



**Webcast Transcript**  
**Anthrax: What Every Clinician Should Know, Part 2**  
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(View the webcast on the University of North Carolina School of Public Health site at [http://www.sph.unc.edu/about/webcasts/2001-11-01\\_anthrax/.](http://www.sph.unc.edu/about/webcasts/2001-11-01_anthrax/))

***Dr. Virginia Caine:***

Hello, I'm Dr. Virginia Caine. Welcome to today's broadcast, "Anthrax: What Every Clinician Should Know, Part 2." This, the second in our series of special public health training network programs, is designed to prepare personnel in the medical and public health system to work together to combat the spread of anthrax. Today we are coming to you live from the Howard University television studios at Howard University here in Washington, D.C. We have assembled a panel of experts from our sponsors the National Medical Association, the Centers for Disease Control and Prevention, and local public health. Our panel of experts will provide a specially tailored program that will address the informational and educational needs of physicians, nurses, clinicians, and other healthcare providers serving in private offices, hospitals, and public health settings including those that serve minority and underserved populations. During the program we will present an overview of the clinical, laboratory, and epidemiological features of anthrax that you should know, as well as those special public health prevention and response recommendations needed to combat the occurrence of this disease. Emphasis will be placed on the educational and informational needs unique to the minority and underserved populations. As you all know, nationally we are confronted by an environment of evolving science and epidemiology. Today, the panel will also present late-breaking information which can be found at the CDC's Web site on bioterrorism and the *Morbidity and Mortality Weekly Review* you all know as the *MMWR*. These sites are updated daily.

We also have with us a special group of medical leaders in the African-American community who will pose questions and discussion topics to our panel.

We are now honored to have the president of the National Medical Association, Dr. Lucille Norville Perez, who will open our program. Dr. Perez.

***Dr. Lucille Norville Perez:***

Thank you, Dr. Caine. The National Medical Association is the oldest and largest association of African-American physicians. We are pleased to be one of the co-sponsors of this broadcast focused on the diagnosis and treatment of anthrax.

More than ever before, those of us who are charged with the responsibility of assuring parity in healthcare need to be mindful that the same medical intervention deemed appropriate to counter the terrorism dissemination of anthrax we are available and should be available to all those at risk. All physicians and other health professionals must step up to the challenge of becoming knowledgeable about how to be appropriately diagnosed and to treat their patients and how to advise them regarding prophylaxis. The National Medical Association's Environmental Health Task Force, chaired by Dr. Albert Morris, has become the educational—has become—has given



education of physicians its priority. We know that information is power, but these are times when misinformation, selected information, or incomplete information can render us powerless. Each and every healthcare person needs to have some awareness of how to identify those who may be at risk, what early symptoms are, when to refer a patient, and how to reduce the fears and concerns of those who seek their advice. The panel of experts that we have convened for you will provide the most up-to-date information in this emerging public health crisis. I know that you will ask questions. I hope that you will be proactive. I hope that you will hold us accountable—the Office of the Surgeon General, the Centers for Disease Control and Prevention, and the National Medical Association. Utilize us as resources for providing you with the information you need. Every healthcare person should know who his or her local public health officer is and what public resources are available. We also need to know what public health infrastructure exists in our various communities. For example, there should be an emergency preparedness plan available that will help you to identify unusual outbreaks, as well as a communication plan to get appropriate information out quickly.

Whenever there is a crisis, we as a people have stepped up to the challenge and together have persevered. While “at risk” has been defined as being exposed to contaminated mailrooms or post offices, the woman who died October 31 in New York from inhalation anthrax has not been connected to any mail or mail distribution location. Therefore, I urge each and every one of us to utilize flexible lenses of concern, making sure that we disregard no one’s symptoms simply because they are not currently being defined as being at risk. We have the most technologically sophisticated medical system in the world, yet we are now in the position of having to revisit basic physical diagnosis in infectious diseases in a milieu of bioterrorism. We have to be able to think quickly and act immediately. We will have to augment our technology, our practice parameters and computerized triage, and get back to basics, all the while remembering medicine is an art and not an exact science. As King Solomon said, there is nothing new under the sun. Our challenge now is to get back to basics. To paraphrase one of the leading teachers of physical medicine at Howard University School of Medicine, the late Dr. Riley Thomas: listen to your patients, be respectful of what they say, examine them, and let that determine what, when, and how you treat.

The nation’s Surgeon General is another teacher I have come to depend upon for his expertise, wisdom, and proven dedication to the American people. A longtime member of the National Medical Association, past president of Meharry Medical College, former director of the CDC and immediate past assistant secretary for the Department of Health and Human Services, he needs no introduction. Dr. David Satcher.

***Dr. David Satcher:***

Thank you very much, Dr. Perez, Dr. Caine, and all the distinguished panel members. First let me say I am very pleased to be here at Howard University, and I want to especially commend the National Medical Association, the Centers for Disease Control and Prevention, and the D.C. Department of Public Health for putting on this very important program for physicians throughout our country.

I want to just take a minute to say where we feel that we are in responding to this tremendous



challenge, this bioterrorist attack that is ongoing. As you know, this all started in early October with the first patient in Florida who unfortunately died from inhalation anthrax. We have now had 16 confirmed anthrax cases in the country, 10 inhalation and 6 cutaneous. CDC, as you will hear later, is continuing to look at 5 other cases as suspected cases. Two of these cases have been in Florida, 4 in New York, 5 in New Jersey and 5 here in Washington, D.C. What I want to say is that I think we have already saved a lot of lives by responding appropriately, but we have lost 4 lives too many. We are here today because we really want to minimize the number of lives that are lost in this bioterrorist attack. In order to do that, we need a very strong and dynamic public health infrastructure. The public health infrastructure, from my perspective, is made up of 3 layers. One is the layer we talk a lot about: it's the Centers for Disease Control and Prevention, and state and local health departments. We depend upon them for early detection, for investigation, for response. We have our best laboratories, perhaps the best laboratories in the world, concentrated in our public health infrastructure. The CDC also has a stockpile that includes antibiotics, vaccines, and other things that we anticipate might be needed in a bioterrorist attack. But more important perhaps, the CDC has very well-trained epidemiologists who have been sent all over the country to respond to this challenge.

The second level of the public health infrastructure, of course, and perhaps most important—the front line, in my opinion—are practicing physicians and other healthcare providers. Without your alertness, without your high level of suspicion (index of suspicion), the CDC would never be called to investigate a case that might be anthrax. So we are dependent upon the physicians on the front line and their interaction with their patients, who are also on that front line with them, in order to identify early cases of anthrax. And then to do what we have done so well to date, move in or determine how many people have been exposed, get them started on a course of antibiotics that can luckily prevent the development of this very serious disease. And that's why we say that we have already saved a lot of lives, but we have lost 4 lives too many.

Today's program is very important because it recognizes that this is an ongoing challenge, and unlike most of our infectious disease outbreaks, this is an outbreak that is being targeted by a terrorist who is thinking all the time and strategizing for the next move, and we have to try to respond. We have to try to be ready to respond and that means that we must evolve in our knowledge, continue to learn together, but also to become a better team, and I think that's what's so great about this program. It really is a program that can help to strengthen a team of people that should be working together all the time. A very strong public health infrastructure is the best defense against bioterrorism. So I am very pleased to be here today with this distinguished panel of presenters and responders in the audience. We believe that we can get on top of this very dangerous threat. As a nation we believe that we can get through this and move forward together. We will be stronger. We now know that none of us were really bioterrorist experts before. We may have thought we were, but we've learned since this attack that we are all learning together. So I am delighted to be with you and to share in this program. Back to Dr. Caine, our moderator.

***Dr. Caine:***

Thank you, Dr. Satcher. Now let's meet our first guest on our panel of experts. We are pleased to have Dr. Ali Khan, Deputy Chief of CDC's Anthrax Response Team from Washington, D.C., from the Centers for Disease Control. Dr. Khan will now provide an epidemiologic update.



**Dr. Ali Khan:**

Thank you, Virginia, and let me start by thanking the National Medical Association for this wonderful opportunity and privilege to give the updated epidemiologic information in this investigation. As you just heard from our Surgeon General, this story starts approximately a month ago when there was recognition of an unprecedented attack of bioterrorism in the United States through the U.S. Postal Service. You will see in front of you our first slide, which is a Gram stain of the cerebral spinal fluid of the first individual, a 63-year-old gentleman who was a photo editor at the American Media Company, who had onset September 30—fever, altered mental status—and was admitted on the 2<sup>nd</sup> of the month with the Gram stain that you see in front of you, quite classic and alarming, that it's clear that these are the *Bacillus* species in the Gram stain. Positive blood cultures, positive CSF cultures. CDC was notified the following day, confirmation occurred 2 days later, and was finally confirmed with an autopsy that is consistent with inhalational anthrax on the 6<sup>th</sup> of the month. Next slide, please.

Those are the details of that first individual I just discussed. Now while the epidemiologic investigation was ongoing and the environmental assessment was ongoing of this Florida case, we heard of a case of cutaneous anthrax in New York City, and that would be the following slide that shows the lesion on the first index case in that city.

The next slide gives some details of this individual. She was a 38-year-old, female, NBC TV anchor assistant. She became sick on September 25 with a skin lesion, central necrosis, a painless lesion, and Dr. Sherif Zaki of the Centers for Disease Control and Prevention, based on an immunohistochemical staining of a skin biopsy, was able to document a *Bacillus anthracis* infection on the 12<sup>th</sup> of last month. This woman had handled a suspicious letter with powder in it. Next slide, please.

At this point, there is a multi-state investigation underway that involves Palm Beach County, Florida, which was the initial area; New York City; Washington, D.C.; and Trenton, New Jersey. What I'd like to do on the following slide and before I launch into a complete description of what confirmed and suspect cases is, let me just make clear what the case definition is for the audience that we are using. And that case definition for confirmed cases would be a clinically compatible illness confirmed by isolation of *B. anthracis* or other laboratory evidence based on two or more supportive tests. For suspected cases, the case definition is clinically compatible illness with one supportive lab test or a link back to a confirmed epidemiologic exposure. Now using that as a frame of reference on what we are calling confirmed cases and what we are calling suspect cases, I'd like to go through the investigation in the 4 states and try to put together for you what we think is happening in the country from these letters.

The first investigation is in Florida where there have been 2 inhalational cases. The first one, as you heard from Dr. Satcher, and that gentleman died. Of the exposures that were checked in that AMI building, only one nasal swab was positive out of 1000 such swabs that were taken. From an environmental standpoint, the work site was deemed to be contaminated based on testing. Some post offices that sent letters to that building were also deemed to have evidence of *Bacillus anthracis* spores along a mail stream of the letters, ending up eventually in the AMI building.



Clean-up is underway there.

For intervention, there was prophylaxis for company employees and postal workers. I will try to make that point as I go through that we have been very careful to try and do targeted prophylaxis of individuals and not go to a scheme that has us prophylaxing hundreds of thousands of people, potentially giving the side effects that would be associated with that management strategy.

The next slide is the New York City investigation, and, unfortunately, these have not been updated. So let me give you the updated numbers on these slides. Needless to say we chose trying to provide updated educational materials over sparkling new slides. In New York City there were 6 cutaneous cases and 1 death, and that death was from a newly diagnosed inhalational case that you just heard about from Dr. Perez. Of those individuals, 4 worked for media companies, all who had cutaneous disease. We have not yet defined exposure for the woman with inhalational death. Some of the work sites have been deemed to be contaminated and clean-up is underway in those areas. Again, for intervention, we are only doing targeted prophylaxis for those individuals who were exposed to letters.

The next slide is a description of the New Jersey investigation, and again here is an update. Of the cases in New Jersey, there are now 5 cutaneous cases, 2 inhalational cases; all except for 1 was a mail handler, and this is an individual who has cutaneous disease. We have not yet determined the mode of exposure for that individual. From an environmental standpoint, again, there was evidence of contamination at a number of mail-processing facilities. The investigation is ongoing in this facility and clean-up is underway. And again, from an intervention standpoint, there was prophylaxis for a defined group of people who had contact with the facility.

Let me finish up the investigations with the District of Columbia where I have the most experience. But before I get to that, let me talk about letters, which seems to be the next slide. In these 3 states, and the one I'm about to talk about in the District of Columbia, there were 2 letters identified in New York City, one to NBC and one to the *New York Post*. These were all postmarked 9/18, mailed from New Jersey to media companies, and that is potentially the link back to New Jersey, and I'll elaborate on that in a couple of minutes. There was *B. anthracis* in those letters in a powder form. The District of Columbia also received a letter into the Hart Building (the Senate Hart Building) that was postmarked September 9<sup>th</sup>, and that was mailed from New Jersey to a senator's office and there was *Bacillus anthracis* powder identified within that facility.

In the District of Columbia, which should be on the next slide, there should be a description of cases for the audience. All the cases in the District of Columbia are mail handlers; 5 of them had inhalational disease and there were 2 deaths among those mail handlers. Also in the Hart Building, where a letter was opened on the 15<sup>th</sup>, there were a number of people exposed on 2 floors. There were 28 positive nasal swabs from those individuals, including all 13 people who were on the floor where the envelope was opened, and we have made recommendations there to prophylax that whole floor, the 5<sup>th</sup> and 6<sup>th</sup> floors where this event occurred and the first responders to this event. We also had the opportunity there to do an extensive environmental assessment to follow back the chain of the letter through the capital post offices to the



Brentwood facility and then eventually back to New Jersey. A number of these facilities were contaminated. At this point, we know that the Brentwood Post Office had evidence of contamination. We know there was evidence of contamination of multiple buildings within the capital. We fortunately know that within the mail—from letters that went from Brentwood to other parts of the city which may have touched the letter that went to the senator, we have been very encouraged by the fact that of about 40 or 50 post offices that received such letters, there have been only 3 post offices that have a single swab with scant growth on it. So that was very encouraging. However, we have gotten a lot of data at this point from the federal mailrooms. At this point, depending on whether you count confirmed or preliminary data, there are half a dozen to a dozen such facility mailrooms that have had evidence of contamination, suggesting that there was extensive targeting of multiple federal facilities for receipt of such letters, although there is no clear recognition or identification of the letters themselves. The epi supports that with all this contamination in the mailrooms.

Again, intervention in these sites has been directed at the workers who have had exposure to the letters or been in facilities with disease, and hopefully one of our moderators, Dr. Ivan Walks, who is the Health Commissioner for D.C., will give you a lot more details along those lines. He has been a great partner as we have done this investigation.

There should be a slide of the Brentwood facility coming up. If not, let me just describe the facility to you. This is a large, almost one million square foot facility, in which the 4 cases of inhalational anthrax occurred. From what you can see on the slide, there are 4 cases, 3 of them marked in triangles on the top left-hand corner of your screen were around the sorting machines which look like little red dots. Then all the way at the bottom right-hand side of your screen should be another triangle for where the fourth case occurred. Now where the sorting machines are and the red dots, that is where the letter destined for the Senator went through. I want to make a couple of points here. Over the last—essentially over my whole career I have dealt with things like Ebola and Rift Valley Fever, and people always ask me, “Is this causing a small-particle aerosol that is going to infect many people by the aerosol route?” I always try to inform people that this type of transmission is a rare event if ever with those diseases. However, what you can see in this Brentwood facility is clearly a small-particle aerosol where at the sorting machine you have the letter going through and then you have people many feet away, essentially yards away, who are getting infected. In the case of the fourth individual it is all the way on the other side of a building that is a million square feet. It has really sort of given us a good respect for small-particle aerosols and how dangerous this weapon can be and what its potential is. It is something we have not recognized previously, although there was theoretical data that would have supported this. This is the first practical demonstration of what anthrax in a powder-concentrated form can do in the population.

The next slide should be a summary of everything we have so far. It should be a summary of the cases in Florida, New York, D.C., New Jersey, and you have already heard those numbers. There are 16 confirmed cases, 10 of them inhalational and, fortunately, only 4 deaths, but as the Surgeon General said, 4 too many.

The next slide is what we would call an epidemic or epidemiologic curve of cases and even



though it is outdated I'd like to use it to make one major point to you. That is, I would like people to think of this outbreak in terms of phases. The first letter on this time line you see, or the first set of letters which would be sort of potentially the New York City letters and possibly the Florida letters led to a number of cases, inhalational only among people who had contact with the final powder, but mainly cutaneous cases that occurred among the mailroom workers. That was essentially what we were looking for when we came here and were in the process of following the letter from the Senator's office, to the Senate mailroom, to the facility that receives mail for the whole capital, back through to Brentwood. So we had surveillance systems in place, but in addition obviously looking for inhalational cases. The surveillance system was looking hard for cutaneous cases based on our experience in Florida and New Jersey. Needless to say, we were all dumbfounded when inhalational anthrax appeared right here in Brentwood. That was unexpected, and I can tell you as part of the investigation before, or essentially simultaneous with identifying that first case that—I was out in Brentwood with a team of epidemiologists. And like the employees in Brentwood, myself and my team of epidemiologists are all taking 60 days of prophylactic antibiotics at this point. Because we didn't realize what had happened in that facility until the case declared itself and the additional 3 cases declared themselves. Now, we knew how dangerous the material that had passed through the facility was. We see that as the second phase of this investigation where we were able to recognize that you don't just get inhalational case to the end user and maybe some cutaneous cases among postal workers, but this powder could be dangerous for anybody through the chain, from it being mailed all the way to the end user, and that made us rethink how we targeted people for prophylaxis. It was based on that data that we decided to start prophylaxis for essentially everybody who was getting mail directly from this Brentwood facility. And it's only now, as we have gotten additional epi data and environmental data and clinical data, that we've been able to integrate in that stuff and say okay—maybe we can now narrow that group down to the people where there was true inhalational disease such as in the Brentwood facility or the State Department where there was a case of inhalational disease. That data hopefully will allow us to refine who we are putting on prophylaxis and not try to do that so broadly.

The final phase is this new phase as you heard of individuals such as the cutaneous case in New Jersey and the inhalational case in New York that do not seem to be linked to mail in any way, shape, or form, and it's too early to say where that phase will lead us, but that is where we are now.

Let me end with some issues and things that we need to pay attention to. Approximately 3 years ago I was detailed to the Bioterrorism Preparedness and Response Program at CDC to help put together (with a number of our colleagues) a strategic plan on how CDC should prepare for bioterrorism. Fortunately, in those 3 years we have made numerous strides. However, we are not there yet. There are a lot of things that we need to really think about, as we are now learning for the first time how these agents work in the community. I've put some of those elements up on the slide.

The first element was integrated real-time national surveillance systems that can take into account inhalational disease, take into account cutaneous disease, and also integrate in laboratory values, clinical data, environmental data, so we can move that information out faster to our



partners. I think that is the key focus for us. We need to be able to communicate that stuff as fast as possible.

The second element on my slide is trying to define the epidemiology of unnatural phenomena—again, this is an unnatural phenomenon and it's hard to predict what's going to happen next. But we need to try to do the best we can using the tools we've used in the past and developing new tools to try to protect people, and that's really where we all come down to.

The third element is improving our diagnostics. We need some enhanced diagnostics to try to make the diagnosis and try to deal with these environmental samples and the capacity to do that. With our laboratory capacity, nationally, not just the CDC, is maxed out trying to respond to these events. We can't afford not to test. We have to have the ability to say, "Is this *B. anthracis* or is this not *B. anthracis*?" All of this should lead to risk reduction measures and education. And I'd like to end on that point, to be thankful again for the opportunity to chat with the physicians in this audience and the physicians on the other side of the camera. The physicians truly are our first line of defense and I know as public health officials we like to see physicians as our sources of our public health data, but as you all know out there (and I'm a doc also), we are not just sources of public health data. We are the ones who take care of the patients—healthcare workers in general—who take care of the patients, and we need to be the ones to educate our community. It can't be done by one agency alone. It has to be done in conjunction with all of our partners, state and local health departments, and the physicians out there to educate people.

Let me end by introducing our moderator. Dr. Virginia Caine is an assistant professor for infectious diseases at Indiana University Hospital and she is also the health officer for Indianapolis, Indiana. Dr. Caine.

***Dr. Caine:***

Thank you. Dr. Khan, we've got actually some questions that have been e-mailed to us just a moment ago that they'd like to have addressed to you. The first question is, "What precautions should be taken with children and adults to minimize their risks of anthrax exposure and what is the dosing regimen for children?"

***Dr. Khan:***

CDC has developed a number of recommendations for protection of mainly mailroom workers and that's where we see diseases occurring. Those recommendations will consist of gloves, gowns, some general hygienic methods for handwashing, and some degree of respiratory precautions as people deal with mail until a number of environmental measures can be put in place, including (potentially) laminar flow hoods, certain types of vacuum cleaners, even potentially irradiation of mail to try to protect the mail stream once and for all as a final measure. Now for prophylaxis we have a number of recommendations that are published. I would like to make the point, currently all the isolates we have received appear to be susceptible to doxycycline and ciprofloxacin and we see them as equivalent drugs for initial use in individuals who we need to prophylax. Be it for 10 days pending environmental testing or be it for 60 days such as Brentwood because there has been documented exposure in that facility and you need to treat for 60 days with a preference towards doxycycline since it is well tolerated and specifically





to try and take care of issues of antibiotic resistance. I can be very honest with you—I had one of our officers just recently had an anaphylactic reaction while taking ciprofloxacin. That’s the reason why I hope I’ve made the point of targeted prophylaxis where it is specifically needed for people.

The recommendations for treatment are published in the *MMWR*; there is a new version of the *MMWR* that came out today. Those are available at [www.bt.cdc.gov](http://www.bt.cdc.gov) and in that are the clear recommendations for how to use cipro and how to use doxy, and it includes the recommendations that children can use a similar regimen, be switched over to amoxicillin as needed for prophylaxis.

***Dr. Caine:***

Dr. Khan, one other question that got asked is, “Do we know what the treatment outcomes and survival rates for children exposed to anthrax?”

***Dr. Khan:***

In this situation we are lucky in that there have been no children that have gotten inhalational anthrax in the United States. All the disease has been among adults. However, there has been a single child with cutaneous disease. For inhalational disease there have been 10 cases amongst adults, 7 of them have been males. I believe the average age was about 55 or so amongst those individuals. Fortunately, only 4 died, which is in contrast to previous data suggesting that about 9 out of 10 or about 90% of people with inhalational disease should die—would die and that’s kudos to the clinicians, who were early in recognizing this disease and immediately starting prophylaxis. Another reason why we are all here is to try to get that message out to the docs on how to recognize the disease early.

***Dr. Caine:***

I’d like to open up the questions to studio members in regard to that. Dr. Burroughs.

***Dr. Valentine Burroughs:***

Thank you, Dr. Caine. Thank you, Dr. Khan, for that excellent presentation.

I’m Valentine Burroughs from the National Medical Association and a practicing physician in New York. What I’m getting, not just from patients but also from my staff, are many, many issues relative to opening the mail within the office and outside of the major institutions. What are we to advise our staffs in the opening of the mail and the handling of suspicious packages?

***Dr. Khan:***

I think we can reassure people that all of the episodes that we have seen so far, except for potentially one of cutaneous disease and inhalational disease, have not been due to an end recipient of mail opening up the mail and not recognizing what’s in it. We obviously have had people who potentially were the end recipient with powders in them who have become sick, but generally without such powder or threat we have millions of pieces of mail that flow through the system every day and we are not seeing cases of cutaneous or inhalational anthrax. In that way we can help reassure most end users who are getting mail that their mail is actually quite safe.



***Dr. Caine:***

I just want to jump in there, and I think one of the things you want to really assure your patients is that if they do think that they have a suspicious package or letter and they think that there might be some powdery substance, please don't open the envelope. You can call your local health department or the legal authorities and they will have somebody there to address those issues. The other thing I think that's really critical is that we want to have them (if they do think that they have been exposed to any suspicious packages) to just wash their hands with plain soap and water—and please do not use any bleach or disinfectant, but plain soap and water will work very well. And if you are at work or what have you I think you need to notify your supervisor.

What I'd like to do next is I'd like to go into some of the clinical signs and symptoms that have been associated with anthrax and if I could have the first slide.

The first slide highlights the fact that anthrax is an infectious disease, and it is caused by a gram-positive spore of bacteria, and it naturally occurs in farms and wild animals, but I think the key thing that we have to continue to emphasize over and over and that is there is no human-to-human transmission. It does not occur.

If I can have the next panel. The following clinical descriptions of anthrax are really based on experiences in adults, and I'm going to start out with the form that is the rarest and the one that we don't really see that often and that is the gastrointestinal anthrax which is usually characterized by severe abdominal pain or distress, and a lot of times this may be followed by fever and signs of septicemia. Occasionally, because the toxin really impacts the various organs of the body and causes a bleeding disorder, these patients may manifest bloody vomiting or diarrhea. One other form that is very rare, but I think we have to pay some attention to, is the oropharyngeal involvement where you can have some lesions on the back of the tongue, and patients may complain of sore throats and dysphagia and note some fever and cervical lymphadenopathy. Usually this happens as a result of eating contaminated or poorly cooked meat that is infected with anthrax. The mortality rate is about anywhere from about 25-60%. Next slide.

Probably the most common form of anthrax in which we see in about 95% of the occurrences is the cutaneous form. Usually it starts out looking like just like a little insect bite on the skin, which later very rapidly develops as a papule, and it slowly develops little blister-like, vesicular-type lesions surrounding the sore and then progresses to a black necrotic center or ulcer in the center of this lesion. A lot of this...quite frequently, we see a lot of swelling and edema or redness that surrounds this eschar associated with this. Next slide.

This slide depicts how—if you look at picture here you see the vesicle starting on Day 2 noted and then eventually—it is such a classical presentation you really shouldn't be able to miss this if you have had some experience with this and you see that very large, huge—it's anywhere from 1 to 3 millimeters in diameter—this really very black, sort of necrotic ulcerative lesion formation. Next slide.



And then, as you can see, different forms can appear on different parts of the body, most commonly those exposed areas like your hands, forearms and hands, or the face where you are most likely to see it. Next slide.

How you make the diagnosis: a lot of times you can just culture those vesicular fluids or the exudates or you have to remind yourself this is highly contagious if you have the content of this fluid getting on the surface of your hands. So we really want to caution everybody to be wearing gloves. Blood cultures can be positive with gram-positive rods. You can do it by biopsy. There is a polymerase chain reaction test in a couple of hours that can give you the answer, and there are other mechanisms and other diagnostic tools that can be used to make a diagnosis in a very quick period of time. The mortality is only about 20% without any antibiotic treatment. If you give them antibiotics it's less than a 1% mortality associated with this.

The next panel. The one that has got everybody's attention and is a frightening thing, not only I think for the public, but also for commissions, because this is the one form of anthrax we cannot afford to miss. One of the unique things about this inhalational anthrax is that the incubation period is so short with the time from starting the symptoms to sometimes mortality and death can be on the average of 3 days. So you don't have the luxury of time progressing over a period of time. What happens is it's a brief program that sort of resembles a viral respiratory illness. But what you will have is that these spores are engulfed by microphages as they are transported to the bronchial lungs and to the also surrounding lymph nodes. It starts out insidiously, sort of a biphasic type of phase. They will complain of malaise, low-grade fever; a lot of times they will have a nonproductive cough and then they will feel better after a while. Then they go into that second phase, which is a really abrupt onset which may be associated with a significant amount of shortness of breath. Some of them may complain of substernum chest tightness or chest pain associated with this. Then maybe 50% of them can actually complain of acute abdominal pain or discomfort. Fifty percent also have meningitis that is associated with this which is a hemorrhagic meningitis which is usually fatal and they have a hematogenous spread as a result of this. So I want to just re-emphasize—it typically ranges (the symptoms) from 1-7 days with the average being 2-3 days. But there have been some cases because these spores can sometimes lie dormant inside the lungs and they can reactivate at a long period of time. That is why it is critical when we do prophylactic antibiotics that people have to take their entire 60 days if they have been exposed to a real case or highly suspicious case of anthrax. If I can get the next panel.

These patients will very rapidly go into respiratory failure and shock. So one of the things is, we try to look for some early signs because these symptoms can be very similar to other disorders such as influenza (or "the flu"). One of the key signs that sometimes can be noted very early is a widened mediastinum because of its involvement, as well as a pleural effusion, which in a lot of cases is very bloody. So that if you are doing an examination, you may hear these coarse crackles on examination of the lungs—be concerned that it may be a pleural effusion. Get a chest X-ray and a wide mediastinum and that's key. These patients quite frequently do have positive blood cultures. Usually those gram-positive rods are identified within about 12 or 15 hours after taking the blood culture. So it is a rapid diagnosis and then you can get those gram-positive rods confirmed in the appropriate laboratories that have the expertise in order to do that. Polymerase chain reactions, diagnostic tools are available, as well as immunofluorescence and



immunochemistry. Now the mortality rate is extremely high, even with possible supportive care and even with appropriate antibiotics. I have to re-emphasize, early diagnosis is the key in initiating antibiotics because this can go very, very rapidly. Next panel.

This highlights and just shows the widened mediastinum and also a little lymphadenopathy that is associated with this. Next slide.

I wanted to sort of give you a composite. These are all of the 8 patients that have been diagnosed with inhalational anthrax, and I want to just sort of highlight some real acute points when we look at all of their symptoms in totality. Note that out of the 8 patients, all of them did not have a fever. So don't be caught up into the false security that I have to have a high fever in order for a patient to have inhalational anthrax. Two of our patients didn't have that. Five out of 8 had sweats and chills. A lot of them had fatigue and malaise, and 5 out of 8 had nausea and vomiting and abdominal pain. So you might suspect it might be a gastroenteritis and viral gastroenteritis, which may sometimes lead you away from the respiratory infection. So I really, really have to emphasize that. Now where we see the difference from the flu, and a really key sign is that one, you have the absence of rhinitis and coryza, which we normally see with the flu, a lot of sneezing and coughing and runny nose. We have not seen that with the inhalational rhinitis. If you are concerned about bronchial pneumonia, that's a bacterial etiology, we have not seen purulent sputum. So these coughs are usually dry associated with this. And diarrhea and pleuritic chest pain, a single case of sore throat, but be very concerned about a headache associated with this because I have to emphasize again we can have meningitis which is bloody, and you have to make that diagnosis very, very quickly. When we look at the diagnostic and laboratory findings associated with this, which we'll see on the next slide, the white blood cell count doesn't necessarily have to be elevated. In one of the patients that we saw who died within 72 hours, on his initial assessment by his primary care provider, he had a normal white blood cell count, with the assumption I assume that they felt that this was more of a viral syndrome. But you can see increased neutrophils and bands and an elevated leukocytosis of a more later in regard to this infection. So remember, pleural effusions can be present, which were seen in 5 out of 8. You don't necessarily see pulmonary infiltrates, which is associated with bronchial pneumonia, but they can be present and, in most instances, blood cultures were positive in almost everybody who had not received antibiotics. You and I know a lot of patients have antibiotics sometimes at home. They don't always want to tell you, "Doctor, I opened up my cabinet and I found some of those ampicillin antibiotics up there and I thought, 'Boy, I'm starting to feel bad,' and I started to take a few antibiotics," and they don't always want to admit that they have taken those antibiotics. So that is one key theme, you have to explain the importance of telling you whether they have taken some antibiotics unbeknowningly in order for you to really understand the value of your laboratory test because you may have a false-negative test. Next panel.

Just want to say that if you have someone that is evaluating powder that they think there is a high likelihood that they have anthrax spores present, and you have a suspiciousness of this illness, go ahead and treat for this anthrax. Don't wait. You know, if there is a suspicious occupation of a worker that has been associated with this, if there has been significant exposure, or the recipient is a likely target, or there is a suspicious letter or package, strongly consider starting these patients on prophylactic antibiotics. I think we do have to be cautionary that you know we are



giving out a lot of antibiotics can generate resistance, but at the other side of the coin, let's not miss somebody who, if we could just look at the clues from the epidemiological standpoint, it is really critical to treat them. But we don't want to forget about the young healthcare worker who died in New York, who, from the epidemiological background, we don't have any diagnostic clues. So that if we have someone in your office and something doesn't seem right, but they don't seem to fit into all these categories that we have realized in the past, pay attention and consider this. Next slide.

If for some reason this happens in your environment, we want to tell people there has been exposure and it happens that someone opened up an envelope with powder. One of the key things that we ask you to do is try to secure the area. We don't want to have a lot of people moving in that area. If you have a ventilation system, it needs to be shut down, and we have to assess the potential for shared air zones in these cases that are occurring, whether it's in a business setting or a hospital setting or whatever setting. One of the things we have to look at is try and identify those persons with direct contact with shared air and to the site to initiate antimicrobial prophylaxis whether it is doxycycline or ciprofloxacin. Next slide.

Postexposure prophylaxis prevents inhalation anthrax. Treatment now is ciprofloxacin or doxycycline. Doxycycline is very inexpensive, very tolerable, and so it's a great drug to use besides ciprofloxacin. But if you have young children and pregnant women, they can be switched to amoxicillin because, as I will show you in a later slide, in most of the screens that we have tested, susceptibility studies (if you know that strain) show that they have been susceptible. Pediatric amoxicillin dose is 80 mg/kg/day in 3 divided doses. But one thing I want to say is, and I have to re-emphasize again, that although penicillinase activity has been known to occur in the past, it is probably not an issue, and I have to re-emphasize again for your patients to be clear, because they can lie dormant inside the pulmonary lungs; late reactivation can occur as long as 60 days later. It is very critical to do the 60 days' worth of antibiotics. Next slide.

One key thing I do want to emphasize—it is a question that comes up quite frequently—and that is, when should we do nasal swabs and is it diagnostic? Nasal swabs have never been recommended as a diagnostic tool. It is only to be used in epidemiologic settings where we are trying to look to see for exposure. It is not a great diagnostic tool. The sensitivity is not all that great and so we don't want to give people a false sense of utility in regard to that, but we do do surface swabs in the environments when we think we are at high risk, and we can initially start somebody on a short course of antibiotics, 7-10 days, depending on how rapidly you can get your results, in the likelihood there is some high suspicion, and then when those results are confirmed, you can stop the treatment. But if there is likely exposure treat for 60 days. Next slide.

Treatment of inhalational, gastrointestinal, oropharyngeal or complicated cutaneous anthrax—we recommend that you use multiple-antibiotic therapy. Monotherapy alone is not sufficient. This is a really deadly disease and, even though you may have the cutaneous form of anthrax, always realize that those individuals are also at risk for inhaled anthrax, as well as the cutaneous form. And so we recommend using ciprofloxacin or doxycycline and there are 1 or 2 other drugs that can be used, and I'll show the susceptibility studies that will show you like imipenem and clindamycin, vancomycin, or some other drugs that can sometimes be used in combination and



some people actually use 3 drugs, adding rifampin also, to give them additional activity. But if you have seen this involvement, avoid doxycycline for CNS disease. And once they are clinically improved and the susceptibility studies have been assured, you can switch to oral therapy when appropriate. Next slide.

In my final statement, these are the 11 isolates of anthrax that were identified from Florida, New York, and D.C., and as you can see, penicillin and amoxicillin were very susceptible. Erythromycin and azithromycin were intermediate. So we are telling you that cephalosporins are not an indication in the treatment of anthrax. Do not use cephalosporins in these cases as you see the ceftriaxone is resistant. I'll stop and introduce you now—we have the honor to have Dr. Ivan Walks, who is the Chief Medical Officer with the District of Columbia Department of Health, to share the lessons learned by the local health department.

***Dr. Ivan Walks:***

Good afternoon. There are several lessons learned in looking at this sort of a bioterrorism attack. I think the first lesson learned is that you need to be prepared for something that you can't possibly prepare for. What we've learned most is that you need to have some sort of a Day 1 plan in place. There should be some series of events, some series of steps, that you will initiate as the local health officer that will help you do a couple of things. One is do something productive in response to the event, but two, and most importantly, bring in the folks to help you. Here in Washington, D.C., we have tremendous resources, but they are all based on relationships and the relationships allowed us to do a couple of things. When we had that first confirmed case of inhalation anthrax, that call came to me from the CDC at 7 a.m. on Sunday morning. By noon on Sunday we had fully mobilized and we were ready to begin administering antibiotics. We had a lot of folks come in and plan with us and we were able to do a couple of things. One is, provide treatment, keep people safe, get them safe now, right away, real time. When you are doing a lot of investigating about something new, the focus has to be on safety, public safety, protecting public health first, while you investigate. That is why the medication is distributed early, up front. Cipro, big gun, make sure we are being effective. As we find the characterization, we go to doxycycline.

We had another problem locally. Here is another lesson learned. Multiple jurisdictions here in the district, Capitol Hill, Hart Building, letter there, attending physician different from the local health officer, and we had people wondering why the attending physician's folks were given one medication, the regular folks were getting another medication. Many of you are going to be faced with those kinds of questions in your community—is the governor, the mayor, the rich person getting a different kind of treatment from everybody else? Public health is critical when you are talking about public confidence, and consistency is going to be important. We were able to make people aware that the switch from medication one to medication two was something that was scientifically based. We had the CDC in there working with us and it's that kind of focus that I think is going to be critical for the local public health folks. Make sure that you aren't in there by yourself trying to answer these very real concerns about racial differences and class differences, but have the scientists there to back you up so that you can maintain public confidence as you deal with a very scary thing. And I'll turn it back over to our moderator.



**Dr. Caine:**

Okay. Thank you, Dr. Walks, for that enlightening information that you provided to us.

**[Intermission]**

**Dr. Caine:**

I want to remind individuals that if you want further information, you can contact the Web site here at Howard University School of Medicine, and that is [www.whut.org](http://www.whut.org). Also remember Centers for Disease Control and Prevention have a wonderful Web site. Check out the *Morbidity and Mortality Weekly Reports* and also the Web site for the National Medical Association. We are going to open this up to more questions from our audience. We will start.

**Dr. Valentine Burroughs:**

Thank you, Dr. Caine. I'm Dr. Valentine Burroughs, Chairman of the Health Policy Committee for the National Medical Association. My question to you is, what should a clinician do if he or she suspects that a patient has anthrax, and where can they be tested?

**Dr. Caine:**

I think the key thing is, is that it's really important to confirm the diagnosis by obtaining a laboratory diagnosis or making appropriate laboratory specimens. Depending on what form of illness you have, whether it's inhalational or cutaneous or gastrointestinal, you want to take those particular specimens. And also I really would advise, consult an infectious disease specialist if you have it available or consult your local health department officials. They should be well qualified in order to provide the additional information for you. Also I think in terms of exposure circumstances, these are really important factors as you make your decisions in terms of prophylaxis and so if you need additional information, remember: regardless of what your laboratory test shows, if you can document some definite exposure in regard to anthrax, please place them on antimicrobial prophylaxis antibiotics.

**Dr. Fernando Daniels III:**

Hi, I'm Dr. Fernando Daniels III, the Section Chair for Emergency Medicine at the NMA. Dr. Khan, is the CDC specifically recommending influenza vaccine for the postal workers?

**Dr. Khan:**

Excellent question, especially as we come up on influenza season in the United States. Dr. Caine has already made the point that we should maybe use the term "nonspecific febrile illness" for anthrax instead of flu because there is no coryza and rhinitis. Back to the vaccine issue, ACIP has a set of recommendations of who to be vaccinated—the elderly, the immunocompromised, people in high-risk groups. However, the recommendations are quite permissive in that any other individuals or groups of individuals who require vaccinations should be vaccinated. Postal workers would fall into those groups. Influenza among postal workers would potentially disrupt services and it's very appropriate for postal workers to be vaccinated against influenza. However, we should be quite clear that flu vaccine will not prevent anthrax.

**Dr. Daniels:**



My second question is to Dr. Walks. How are the healthcare systems going to cope with the influx of patients with flu or anthrax symptoms this year?

***Dr. Walks:***

Well, Dr. Daniels, I think it's really a follow on through to Dr. Khan's answer. I think it is important for us to first of all get our hospitals all talking together. Here in Washington, D.C., we have a 10 a.m. conference call. The hospital association put that together, doctors, hospitals, regional health officers all talk to each other every day. As we approach flu season, the two questions are, are we all clear what to do when our emergency rooms get clogged? How are we going to respond to that? I think we are going to give a lot of people their flu shots. I think that's job one, but then job two is to make sure we understand, as our emergency rooms get crowded, what is our response going to be? We don't have a test in a healthy person for anthrax. I think that is clear. So that needs to get out to the medical community and into the public. Don't rush to your ER to ask for your anthrax test; we don't have one. I think that sort of public education campaign can avoid a lot of clogged ERs.

***Dr. Albert Morris:***

I'm Dr. Albert Morris, Chairman of the Environmental Task Force for the National Medical Association, and my question is for Dr. Satcher. There have been some influenza vaccine delays this year. How will that affect our flu season?

***Dr. Satcher:***

Well, there will be a slight delay, but not as much as last year. We have delivered all 79 million plus doses that we expect to have for influenza vaccine. Forty-four million were delivered by the end of October, and we believe the rest will be delivered by the middle of November. So we feel very good about the availability of the vaccine. Now we are assuming the need to be around 79 million dosages. Getting back to Dr. Walks's point earlier, we don't believe that the vaccine should be used to help people avoid confusing symptoms with the flu; you've heard what the symptoms are and we're not using it that way. We believe that we should target first people who are over 65 years of age or people who have chronic illnesses or people who work with those people—and healthcare workers especially, because they can both get influenza from patients, but they can also give it if they are working around patients who are elderly or at high risk. So we think we ought to target the high-risk people first and then certainly after November 15<sup>th</sup> people between the ages of 50 and 64 are now recommended by the CDC as lower risk, but somebody who should get it. Remember, last year we had 100,000 hospitalizations for influenza and we had 20,000 deaths. So it is very important to be aggressive in immunizing older people and people with chronic diseases.

***Dr. Marinelle Payton:***

Hi, I'm Marinelle Payton, Chair of the Department of Public Health, School of Allied Health Sciences, Jackson State University. My question is for Dr. Caine. Dr. Caine, given the susceptible populations—children versus elderly, risk versus benefits—are there contraindications in the use of either cipro, doxycycline, or other types of antibiotics?

***Dr. Caine:***





In the past, at least for cipro and even the tetracyclines, especially in children have had adverse health outcomes. If we look at cipro it causes impacts on the metastasis of the bone formation as young children are growing and it affects their metastasal plate and so it has been contraindicated in children. Also we have seen staining of teeth for the tetracyclines or doxycyclines in children. Also their bones are also dose-related as well. We have certain contraindications for doxycycline in pregnant women, and especially—sometimes they are allowed to be used before six months of gestation but I would never recommend that without making sure that you are talking to the family practitioner, OB or gyn, or the midwife who is taking care of these pregnant mothers and if we can have the susceptibility studies available we can also place them on amoxicillin in those instances if the penicillin susceptibility has been confirmed.

***Dr. Morris:***

My question again is for Dr. Satcher. Some of our patients are concerned that the treatment of response protocols have changed as this outbreak has progressed. Can you help us understand why this is happening?

***Dr. Satcher:***

Yes, as we mentioned before I think this is an evolving experience that we are having here. Our first concern I think was understandable and that is, we didn't know if this organism would be resistant to say penicillin or doxycycline or agents that have been around for a long time so therefore you would expect it to be more resistant. Ciprofloxacin, on the other hand, has been around about—what, 15 years?—not a lot of resistance to ciprofloxacin. You don't want to take any chance with inhalation anthrax as you've heard from Dr. Caine and others. So you go with the big gun at the beginning until you find out for certain that this organism is sensitive to other agents like penicillin and doxycycline. So what we have done is we've determined now after all of this experience that all of these different outbreaks, if you will, have been with organisms that are sensitive to doxycycline. As you have heard, there is some concern about penicillin, especially if you are actually treating inhalation anthrax, and the possibility that even if there is not resistance at first, because of penicillinase development you could get resistance later. So in the exposure mode you can use penicillin, amoxicillin, but you want to make sure that if you are treating somebody with inhalation anthrax you go with something that is certain, so you are going to combine ciprofloxacin or doxycycline with one of the big guns like rifampin and others that we talked about. But no—this is an evolving experience, and we are making adjustments that are appropriate for managing any kind of outbreak.

***Dr. Daniels:***

Dr. Fernando Daniels, III again. My question is for Dr. Perez, in that we are switching from doxycycline to cipro and a lot of citizens are worried about is it as effective as cipro. I would like for you to make a comment on whether doxycycline is as effective as cipro.

***Dr. Perez:***

I guess I would just reiterate what we've heard from our Surgeon General to alleviate those fears as pointed out by Dr. Walks that you go for your big gun first. As we have all learned, first do no harm. So what we are doing is we're going—alleviating that which has the greatest potential for harm. So we started out with the cipro, the bigger gun, a broader spectrum, to assure that there



would be no resistance, but we have found that in all of the strands from Florida, New York, and Washington, all of the strands have been susceptible to doxycycline. Using doxycycline and using it with the regimen of twice a day is as effective as using cipro.

**Dr. Walter Royal III:**

I'm Dr. Walter Royal III, Department of Medicine at the Neuroscience Institute, Morehouse School of Medicine. My question is for Dr. Khan. Dr. Khan, could you tell us what is the case definition for anthrax?

**Dr. Khan:**

Yes, I can. The current case definition in the United States for anthrax is divided into 2 categories, confirmed cases and suspect cases. For confirmed cases you require clinically compatible illness that is confirmed by either isolation of *Bacillus anthracis* or other laboratory evidence based on 2 supportive laboratory tests: PCR, immunohistochemistry, or serology. For a suspected case, the definition is clinically compatible illness with one supportive lab test or a link to an environmental exposure that we are currently studying.

**Dr. Burroughs:**

Valentine Burroughs again. My question for Dr. Caine is, what methods are used to detect the various forms of anthrax in a patient?

**Dr. Caine:**

*Anthraxis* can be isolated by culturing an organism from the blood or based on the lesion, if it is a skin lesion from vesicular fluid or from the lungs if you have pleural effusion. You can do a thoracentesis. Or if there are meningial or CNS involvement you can do a spinal tap. So it just depends on where the site of the organism is. And there are also some diagnostic tests where you can detect the antibodies in these particular clinical specimens as well. Initially, the standard procedure in the laboratories is, they are asked to do a Gram stain of the organism. Usually this organism is gram-positive and they'll look for certain colony formations on the nutrient media. It grows very readily. And based on the characteristics of that colony, morphology, you know whether it is hemolytic and some other chemical tests that they can provide, they can make presumptive diagnosis. And look such issues as motility, lyses by gamma phage, some capsule production, and visualization, and even wet mount in a special staining for the spores that they can do. But these are the presumptive type of tests and you have to have someone that's got a certain level of biological lab in order to do those confirmatory tests and there are not a lot of places where that is available and quite frequently they are carried out at CDC is the agency we hear the most frequent place besides some of the governmental and state labs, which can include those phase lyses, the capsular staining. This organism has a capsule and they can also use the direct fluorescent antibody test in order to make a rapid diagnosis besides a polymerase chain reaction test.

**Dr. Bruce Butler:**

Hello, my name is Dr. Bruce Butler. I'm the current Chief Medical Officer of the Federal Protective Service. My question is for Surgeon General Satcher. What are—given the approval rates of FDA—what are the current guidelines, treatment regiment for pediatric patients, and are



they indeed FDA-approved?

**Dr. Satcher:**

Well, as you know with a lot of the drugs that we use in medicine, we don't necessarily have clinical trials in children showing safety and effectiveness. So if you take ciprofloxacin, we do not have safety and effectiveness established for children. But now if you are asking me should we use it—if we had a new outbreak of anthrax and we had not had a chance to establish the sensitivity of the organism to other agents, I would strongly recommend beginning with ciprofloxacin even in children and use it until we establish the fact that the organism is sensitive to other agents. So it is like some other areas where we treat children using off-label approaches if you will because we are worried about the risk of death as opposed to the risk of the drug. Ciprofloxacin has serious side effects as you've heard, but if you have a child who is at risk of dying from inhalation anthrax you go that direction until you establish that that organism is sensitive to some other drug.

**Dr. Caine:**

I think we will take one more question if we could from the audience.

**Dr. Butler:**

Yes. Again, my name is Dr. Bruce Butler. I have a question about the use of these home testing kits that are being pushed on the Internet currently. We recognize that a lot of the population ran to purchase gas masks in the beginning of this crisis. We found out later on from the experts that it was not necessarily the best or wisest thing to do. Could you please comment? Thank you.

**Dr. Khan:**

I can comment. I assume that you are talking about these rapid hand-held assays that are being used by many first responders for testing environmental samples; is that correct, sir? CDC is actually in the process of evaluating that with our partners. But at this point I think it is fair to say that there is not one such assay, there are numerous such hand-held assays. Some have better sensitivity and specificity than others so it's not appropriate to lump them together. But what comments you can lump together is that until we have a better assessment of them we do not recommend that you make any clinical decisions based on those assays. So if you have a powder and you think it is *Bacillus anthracis*, regardless of what your hand-held assay may say, we are recommending that, based on some criteria that have already been laid out about who gets tested, those samples go to a real lab for confirmation before you decide to make clinical decisions based on those assays. The only—if they are using some of the good assays, if it shows that it is *B. anthracis*, some people are actually starting prophylaxis immediately pending the confirmatory result. But the point is, do not use those hand-held assays as a final answer. They must go to a state laboratory, to a level B laboratory, for a confirmation of that sample.

**Dr. Caine:**

Before we close our program today, I just want to thank our invited guests and I want to thank you out in the audience for taking your time to participate in this broadcast. I want to send an especial thank you to the television crew here at the Howard University College of Medicine who have just been wonderful to work with and we want to thank you for all working so hard to



make this program a success. And, before we close this program, I just want to re-emphasize, if you want some more information, contact the NMA Web site, which is [www.nmanet.org](http://www.nmanet.org). Now I would like to turn this over to Dr. Randall Maxey, who is the chair for the National Medical Association's board of trustees, who prepared this videotape yesterday and had it flown here this morning.

***Dr. Randall Maxey:***

As chairman of the National Medical Association's board of trustees, I hope this broadcast, "Anthrax: What Every Clinician Should Know, Part 2," was informative and timely. As clinicians that serve a broad spectrum of patients, including minority and underserved populations, our preparedness to correctly recognize, test for, diagnose, and report cases that could be attributed to *Bacillus anthracis* exposure is of critical importance to combating the bioterrorist threat facing all Americans. We would like to thank the Centers for Disease Control and Prevention and the Public Health Training Network for their partnership in this broadcast.

This program, originating from the Howard University College of Medicine, has presented an update on clinical guidelines and procedures for the early recognition, diagnosis, treatment, and reporting of anthrax exposure. As additional cases of anthrax exposure are identified, the National Medical Association encourages all health professionals to prepare for a potential assault. This is history in the making, a 21<sup>st</sup> century medical and social problem that requires strategic thought and active preparation to overcome this challenge. The National Medical Association embraces a system-wide approach to disaster preparedness that includes special training and development of uniform treatment protocols for health professionals including public awareness. Of great concern is America's preparedness to protect the health and well being of its people. Superior surveillance and monitoring is of paramount importance as we attempt to curtail this potential crisis. Anticipation of the mode of transmission of the bioterrorist agents along with the type of agents used will be critical. Having an adequate and ready supply of medications, antibiotics, and vaccines must be part of our clinical arsenal. America has the capacity to successfully address this crisis if we take advantage of our short window of opportunity and capitalize on the advances in technology, information systems, and the medical sciences. This approach calls for collaboration in its purest form and function as one team with a common vision as we promote a nationwide counterattack on bioterrorism. The National Medical Association, the Centers for Disease Control and Prevention, and our other partners will continue to keep you abreast of the latest information updates pertaining to bioterrorism and uniform treatment protocols for clinicians. To access the NMA Web site, our address is [www.nmanet.org](http://www.nmanet.org). For the CDC, the address is [www.cdc.gov](http://www.cdc.gov). Like all Americans, the National Medical Association and its members are saddened by the recent terrorist activity in our nation. Through all of our efforts and partnerships, America will win this war on bioterrorism. Good day, and God bless America.