

Update on Health Issues Related to Mold, Mildew and Mud in Hurricane and Flood Affected Areas

Wednesday, September 28, 2005

MR. SKINNER: Thank you, Laura, and thank you all for joining us today for this important call.

There continues to be a lot of interest, and rightly so, about the potential health concerns for people in areas that have been impacted by Hurricanes Katrina and Rita. One particular concern that continues to be gathering a lot of attention are the potential health effects to mold and mildew, and so we decided to pull this media briefing together.

With us today is Dr. Stephen Redd from the Centers for Disease Control and Prevention, Mr. Barnes Johnson from the Environmental Protection Agency, and Mr. Fred Cerise, the secretary of the Louisiana Department of Health and Hospitals.

What we'll do is have each one of them provide two or three minutes of opening remarks and then we'll open it up for question and answer.

And let me remind everyone on the call that we do have someone from the state of Louisiana, you know, Mr. Fred, Dr. Fred Cerise on the line, but much of what we're going to be talking about is also applicable to the other areas that have been impacted by these hurricanes in Mississippi and Alabama and parts of Texas as well.

So we hope you are able to get some useful information from this call and with that, I'd like to begin by having Dr. Steve Redd provide some opening remarks.

DR. REDD: Thanks, Tom.

I want to just reiterate a couple of the things that you mentioned, that mold exposure is just one of the hazards or potential hazards that people are going to be exposed to as they return to their homes and start their lives in the aftermath of these hurricanes.

The mold issue is something that will affect the entire Gulf Coast region but is going to be a particular problem in New Orleans because of the flooding that's occurred there and the duration of the flooding.

What I would like to do in my remarks here is go over briefly just a little bit about what mold is, what the health effects are, and then our recommendations for cleanup and protection from mold exposure.

So molds are a class of organisms that is separate from plants and animals. They have some characteristics of both of those but they live on organic material and the thing that--they're present everywhere. The thing that kind a keeps them in check in indoor environments normally is the limitation of moisture.

They require a nutrient source, the right temperature and water, and normally, there's not enough water present to promote their growth.

As we know, both from wind and rain damage, and then from flooding as well, the conditions for mold growth in the Gulf Coast region in many buildings is really optimal now.

The health effects of mold--the second thing I'm going to talk about--there are really three major categories.

The first is infection and that is particularly a problem in people that have suppressed immune systems. Either they're taking medicines that prevent their immune systems from fighting infection normally, or they have illnesses that suppress their immune system.

The second general category is allergy and this is for people who have allergies to particular molds. If they're re-exposed to those molds, they'll have symptoms like hay fever or skin rash or worsening of asthma.

The third category is that of toxin-mediated disease. Some molds are capable of producing toxins. They won't produce these toxins at all times but under certain circumstances, like the nutrient supply is getting short or some environmental issue, they may start producing toxins and those can be dangerous if they're eaten or if they're touched.

There's up to now not been evidence that airborne mold toxins have produced disease.

Now the next category is talking about what to do to get rid of mold. The thing that we say under normal circumstances is you have to identify the water source. In this case that is no mystery but once the water source is addressed and further water intrusion is stopped, the surfaces that are mold-contaminated, that can be cleaned need to be cleaned, and those that can't be cleaned need to be removed, and we do not recommend testing or sampling for mold.

We believe that if mold is present, it needs to be removed, and the real distinction is the amount of mold that is present.

So for small amounts of mold, those can be taken care of by the property owner. Larger amounts, and usually we use a rough yardstick of ten square feet of mold, that needs to be taken care of by professionals who have more experience with the kinds of personal protection measures that need to be put in place to prevent exposure.

That leads us, actually, to the third or the final category I was going to talk about, which is how to prevent mold exposure.

We recommend that people who are susceptible, that's people with suppressed immune systems, or allergies, that they avoid areas with mold.

For people who don't have those conditions, we recommend, for the normal person who's just entering a building, we're not recommending any specific protection, but if they're doing things that would cause them to be exposed to airborne mold, such as

remediating, taking down walls, stirring up dust, we do recommend respiratory protection and that generally means an N95 mask.

These are the kinds of things that can be purchased at normal home supply stores, and I'd like to mention, finally, that all the work we're doing is being done in close coordination with health departments of Louisiana, Mississippi, Alabama, Texas, and federal partners such as EPA, and that one of the really critical things here is that this information about what kind of protection to use, in what situation, is available on our Web site.

There are fact sheets and we're working to get that information to the people who may be entering these kind of environments, so that they can protect themselves.

MR. SKINNER: Okay. Thanks, Dr. Redd.

Now I'm going to introduce Mr. Barnes Johnson from the EPA who's going to talk about this from the EPA's perspective.

Mr. Johnson.

MR. JOHNSON: Yes, thank you. Do I need to touch star one?

MR. SKINNER: No; you're on; go ahead.

MR. JOHNSON: Yeah, I would want to start by again echoing what Dr. Redd just mentioned which is EPA and CDC have had a very close partnership on the emerging mold issue over the last several years and we have benefited greatly by their leadership on this issue and tried to complement some of their public materials with some of ours.

I think you know that EPA's Indoor Environments Program is a voluntary one and we spend a lot of time trying to get useful information out to people on mold, and EPA's Website www.epa.gov/mold is where we try to send our messages out to the public so that they can take appropriate action regarding mold.

I want to just amplify briefly on just a couple of issues that Dr. Redd spoke about. The first one has to do with cleanup and just again echoing a couple of things. First of all, across the hurricane-affected areas I think we're going to see a wide range of conditions and there are going to be homes that have possibly been without air conditioning for a few days, have a small amount of water infiltration from damage possibly, and I think much of our conventional guidance on mold applies directly and people can deal with the problem without much difficulty at all.

In other cases where water infiltration has been much more significant, much more lengthy, I think we all understand the grave circumstances in New Orleans with the flooding, mold problems are going to be much more severe. So we're dealing with a wide range of potential cleanup scenarios across the affected area and it's not going to be a one size fits all.

Again, I think the main point on the cleanup as Dr. Redd mentioned is to first remove the water of the moisture source which may be a challenge in and of itself, and then to

remove the mold. And removing the mold, the allergenic agent, is critical, so that's essentially the steps there.

I want to talk a minute about a very substantial issue that I think many people will face and that has to do with sampling and contractors that are involved in mold remediation. The concern with sampling is that in many cases sampling can be useful, it has a defined purpose, and in many cases sampling for mold, testing for mold, determining what mold levels are, is simply essentially a financial diversion away from treating what the real problem is. So we encourage people to make sure that when they are approached to engage in some sampling to really understand why the sampling is being recommended and to really understand the purpose of it.

Related to that is many people in the Gulf Coast region are going to be faced with having to seek professional help to deal with their mold problems and there are many excellent contractors out there and we encourage folks that when they are faced with seeking professional help that they do some pretty common-sense things like check references, certainly look for experience, and it's our experience that individuals with fire damage and water restoration experience tend to be very good in the mold remediation area.

Lastly, pay close attention to contractors whose immediate suggestion is to do extensive testing, as I said before.

So with that I think I'll stop and turn it back over to the moderator.

MR. SKINNER: Thanks, Mr. Johnson. Now I'm going to ask Dr. Fred Cerise to speak for 2 or 3 minutes and certainly give us a local perspective on the situation. Dr. Cerise?

DR. CERISE: Thank you. Good morning. As you know or are maybe aware, the city officials in New Orleans are moving forward with plans. They're trying to rehabilitate the city and people are coming back into the city, particularly workers, but also business owners to gather important information and things like that in order to keep their businesses going. So yesterday there was a part of the city that was repopulated on the West Bank of the river which was generally a dry area, but in the coming days and weeks there will be periods where people are allowed back in to view their homes on the East Bank of the river which is one of the more affected areas by the water.

So certainly in addition to the mold and the extensive discussion we've had on that, we've got other issues that we're paying close attention to particularly from a public health standpoint, these issues of clean drinking water and sewage systems which just doesn't exist at this time on the East Bank of the river which is a major area of Orleans.

So we're advising people that do come into the city whether these are essential workers or people who are coming in for the day to inspect a home or business that there are other risks associated with coming back into the city and that has to do with the water that is not suitable for drinking, people can be exposed to bacterial contamination that could cause diarrheal illnesses.

The East Bank of Orleans is still under a boil advisory meaning that there's potentially harmful bacteria still in the water supply and could be ingested not only from drinking the water but also if it's used to bathe or cook or brush teeth or wash hands or things like that. So we're asking people to pay close attention to that.

We're also working with the businesses that are up in the area because we do have restaurants that are supplying the food to the workers and so we are making sure that they have sources of clean water and they have proper hand washing and following techniques, using disposable plates and things like that so that we're not contaminating the workers.

We are making very prominent placards at these places from the Health Department saying that they have been cleared to try to, again, do as much as we can to educate the general public about the safety.

So in addition to the issues of mold we have issues with drinking water and sewage, and also a concern of people that would come back and attempt to stay in the city at this time. We have other things like hospitals. We don't have operational hospitals in the city at this time. The 911 system is not operational. Major trauma care is not readily available in the area and there's a lot of cleanup going on in the area with broken glass and things like that that you can imagine. So we've got a number of concerns. We're working closely with the city on addressing those things as, again, obviously people are very anxious to get back into the city and get back into their homes.

MR. SKINNER: Thanks, Dr. Cerise. With that, Laura, I'd like to turn it back over to you. We'll begin the question and answer, and depending on how many reporters we have in queue, let's just allow one question at this time. So we're ready to begin.

OPERATOR: Thank you, and at this time, if you would like to ask a question, please press star followed by one on your touchtone phone. To withdraw your request, you may press star two. Once again, to ask a question please press star followed by one.

Our first question comes from John Pope with the Times Picayune.

QUESTION: Good afternoon. Greetings from ground zero. I'm calling because I've been hearing from colleagues and friends with children, that they are anxious about moving back into New Orleans with their children for fear of contamination, possible long-term health damage to their children from stuff that may have been in the water, that is blown around as the water dries.

What can you say to address those concerns? And please identify yourself because I'm not sure which is who.

MR. SKINNER: Yeah. John, it sounds to me like you're asking about sediments and what are some of the possible health effects associated with sediments and that sort of thing?

QUESTION: Yes. The whole [inaudible]; yes.

MR. SKINNER: Okay. I'll ask Mr. Johnson, do you want to try to take a stab at that question, sir?

MR. JOHNSON: Sure. I can speak to it. I can speak to it a bit. Yes, we, EPA has in close partnership with the state of Louisiana, we have implemented a fairly extensive sampling program that is focusing both on the floodwaters, on the sediment, and on the air quality, and we are looking at a variety of potential contaminants, including organic compounds, metals, PCBs. We're looking at fecal coliform in the sediment in water, and petroleum hydrocarbons, and the like.

And so I think, as you're able to see on our Web site, we are evaluating that information and trying to provide, in partnership with CDC, health advisories, and we have issued some health advisories to focus on people limiting their contact with the sediment, limiting their contact with the floodwater, and that's what we've been up to.

MR. SKINNER: And Dr. Redd or Dr. Cerise, if you all have anything to add, feel free to do that.

Laura, let's go to the next question, please.

OPERATOR: Thank you. Our next question comes from Maggie Fox with Reuters.

MS. FOX: Thanks. I'd like to expand on that because I think what John was asking was about whether this stuff's blowing around and in the air, and my question expands on that, because when I left New Orleans and went to Houston, I heard some amazing rumors from my college-age niece, such as that the evacuees were carrying these contaminants on their bodies, and that they could breathe mold spores on to you. There's a lot of fear about that.

What can be done and what concerns do you have about some of these fears that may or may not be founded in fact?

MR. SKINNER: Dr. Redd, do you want to take a crack at that question?

DR. REDD: Sure. I think from the mold standpoint, the specific thing that you mentioned, that's not possible. Actually, the kinds of effects that molds can cause, all the ones I mentioned would not be communicable.

That the illnesses that people get are from direct exposure from the environment and I think there's a chance that a mold spore could be on--you know, a person could carry that from Louisiana to Texas but I think that the number of spores and there's really not a possibility of a health effect occurring from that kind of transportation or a person actually carrying something on their body for any distance, really. That I think that really shouldn't be a concern.

Barnes might want to talk about the other exposure. I think it's probably pretty much the same case, that there are environmental exposures that expose the person but they're not generally going to create a risk from that person transferring it to someone else.

MR. SKINNER: Mr. Johnson, do you want to add anything?

MR. JOHNSON: Sure. I can add something very briefly, and again, I would direct you to EPA's Katrina Web site, and, in particular, the air data. Within the last couple of days, we have posted some additional air data which outlines the kind of monitoring we did pre-Rita in the New Orleans area, to examine the particular issue of windblown dust. At this point in time, we have had a number of monitors out, in and around the city, in St. Bernard Parish, to look at the particulate matter levels, and we have found at certain locations, on certain days, that for unusually sensitive people, the levels--we found some levels that would be of concern to them, and we've also found somewhat higher levels in the unhealthy for sensitive groups range.

These are all part of EPA's air quality index and it's reported pretty explicitly on our Web page. So, in summary, EPA's very concerned about the windblown dust. We are working hard with the state to get the ambient air quality network reestablished following the hurricane and we expect to be doing additional sampling in the coming days and weeks.

MR. SKINNER: Thanks, Mr. Johnson. Laura, next question, please.

OPERATOR: Thank you. Todd Zwillich with WebMD, your line is now open.

MR. ZWILLICH: Hi. Thanks for having us on. This doesn't count as a question, Tom.

Just to recap, when you said you found unusually--you found some levels that could be of concern to some people, you meant dust and not mold; right? You were referring specifically to dust?

MR. JOHNSON: Yes. This is Barnes Johnson from the Environmental Protection Agency. I was referring explicitly to particulate matter measurement.

MR. SKINNER: Go ahead with your question.

QUESTION: Just a couple of quick examples of diseases that can be caused by toxin exposure in a mold.

MR. SKINNER: Dr. Redd?

DR. REDD: Yes. Well, ingestion of grains or foods that contain mycotoxins can, over the long term, lead to liver cancer. If high doses are ingested over a short period of time, they can lead to liver failure. I think these are not the kinds of problems we're likely to see. It's really a situation where foods are stored in moist conditions and mold grows and produces toxins, but those are, those would be two examples.

MR. SKINNER: Next question, please.

OPERATOR: Thank you. Our next question comes from Miriam Falco with CNN.

MS. FALCO: Hi. Thanks for taking these calls. For one thing, could you clarify what the symptoms are, what the illnesses are. I might have missed that. But my question is you've mentioned a couple of times, that the EPA has done extensive testing, and you

made a point of explaining what home owners should look for when they're trying to hire contractors.

It strikes me odd that in a conference call like this you're pointing that out, which leads me to want to ask: Are you seeing scams already? Are you--it sounds more like a consumer alert rather than a medical alert. So what was the impetus for this type of consumer advice?

MR. SKINNER: Mr. Johnson, do you want to take that and then we'll ask Dr. Redd to elaborate a little bit more on the symptoms.

MR. JOHNSON: Yeah; absolutely. Well, mold is not a new issue and it's been our experience over the last several years, that while there are some excellent contractors out there, we feel that there are also some contractors out there who have diverted people's financial resources away from actually remedying the problem, and have, you know, had them do things that we do not believe are normally critical to fixing the mold problem.

And, for example, while EPA has not done, and has no plans to do testing for mold in homes, that often is a path of first suggestion by some, and our advice is, to the consumer is simply if you're going to be doing testing, know why you're doing it, because it oftentimes requires many samples, it's oftentimes difficult to interpret, there are no standards for mold levels that you can compare them against, and it's simply often a diversion of resources.

MR. SKINNER: Dr. Redd?

DR. REDD: Yes. The types of illnesses that you would see, for people that have an infection, that could be pneumonia that would have a cough and fever associated with it. It could be a fungal sinusitis which would be pain in the sinuses, fever. For the allergy symptoms, that would be runny nose, itchy red eyes, and that would be kind of the hay fever complex.

Or for people with asthma, that are sensitive to mold and that are exposed to mold, that could be shortness of breath, chest tightening, problems with breathing, just the typical asthma worsening type symptoms.

MR. SKINNER: Great; thank you. Laura, next question, please.

OPERATOR: Thank you. Our next question comes from Mike Stobbe with the Associated Press.

MR. STOBBE: Hi. This question's aimed at Dr. Cerise. Doctor, you mentioned a situation where people are moving into the west bank and now going back to the east bank. Are you seeing increased cases of illness and injury now as compared to, say, a week ago?

DR. CERISE: Actually, we have not seen--they're just beginning to go back. On Monday, they were repopulating a section of the West Bank of the river. But we're doing

surveillance at the hospitals that are up and at a number of what we call DMATs, or these units, medical units that are spread around the city, and we're doing ongoing surveillance at those sites and we're not seeing a spike. Mainly what we're seeing is injuries, whether they're intentional or unintentional, but mainly injuries or accidents from people doing work in the area. After that we're seeing some respiratory symptoms, coughing, colds and allergic type symptoms, and then rashes from contact with the environment or from other purposes as well. But we're not seeing things that people were concerned about in terms of diarrheal illnesses. We really haven't seen spikes in that. And we haven't seen a big spike in respiratory type symptoms since people started coming back, but that just is a new happening just over the past few days.

MR. SKINNER: Laura, next question, please.

OPERATOR: Thank you. Our next question comes from Betsy McKay with The Wall Street Journal.

MS. MCKAY: Thanks. This question is for any one of you. There seems to be some confusion about going back to sediment and what could be airborne from the sediment. We know that when the flood waters were still pretty prevalent there was a lot of sewage related bacteria in them and presumably that all dries up in the sediment. But does that bacteria or any portion of it become airborne? And then is there any health hazard related to that?

MR. SKINNER: Mr. Johnson, do you want to take the first stab at that one?

MR. JOHNSON: Yes, I'll take a stab at it and hopefully Steve will follow-up as well.

We were very concerned about this possibility as we were developing our environmental sampling plans for the water, sediment and the air, and particularly after finding fecal coliforms in the water and in the sediment, the next natural question is the very question that you posed.

What we did at EPA was we got with our Office of Research and Development and we had a series of conference calls that probably had 20 to 30 both CDC and EPA scientists on it discussing what the value would be of monitoring for potential biological contaminants in the air as particulates or as aerosols.

The conclusion of the entire group, and it was the consensus that I heard, was that monitoring of biologicals in the airstream would not really be a useful tool for helping to inform public health decisions because there are no actionable levels, there is no relationship between any levels that might be found in the air and the likelihood of a public health outcome.

So for some of those reasons which the CDC is really I think in a much better position to respond to, the decision and the advice coming from the two agencies' scientists was that we would not pursue that.

MR. SKINNER: Dr. Redd, do you have anything to add?

DR. REDD: Obviously I concur with that statement. I think the big thing to recognize is that when the fecal coliforms are dried they'll die and there won't be a risk of infection from that. There will still be some material that will be left from that and that is probably the most significant risk for that which I think is probably not as significant as the allergic risk for mold that would be some kind of irritative or allergic kind of response. And as Mr. Johnson mentioned, there is no actionable level that you could say this level is dangerous and below that threshold it is not dangerous.

MR. SKINNER: Thanks. Laura, let's take a couple of more questions.

OPERATOR: Thank you. Our next question comes from Michael Smith from MedPage Today.

MR. SMITH: I just want to get a sense probably from Dr. Cerise, but if anybody wants to comment that would be good. The hospitals in New Orleans in particular are not operating as well, although I assume throughout the rest of the Gulf Coast things are pretty good or at least not as bad.

If people go back into areas where there's lots of mold and start to have symptoms, what can the health system do? Are we looking at a lot of health symptoms that might overwhelm the facilities?

DR. CERISE: It's a good question and it's a point that we are trying to make in terms of folks coming back into the city. Certainly for repopulating the city one of the things that we want to make sure is we've got the medical infrastructure to handle folks coming back and living in the city.

Right now we have three hospitals up in the surrounding areas of Orleans and they are not at capacity. They're able to accommodate more at this point in time, so we haven't seen those hospitals reach capacity. We also have a number of like I said type of emergency room units set up around the city and to this point none of them have been close to being overwhelmed. They are there as precautionary measures. They're providing services.

But we feel like there's plenty of capacity at this point. And the three hospitals, they're large hospitals that didn't go down during the hurricane so they maintained power, they have water and sewerage and they have a significant ability to ramp up should they need to do that.

We also have, in fact it's arriving today or tomorrow, a large Navy vessel, the USS Comfort, that's got 250 beds. It's primarily being brought in for tertiary care purposes. If there's trauma or severe problems that happen in the city proper that need immediate attention, that vessel will be available as well.

MR. SKINNER: Laura, let's take one final question, please.

OPERATOR: Thank you. Our final question comes from Maggie Fox with Reuters.

MS. FOX: I just want to follow-up on the very earliest thing. If this testing for mold isn't called for, do you just treat mold if you happen to see it? Is that it, just eye-balling it?

MR. REDD: We recommend visual inspection and the threshold for different actions, there really are two. One is if there's a surface that is nonporous that can be cleaned, that would be the preferred approach. If the contaminated material is porous, then that needs to be removed. If it's a large area that's porous, that would call for professional remediation.

MR. SKINNER: That was Dr. Steven Redd from CDC.

MR. JOHNSON: This is Barnes from EPA. I would just add to that that one of the challenges of visual inspection is often times mold problems can actually be hidden behind wallpaper, behind wallboard and the like, so sometimes that is a consideration as well.

MR. SKINNER: Thanks. Laura, thank you. Thank you to all of our participants. Thank you to the media who dialed in. Stay tuned for further updates. We'll continue to keep you all informed as new developments come about. Thank you again for your interest.

[Listen to the telebriefing](#)