim guidelines right now. They are rapidly changing. This is a, you know, we are getting new information every day about the epidemiology of this virus. But that is the current guideline.

Question cont'd: Do you...

Katherine Shealy: But I do suggest that you continue to keep looking at the Web site because guidelines are changing...

Question cont'd: And you recommend...

Katherine Shealy: ...a new guidelines are coming out all the time.

Question cont'd: Thank you. Do you recommend that pregnant employees stay in a more modified role like maybe on the phone rather than taking patients back or sitting at the front desk?

Katherine Shealy: Those are the guidelines that are going through the clearance process right now. I think something like that will be ending up being the final - but I do not want to say right now, because they have not been approved through the CDC process of - and I anticipate that that is likely to be, I guess, you know, if you have a decision on 2:00 o'clock on Friday afternoon, I think that would probably be the best choice - common sense choice.

But we do intend to have guidelines up in the next 24 hours related to specifically that. There is a draft of these that is currently being - going through the approval process.

Tim Uyeki: If there is widespread illness in transmission in a community, one has to take into consideration that pregnant women could reduce, you know, you could have policies to reduce exposure to pregnant women in the workplace, but they are certainly exposed once they leave the healthcare setting.

And so there are steps to maybe minimize exposure, social distancing and so forth, other measures that they can take, and we have recommended general guidance available on our Web.

Question cont'd: All right. Thank you all very much.

Coordinator: Thank you. Our next question.

Question: Hello. Thank you very much for this very clear call. My question is relating to prophylaxis for the breastfeeding mother. We know that breastfeeding infants are protected as Katherine Shealy reviewed for us, but what happens when we give the mother of this baby prophylaxis to her ability to form her own immune system?

Tim Uyeki: So administering anti - I am sorry. Could you restate that question again?

Question cont'd: Well I am interested in whether or not giving prophylaxis to the breastfeeding mother interferes in any way with her ability immunologic ability to form her own immune bodies that she is then going to be able to transfer to her breastfeeding baby through her milk.

Tim Uyeki: Okay. So administration of antiviral chemotherapy, I am sorry, Chemoprophylaxis to a breastfeeding mother does not interfere with the development of antibodies to this specific virus.

In other words, antivirals may not always prevent infection, but they will reduce a disease. We would like - we would hope that it would prevent infection, and if it does not prevent infection, it will minimize disease and the mother would still mount antibodies to that which she could transfer to the breastfeeding baby.

Question cont'd: Thank you. That is the answer I was looking for. Thank you.

Coordinator: Thank you. Our next question.

Question: Hello. Thank you for doing this. This has been extremely helpful. I am on the Web site and I do not see the reference to not giving aspirin to children. And is there - so that is my first question if you can point me in that direction because I would like to make sure we get that out to people.

And the second portion of my question is all the breastfeeding, is that embedded in the section on pregnant women?

Tim Uyeki: So the question about do not give aspirin to anyone 18 years or older, I am sorry, 18 years or younger or aspirin containing products, that is on our general antiviral guidance. And it is also - unfortunately it is a little bit varied, but it is on our interim guidance for clinicians for prevention and treatment of swine origin influenza virus infection in young children.

I am looking at it now, and I think what we will have to do is highlight it. It is a little bit buried down there. It is currently right under the children younger than one year of age. So we will revise that.

Question cont'd: Okay. It would also be helpful if you could put it in the parents and caregivers because they are probably the ones who are most likely to do it.

Sonja Rasmussen: It is in there actually. I was looking at. And that may also be - I know it is in there and what - it sounds like maybe we should highlight that too because...

Question cont'd: Yes. I skimmed it because I am trying to listen to the call, but I did not see it.

Sonja Rasmussen: Okay. Let us - well like I - I reviewed it. We will look at it and make sure - I see it in there.

Question cont'd: Oh okay. Great. Sorry I missed it. It took me a while to find it.

Sonja Rasmussen: We will make sure it is highlighted...

((Crosstalk))

Question cont'd: ...if it could be more prominent, that would be very useful because we would like to get that out to schools etcetera.

And what about the breastfeeding? Is the only breastfeeding guidance that which is contained in the information about pregnant women?

Sonja Rasmussen: For right now yes. There is a section on (inter) feeding at the end of the pregnancy information that is currently posted. And I believe the updated version of it should be up very shortly. And we are working on some further guidelines that will be in other areas as well.

Question cont'd: Thank you very much.

Coordinator: Thank you. Our next question.

Question: Hello?

Tim Uyeki: Yes.

Question cont'd: My question was in relation to occupational as well, specifically related to pregnant women working in childcare centers or school settings. And I am assuming that is going to be in the guidance that is coming out?

Sonja Rasmussen: That is address in the draft guidance that is going through the clearance process right now.

Question cont'd: Okay. Thank you.

Coordinator: Thank you. Our next question.

Question: Hello?

Tim Uyeki: Yes.

Question cont'd: Yes. Thank you guys for the conference call, it has been very helpful. I just have a question that kind of tags on to an earlier question that was about breastfeeding. The question had been about breastfeeding and the newborn mother (dyad) in the hospital setting.

I guess my question is about a breastfeeding infant or older child and a parent at home. There have been suggestions to separate an infected mother or child, at least an infected child from a pregnant mother in the home setting.

Have - and my question relates to that situation if it is still a breastfeeding mother child relationship. Would you still recommend the separation or recommend the continued benefits of breastfeeding?

Katherine Shealy: These are - this is an excellent question. I mean it is really - it is a tough balance. And we are going to work on some guidelines for this issue, you know, throughout the duration of breastfeeding. You know, I think the issue of keeping in mind that if the mother becomes ill, the infant has already been exposed is common sense to just keep in mind that, you know, it is not a new exposure to that infant.

And the medication is compatible with breastfeeding and the, you know, the new emergency guidelines for medicating the infant are also very valid.

If the mother becomes so ill that the infant cannot nurse at the breast, then, you know, supporting a continued availability of the milk for the baby is extremely important. And the same if the infant is too ill to nurse at the breast is very important because making sure that the milk can still get to the baby is very important.

But the complexity of when is it recommended to separate and keep together is something that we are still working on, but thank you for that question.

Question cont'd: Thank you.

Alycia Downs: All right. I want to thank our presenters for providing our listeners with this information. I would also like to thank our participants for joining us today.

If you have additional questions or comments, please send an email to coca@cdc.gov. That is C-O-C-A at CDC dot gov. Answering individual inquiries will not be possible, but we will use your questions and comments to inform future COCA calls and possibly guidance or new recommendations.

The recording of this call and the transcript will be posted to the COCA Web site, emergency.cdc.gov/coca as we get them. Please remember to check the CDC H1N1 flu site regularly for any updated information or guidance - cdc.gov/h1n1flu. Thanks again for participating and have a wonderful day.

Coordinator: Thank you, and this concludes today's conference. You may disconnect at this time.

END