

Critical Issues in Writing about Bio-Terrorism

A Hollywood, Health & Society Writers Briefing in Partnership
with the Writers Guild of America, west

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Writers Guild of America, west



HOLLYWOOD, HEALTH & SOCIETY
PARTNERING ENTERTAINMENT, EDUCATION AND THE CDC

Critical Issues in Writing about Bio-Terrorism

This writers briefing, convened by the Writers Guild of America, west and the USC Annenberg Norman Lear Center's Hollywood, Health & Society project, brought together scientists from the Centers for Disease Control and Prevention and leading film and television writers to discuss how Hollywood handles a harrowing topic—bio-terrorism.

Writers Guild of America, west

The WGAw, led by Victoria Riskin, represents writers in the motion picture, broadcast, cable and new technologies industries. The Writers Guild of America is the sole collective bargaining representative for writers in the motion picture, broadcast, cable, interactive and new media industries. It has numerous affiliation agreements with other U.S. and international writing organizations and is in the forefront of the debates concerning economic and creative rights for writers. Visit the Web site at www.wga.org.

Hollywood, Health & Society

Hollywood, Health & Society is a project at the Norman Lear Center that provides entertainment industry professionals with accurate and timely information for health storylines. Funded by the Centers for Disease Control and Prevention (CDC), the project recognizes the profound impact that entertainment media have on individual behavior. The Lear Center helps the CDC supply writers and producers of all types of entertainment content with accurate health information through individual briefings, special seminars and expert consultation. Visit the Web site at www.entertainment.usc/hhs.

The Norman Lear Center

The Norman Lear Center is a multidisciplinary research center that explores the implications of the convergence of entertainment, commerce and society. From its base in the USC Annenberg School for Communication, the Lear Center builds bridges between faculty who study aspects of entertainment, media and culture. Beyond campus, it bridges the gap between the entertainment industry and academia, and between them and the public. Through scholarship and research; fellows, conferences, events and publications; and in its attempts to illuminate and repair the world, the Lear Center works to be at the forefront of discussion and practice in the field. For more information, please visit www.learcenter.org.



Participants:

**Neal Baer, executive producer,
*Law & Order, SVU***

**Michael Frost Beckner,
creator, *The Agency***

**Martin Kaplan, director, The
Norman Lear Center**

**Jeffrey Koplan, director,
Centers for Disease Control
and Prevention**

**Stephen Ostroff, associate
director for epidemiological
sciences, National Center for
Infectious Diseases**

**Victoria Riskin, president,
Writers Guild of America, west**

Victoria Riskin: Writers are the chroniclers of our time and often tackle important issues relevant to the public. In that regard, writers have an important responsibility to do the best job possible with the resources and time available. All of us would like to wipe away our memory of the day when the World Trade Center was struck. We will remember that throughout our lives.

But it did happen, and it is part of our emotional recall. Parts of the country and government had to respond quickly, scrambling around to decide what to do, what other assaults could come and how to protect society.

A very strong feeling among Hollywood writers was: What is *our* responsibility? How do we not only deal with this personally, but how does this act of terrorism impact the work that we're doing? How do we, as writers, respond? I spoke at length with John Wells, and he told me how he just stopped what he was doing and did a series of interviews on *Third Watch* with the firefighters who had been rescuing people from The World Trade Center.

He felt a strong sense of connection to the story and the importance of telling it. Writers on other series were struggling with how to tell the story. Do we have a responsibility to weave this theme into our shows or should we stay away from it? These were challenging questions for writers.

To serve as a resource for the entertainment community—not to lobby on any particular topic—but to provide assistance as you tackle stories on behavioral science issues, on medical issues, on any number of issues is the goal of the Hollywood, Health & Society project. The gentlemen on this panel will talk about how this project is designed as a one-stop-shop for information for writers. It can help you find the facts that you need to know, and also enlighten you to the more subtle issues that patients and other people experience when they're confronting crisis.

Neal Baer is a writer and executive producer of *Law and Order: SVU* and formerly worked on *ER*. Michael Frost Beckner is the creator of *The Agency* and he wrote *Spy Game*.

Also on our panel is Jeffrey Koplan, former director for the Centers for Disease Control, and Stephen Ostroff from the Center for Disease Control. Dr. Ostroff is a physician who serves as the associate director for Epidemiological Sciences in the National Center for Infectious Diseases at the CDC.

Neal, right before 9/11 you had done a show on bio-terrorism. What decisions did you have to go through to decide whether to air it?

Neal Baer: On 9/11, I was in New York, a mile away from Ground Zero when it happened. We were prepping a five-hour miniseries for NBC called *Terror* with Dick Wolf, who said at the same time that it was the most important project he'd ever done. He, along with all of the writers, wanted to do a miniseries about bio-terrorism because it hadn't been fully addressed. He felt that

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because of our weakness as a country, our preparedness was not great, and he wanted to make a clarion call.

We started it about a year ago. By August we were really deeply involved in the story, and we would joke that we hoped the real thing didn't pre-empt our work. Obviously, we had no idea of what was to come. On 9/11, *Variety* ran a headline that said something like "Wolf Brings Terror." It was ghoulishly serendipitous in the sense that what we had been writing did come to pass.

As we were writing the miniseries, we did a lot of research. What we were told about anthrax was strangely close to what really occurred. We did research on using crop dusters to disperse biological weapons. The FBI talked to us at one point because our accumulation of so much information raised a red flag. It was weird that we were able to amass all of this information about the best places to study aerosolization, etc. We knew a lot of things most people didn't know, because we spoke with so many experts all over the country.

We talked to people who warned us of bad things and with people who said that nothing could really happen. We talked to experts at Johns Hopkins, Stanford, Michigan, Minnesota, the CDC, and these experts had completely varying opinions about anthrax. "It couldn't hurt you if it was on the carpet. It could hurt you if it was on the carpet." It was amazing how little was known before the anthrax plantings happened—and how lucky we are that they happened in such a limited distribution.

We had a lot of information on making biological weapons and dispersing biological weapons, so we had a lot of debates. Should we use the name "Taliban" in our show? Frankly, I was very afraid to do so. Other writers were saying, "What's the big deal?" It raised issues about putting yourself at risk when you attribute a negative act to a particular cultural identity like that. Our script was leaked, and we received letters from various Muslim organizations before the miniseries was even shot.

Some fundamental issues were raised by this process. Do you create shows that could put you at risk? Dick Wolf felt very strongly that, yes, you do. That's part of being a writer. Do you include material that someone could copy, like a character putting anthrax in a ventilation system? Are we giving people ideas? We got into the same kind of controversy with smallpox and how smallpox could be disbursed. We had hours of debates about whether we should or shouldn't include some of this information. There was one storyline we decided not to do because it was so clear that it could be implemented fairly easily and we didn't think that would be responsible of us to proceed.

There isn't much you can do as a writer that can incite people to do crazy things, but we really gave it a lot of thought. Of course, we didn't scrutinize it as much as we would now, since it's happened. And since it did happen, we have decided we don't want to go ahead with the anthrax story because we don't want to give people ideas.

It caused us hours of debate. The bottom line was we wanted to do the miniseries because we felt that people weren't aware of the danger. After 9/11 and the anthrax scares, we felt the shows would upset people, possibly incite people and/or piss off people, and we thought it raised fundamental issues about where drama and the writer's sense of responsibility lies in the social fabric.

Riskin: After 9/11, did your feelings change about the sense of responsibility? How did those events impact you as a writer?

Baer: It was such a surreal situation—as a doctor, I was at Chelsea Piers, which was the triage point for New York City. All the ambulances were there, and we were waiting for victims, but there were no victims. It was a very strange thing to experience because there was nothing you could do. Being a visitor gave me a view different from that of a New Yorker, since I didn't have any personal connections to people in the towers, or to the Twin Towers themselves.

It was a terrifying experience. It made me not want to do the miniseries.

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The events changed some of the writers' perspectives about cops. People's attitudes changed, particularly those who lost people in the towers; there were people on our show who did. It changed them in profound ways that affected the way they wrote, affected the way they thought about characters and altered the way they want the show to be.

It's interesting to see, stepping back, how September 11th changed writers' attitudes about the country, about patriotism, about how you write about cops. Cops should be heroes. Cops do no wrong. Stabler, on our show, cannot have an affair. 9/11 seeped into the fabric of our show in that the characters debate and fight about that. Now there are a number of shows that are taking a different stance, like *The Shield*. Right after 9/11, you wouldn't dare put on something about bad cops, crooked cops, cops that shoot people.

Now some shows are doing that. There are a slew of pilots in the pipeline that have more complicated characters that will not make it to air. From a writer's perspective, it's been interesting to see television drama's first reaction to terrorism striking America and now how this may be changing the way we write.

Riskin: Writers are both part of the culture and swinging with the culture. A short time after 9/11, the Bush Administration came to Los Angeles and asked what the Hollywood community could do to help. That was an awkward set of meetings. There was one subset of meetings, when a consultant to the CIA asked if a group of writers could develop some scenarios.

Michael Beckner: I worked at that. Some of the top action-explosion screenwriters were there. We were asked to invent scenarios. The logic was that, if writers were so creative, they'd be able to out-think the terrorists. This was government sanctioned.

I wrote a pilot over a year before 9/11 featuring Bin Laden, a terrorist attack, an Al Qaeda cell, all set in London. When I turned that into CBS, they had a lot of notes. They asked me to come up with easier names. They had no idea about Bin Laden or Al Qaeda or anything else. I've written espionage for many years, and I've done a lot of back and forth with the CIA. It was obvious that if I was going to write a pilot about the CIA, it would be about Bin Laden planning an attack, because he declared war on us so many times—and I thought everyone knew it.

It was stunning, of course. That episode was scheduled to air, as the pilot, on September 27th. CBS pulled it. Our second episode was scheduled to be about an anthrax attack on Washington D.C., produced in May, 2001. Again, Al Qaeda was supposed to be the culprit. That's when they said, "This Al Qaeda thing, you've got to get off that. No one is interested. Trust us." So we redrafted it as Iraqis making an anthrax attack through German terrorist proxies. This was scheduled to air two days before the news broke about the anthrax letters. Les Moonves called us in and said we couldn't air this one, either. I argued that we should go ahead with the story because the ending was positive. I thought that we should have aired the pilot, too, because the good guys win in that one. It had been set in Harrod's department store, which we changed at the request of the Fayed family after 9/11. They didn't want their department store's name used.

Terrorists and fundamentalists view the Fayed family as sell-outs, and they're a big target. Our show was pre-empted by the President speaking about anthrax that night. We held up the episode up for a few weeks. We had some advisors who fact-checked for us, the CIA and that sort of thing. They all said the shows could be used as morale boosters.

The anthrax episode went into what anthrax is, how it could be delivered. Our episode included aerosol disbursement. In 1978, there was a case of anthrax in the US, and again, CBS said, "No one knows what anthrax is. Who would possibly be interested in this?"

Audiences responded positively to the show on anthrax and the show on Al Qaeda. We tried to present it as accurately as it's ever been done. The TV show looks like the CIA operations. Six people don't run the CIA as

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we have on our show, but intelligence gathering is portrayed accurately on our show. Our audience has grown because people are interested in government intelligence agencies now.

They want to see how the CIA works, they want to see that the intelligence community is up on their game. Everyone asks, "Well, did you have a crystal ball?" No. The CIA would let in anyone, including a little writer like me, to hear that Al Qaeda and Bin Laden are going to attack us. No one was listening, no one wanted to hear it. The show was able to follow the chart I'd drawn out for the season.

Originally, before 9/11, CBS wanted the show to go in a different direction. But espionage and intelligence gathering and the war on terrorism are news. We have much more free rein to educate people on the subjects we're talking about. For example, an episode aired on smallpox where a suicide bomber crossed the border from Mexico and got caught. What they didn't realize when they brought him in to interrogate him is that he was the bomb and he was infected with smallpox. There was some debate on whether we were giving someone a good idea, but my feeling is if we can think of it, then terrorists have 10 plans that are better. Hollywood writers never come up with better plans than terrorists have.

Riskin: What was it like at the Centers for Disease Control in the weeks following 9/11? The whole country was in a state of panic: What is anthrax? How is it being spread? What are the other possible threats? What was it like for you, Jeffrey?

Jeffrey Koplan: September 11th, I arrived at work to see the drama unfolding on TV and people distracted. We didn't wait for the towers to collapse before we began to pull together teams of our own. We'd been preparing for bio-terrorism since the aftermath of the Korean War. This is not a new subject for us. For the past several years, we've built new labs and addressed issues like the production of a new smallpox vaccine to replace the antiquated and relatively small amount that we have in storage.

But on that day, even as events were unfolding on TV, we were trying to reach the New York City Health Department. Our major constituents are the city and state health departments and we weren't able to get through easily. Eventually we did make contact with the city health department. In the meantime, we put together an immediate team of staff, including disaster specialists and epidemiologists. On the afternoon of the 11th there were two non-military planes in the air, Air Force One, and a Gulfstream jet from Atlanta, going to New York bringing stuff up to assist the New York City Health Department.

The next day we had 40 epidemic intelligence service officers on their way up, because we'd made contact with the health department and our concern was a secondary attack. They staffed hospitals throughout the metropolitan New York City area, looking for evidence of a change in symptomology of people coming in. Could we find evidence, at the earliest stages, that there were people coming in with a rash, illness, a cough or some complex of symptoms that indicated a biological event unfolding? It played out from there. Of course, the biological event did not occur in the immediate aftermath of September 11th or in New York initially. On October 2nd and 3rd, I was in the City visiting our teams and came back to Atlanta on the morning of October 4th.

Overnight a phone call came in to the CDC from the Florida State Health Department, asking whether we would verify a suspect isolate of anthrax, bacillus anthracis, that they had analyzed in the state lab. There was no hesitation in the agency—a case, even one positive case of anthrax anywhere, is a cause for concern. But a case in Florida, which had not had a case of respiratory inhalation anthrax ever, was a greater cause for concern. There had only been 18 inhalation anthrax cases in our 50 years.

We already were mobilizing, and were working nonstop for the next couple of months. The bio-terrorism event presented a series of challenges to us. Some of them might be parallel challenges to what writers or creative artists face around this event.

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Some of these challenges might give you ideas about the tensions involved in an event like this that aren't obvious. First, there are scientific challenges—the paucity of scientific information known about anthrax. If you take other scientific subjects, Parkinson's or diabetes for example, the body of literature could fill this building.

The literature on anthrax could fill a corner of this table. Much of it was antiquated and irrelevant to what was going on in October, 2001. A scientific review of the anthrax literature from the perspective of bio-terrorism appeared in the *Journal of the American Medical Association* within the past couple of years by reputed academic experts, which had nothing in it about letters, spore size or aerosolization. These were the same experts who were now appearing on TV.

So, the scientific issues were crucial. We were being presented with a real time, real life, public health emergency while we had a paucity of scientific information. We had to generate scientific information on a daily basis to sort this out. While there were a lot of folks offering their expertise and perspective, no one could offer truly helpful information.

A second challenge was a public health challenge. It's important to differentiate a scientific challenge from a public health one. A public health challenge means we've got to make decisions on an hourly, daily basis. A day didn't pass without a decision being made by Steve Ostroff in New York, or the team in Florida, or we in Atlanta, or the group in New Jersey or the postal service, for the postal workers. We couldn't wait for someone to say, "This would make an interesting study and we could use it to make public health decisions," or "Let's put out a grant and we'll get the protocol going and we'll get a double blind control," or "Let's canvas expertise around the world to get an answer to this." These decisions had to be made in an hour and 45 minutes. The postal workers are coming and what are we gonna do about X? What agent do we use? The nature of public health is you don't have the luxury of waiting for all the information. You use the best evidence you have and you put yourself on the line and make a decision.

Not making a decision was not an option. That was a constant feature of this crisis. You read about it in the papers everyday. There weren't just Monday morning quarterbacks—we had daily quarterbacks who were able to look and see what we were doing.

Riskin:

I was amazed by the dissonance in the information disseminated by the so-called experts on anthrax—you received one set of opinions and then another. I was also struck by the fact that on your end you were talking to guys at the CIA saying anthrax is a real threat, this is a serious thing. We'd heard about anthrax in the Gulf War, that Saddam Hussein had it. Yet there's another part of the government that's not studying it. It seems as if there's a disconnect somehow. What do you think?

Koplan:

There are lots of disconnects, but it depends on what you want to invest in. There has been a biological and chemical weapons research program in the US for decades, but much of it is military-based, much of it's classified. In the event of a civilian episode, lots of that information is difficult to obtain quickly. Some of it is antiquated and not relevant to the circumstances at hand. One of the standard pieces of information about anthrax was, after an initial aerosolization, it is very hard for it to be re-aerosolized, virtually impossible.

We found that not to be true in the postal facilities and a few other places. So, you take the basic precept—and this was a pitfall that we had to deal with daily, and we screwed up with occasionally in the course of this—which is, if we relied on the previous scientific information and said look, the best scientists out there, the real experts in this field say it can't be re-aerosolized, we could get into trouble the next day because all the things that have been shown before were not taking place as we played this situation out.

Baer:

We were told over and over that re-aerosolization was not possible, and we had a scenario where it came through the ventilation system and it lay on the carpet. We asked all these experts from around the country whether it could be trapped. We were told unequivocally, "No, there is no threat." That was right before this

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all happened. No one said that it could be a threat. Then obviously it was proven otherwise with the postal disaster.

Riskin: Stephen, where were you during this whole process?

Stephen Ostroff: I was in Atlanta. I had been working with the New York City Health Department for several years. At CDC, I'm the outbreak person—I coordinate outbreak investigations. Some of you may recall that a couple of years before, the West Nile Virus was introduced in New York City. There was a public health communications storm around the West Nile episode, and the issue certainly arose in that episode about whether or not it was intentionally introduced into New York City.

The CDC and the CIA came to the conclusion that it looked like it was a natural event, but there were always lingering questions about that. But that West Nile Virus outbreak, over the course of that two year time period, in 1999, was first and foremost a New York event. Any time that there was bad news to convey about West Nile, the folks in New York would always want somebody from CDC to be at the press conferences, and to have other voices conveying information about what decisions were being made.

I was always that person, so I knew most of the people in the New York City Health Department and in City Hall relatively well. The instant that we heard about Tom Brokaw's assistant, I immediately knew that there was going to be a storm around this anthrax discovery that would sweep concerns about the West Nile Virus completely off the table. Since I already had existing relationships with everybody up there, I was the one who flew up as soon as we heard about Brokaw's staff member.

Within two hours, I was in a press conference with the mayor, the governor, the health commissioner and the president of NBC. After the press conference, I went to 30 Rockefeller Plaza and I must confess that in my entire public health career—which spans 15, 17 years—I have never seen such absolute chaos at NBC. It was absolutely mass panic on the mezzanine of that building.

That was the result of one cutaneous case of anthrax. I was there for all the cases at all of the networks. It was a fascinating experience. I got to know the presidents of each of the news networks extremely well. They yelled at me a lot when they weren't happy and they were great to work with. I got to know the mayor extremely well—I did a press conference, at least one with the mayor, every single day.

I was in the commissioners' meeting every single morning and his attitude was that he wanted the expert to be there when questions came. He didn't want to be the one answering those questions, he wanted somebody who knew what they were talking about to answer those questions. It was a unique experience, to say the least, and the entire time that I was there I felt like I was in a movie. I had two police detectives always assigned to me who took me around the city. And I marveled at how accurate the television programs about the NYPD all are.

Riskin: We don't make it all up, you know.

Ostroff: It was truly amazing to me, and they were really incredible to deal with. When I think about that particular episode, I wonder about the motivations of the perpetrators. I still can't quite figure them out, and why they selected the targets that they selected remains an utter mystery to me. They realized that you can get a lot of bang for your buck if you very strategically target certain places.

And they did it and they did it highly successfully. I think the other lesson that we learned is that the toxic substance itself was absolutely amazingly produced. Even the weapons experts in this country didn't feel it was possible to produce material that was quite this well made. And, if you think about what actually happened, they certainly couldn't have started on September 12th, and only one week later produce material of this quality.

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They obviously had been working at it for a long period of time, after thinking about it for a long period of time, and they simply took advantage of what happened on September 11th to do what they did. I still can't quite figure out why they stopped.

I really do want to talk to the bio-terrorists because there are so many unanswerable questions currently for us that only they can answer about what happened, why it happened and the way that it happened. I talked to a lot of the victims and it was absolutely astonishing to me that almost all of the disease in New York was relatively mild cutaneous disease, with the exception of the baby who contracted it. It was devastating not only for the actual victims themselves but for all of the networks. The mental anguish that people went through over this episode was absolutely astonishing to me. And most of these people continue up to this day to be severely psychologically disabled by what happened.

Riskin: Can you say what you think that disability might be?

Ostroff: This is clearly a sort of a post-traumatic stress disorder, and it got to the point where none of us in New York talked to these people because they just had become totally irrational. Part of it, I think, was just the unbelievable generation of publicity around this, and the victims not wanting every single detail of their life talked about by people like Ari Fleischer. We completely violated their confidentiality throughout this entire episode. And I think that they felt really wronged by a lot of this.

Riskin: What a lesson to learn.

Ostroff: It was a very unusual place to be, especially in light of what had just happened on September 11th. This was a one-two punch, and so it was a very unusual role for me. If you ask me what my worst moment was, it was when we heard about the woman from the Bronx. There was no reason for her to be infected at all and I remember when I heard about that case, sitting there just sort of feeling like a search light looking for other cases in New York. I felt like this was really gonna be the big event. And of course it turned out not to be, and I remember sitting there in her apartment, going through her personal effects with the NYPD, and feeling terrible for this poor woman—she didn't deserve this.

There were lots of interesting partnerships, particularly with law enforcement. I never thought in my public health career that I'd sit in meetings where there were more people carrying guns than people who weren't.

We certainly lived through a lot, and in response to the question about whether or not we're giving people ideas—I agree with what was said. They've got all kinds of ideas and plots in their head that are probably better than anything you could create, and so I don't really have that much of a problem with stories about these things.

I think the more information the public has, the better—certainly that was the way the mayor always felt. He felt when he knew something the public ought to know it as well.

Riskin: I think that's why people built trust in him and he became such a hero, where he had not been one before the event. People felt that he would tell the truth. Do you think we'll ever find the perpetrators?

Ostroff: I think at some point the individuals who did this will be found. People were asking me—literally, every day—“Have you figured out how that woman in the Bronx died of anthrax?” And I said, “Not yet, but we're going to,” and I said I wouldn't sleep well until we figured it out.

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And they kept on asking me “Are you sleeping,” and “How are you sleeping?” I have no preconceived notions about who the bio-terrorists might be, and all I can say is that, when they find them, I really want to talk to them.

Riskin: I’d like to open this up to some questions from everybody here. This shouldn’t be a one way conversation.

Audience Member 1: To Dr. Ostroff—you were probably with Mayor Giuliani when he found out details after the fact—what was that like? Do you disagree with withholding information of that nature from the public?

Ostroff: When Giuliani found out things that were going on that he didn’t know about, he clearly got very angry. And I saw him very angry in private, so you couldn’t do that to him very often and remain very successful in New York City. So, I think that he probably knew a lot more than you think that he knew. He was clearly much more colorful in private than he was in public—but he was every bit as decent as he was in public.

Audience Member 2: What is your view of how the different parties handled communicating information during the anthrax attacks?

Ostroff: I thought that Giuliani was an absolute master communicator. At each of the networks, they were also just tremendous communicators. I really admired how skilled their staffs were at providing information, to the employees in particular at all of the networks. Giuliani knew how to convey things the right way. He was so good at what he did—it’s better to have the information out there than to not have the information out there. That’s just my personal feeling about it.

Audience Member 3: For the gentleman from the CDC, if as you say, you don’t believe that we’re giving them ideas, then how do we look at the discrepancy between supposedly technologically unsophisticated people who come from a place where we constantly say they’re living in the 15th century, and the fact that they have these geniuses who are better with something as complex as anthrax than are the scientists that we have?

Ostroff: I think that they were clearly much more sophisticated than anybody ever gave them credit for being, in a variety of different ways. And so, why would we anticipate that they couldn’t successfully do something like make anthrax? Now, we don’t know if there’s any connection between what happened with anthrax and the events of 9/11. But I think that you have to assume that either they’re much smarter than we give them credit for, or they simply buy the expertise.

Beckner: Many people in Afghanistan are in the 13th century, but people like Bin Laden, who is very rich and comes from a Saudi family, are educated in Europe and in America. Saddam Hussein admitted to possessing concentrated anthrax back in 1995. He has all the facilities and the material to make it as well as we can make it, if not better, because he continues to work on it.

You have to consider the Russians. With the collapse of the Soviet Union, all the scientists who made all the chemical weapons, biological weapons, are now working for Iran, for that matter, all over the world for other countries, building these weapons for them.

So it may not be the guy on the street in Kandahar but certainly the people with the money and the people backing these movements are educated and motivated and rich and they have access to everything we have access to.

Audience Member 3: Does the CDC have back-up systems in case it is attacked, or if someone unauthorized is trying to access information?

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Koplan: The CDC has a series of physical blocks and barriers and security checks. We have personnel checks, and internally, it's not easy to find out where you're going and where you might want to be. Nothing's fool proof but we have markedly increased our own security since September 11th, and have had a number of outside security experts re-review what we do. We also have interaction with the FBI and the CIA regularly and have them look over our various mechanisms, as well.

Audience Member 3: Not that you have a shadow CDC like a shadow government, but is there a primary database or something elsewhere other than the CDC?

Koplan: We're doing backup both of computer capabilities and communications capabilities. There's backup even of some physical sites, where folks can go—backup offices and backup laboratory capabilities.

Audience Member 4: At the intersection of post Cold War Soviet scientists and the Ebola virus, is it in the realm of science fiction to think about viruses being developed for which there is no precedent, which have the advantages of transmissibility but no immunizations?

Ostroff: Nature does that all the time, and so I think we're becoming more sophisticated in terms of our scientific capabilities—one of our greatest concerns is genetic manipulation of organisms. Now with databases of the entire sequences of many of these microbes, increasingly scientists know exactly where they have to splice in other genes and things like that from other organisms.

There have been many experiments, and these are not nefarious experiments, in research laboratories looking at mechanisms of antibiotic resistance where people have created inadvertently some bad bugs. We're not quite technically sophisticated enough to succeed at these manipulations yet, that's a couple of years off. When we figure it out, it'll be relatively easy to transfer that mechanism to other organisms.

Baer: Like Ebola-pox?

Ostroff: Ebola-pox or whatever.

Baer: Wasn't a resistant anthrax made in Russia?

Ostroff: There are different ways to produce antibiotic resistance. One of them is on the chromosome of the bacterial organism itself. The other is to sort of vector it in with something called the plasmid, which is a little piece of extra chromosomal DNA, sort of like a virus that attacks bacteria. You can vector it in relatively easily.

Baer: You raise an interesting question because we read a lot of material when we were doing our mini-series. A lot of scientists published lots of papers on aerosolization and ways to make delivery using small aerosolization units. There's lots of material on it. What concerns me is—where is the line going to be drawn about censoring scientific material?

Audience Member 5: Jeff, I think you said last night that there was a 100% chance of bio-terrorism attacks occurring in the U.S.

Koplan: I amended it to 99%.

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Audience Member 5: Is there a probable top five, top ten, agents?

Koplan: There is a big six list of the most likely bio-terrorist agents. The thing to keep in mind is, whatever people have access to can become a bio-terrorist agent. And we keep focusing on biologic agents—there are thousands of chemical agents that are extraordinarily lethal and can play out in different ways. And there're combinations of all these that can be used. So we have to be well prepared, and we try to be particularly prepared for this group of six.

But you also have to worry about, and be concerned and prepared for, a range of other agents. The two previous recent bio-terrorist attacks, prior to October (in an Oregon commune attack and sarin gas in the Tokyo subway), involved something that wasn't on the top six list. So, you can't be so quick to say, we're just gonna do these six. And while we do focus on the big six, and they are of particular concern, people can be working on any one of a range of items.

Take poisoning the food supply—there're lots of different approaches. And it in part depends on what your motivation and ultimate objective is in the bio-terrorist attack. Is it disseminating chaos on the population and fear, or undermining faith in government or institutions? Is it actually killing people, is it targeting specific individuals? There's a range of approaches to take in this, and you might alter your weapon based on your objective.

Ostroff: A couple of things—one is that whoever committed the attacks of last fall is still out there. The second is that everybody who ever had a thought about doing something like this now realizes that you don't even have to do it well to have a lot of impact. And so I'm sure that there were many people who had this as an idea that watched all of the events play out last fall and are now trying to figure out how to do something themselves.

And so I would agree that I think there's virtual certainty that will happen. As far as the big six are concerned, the big six for us are the ones about which that we really need to get our house in order, in terms of developing all-round preparedness. And those are anthrax, smallpox, the plague, an interesting bug which is one of my favorites—tularaemia, botulism and the viral hemorrhagic fever agents.

Audience Member 6: The one that you describe as interesting—could you tell us why?

Ostroff: The dark side of public health is that smallpox would have never been a bio-terrorism threat if we hadn't gotten rid of the disease. The rest of them actually do occasionally occur naturally—we actually did have two cases of cutaneous anthrax earlier in 2001 in Texas.

And we also had a case even before that in North Dakota. But the big six are anthrax, smallpox, plague, botulism, the viral hemorrhagic fever agents and then tularaemia, which is a naturally occurring disease. It's a vector born agent, much like plague. Usually in nature it's transmitted from rabbits or rodents and can produce a variety of different types of disease, much of which looks very much like plague.

Audience Member 7: I am very interested in this ethical question of drawing a line between warning the public and at the same time suggesting things to "evil-doers," to use a phrase that's common now. I recall many decades ago there were cases of teenagers sniffing airplane glue and hurting themselves. I got into a big argument, as a member of the media, with people where I work about doing a docudrama on that. They thought this was a great docudrama, but I thought no, it's isolated so far, let's not do a docudrama.

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Well, they prevailed, they did a docudrama and instead of a few cases of glue sniffing, there were thousands. That leads to my question, which is though you're not going to give ideas to the pros, isn't there a threat to a lot of amateurs?

Beckner: I agree with Steven concerning the events of 9/11 and anthrax—it's hard to get your hands on anthrax. The disgruntled postal worker will have a hard time getting GF gas or something like that.

Audience Member 8: What about airport security issues that you might discover? Through the *New York Times* week after week or month after month, I learn about vulnerability at airports. To what extent do you want to publicize the specific vulnerability? I know you have to warn the public because if you warn the public we might have better security. But if you warn the public you're also telling some people about the vulnerability of airport security.

Beckner: From what I know, the intelligence community doesn't give out a lot of warnings about things because they don't want to give information away.

Koplan: There's another element to this that hasn't come out, though. In the events of the fall, everything we were doing in our wish to be transparent and informative was being observed by the person who did this. Normally when we do an outbreak investigation the only person observing is God, who started the thing in the first place. But there's natural flow to a flu outbreak, to a naturally occurring plague case, or whatever it is, and we have a sense of where it's going as it goes along.

In this instance, whatever progress we made, we're being jerked around by someone who's watching us. And so we can come on the news and the interviewer can ask us questions and we can answer as truthfully and as openly as we possibly can. And sometimes you get the feeling that someone is going to take this information and use it negatively. That to me was even more troublesome than the fictional scenarios that get laid out with all the different things that people can do.

Ostroff: The other thing that I would add is that, one of the things that we learned last fall, and one of the things that all the communications experts told us, was that it wasn't particularly reassuring to the public to be reassuring. They are less happy if you don't tell them the truth and if you don't tell them about risks. They accept risk much better if you convey information to them potentially proactively than if you're stuck behind the eight ball. And we were constantly berated for trying to be reassuring about the anthrax episodes.

Koplan: And the most important truthful phrase is, "We don't know."

Audience Member 8: I was curious about what your own opinions are—you say you're not worried about giving out ideas. Now, if I'm a terrorist, I know the six things that you're looking for so I'm going to look for number seven. Do you have concerns about that?

Koplan: Well, if you were a terrorist I'd rather you turn to number seven. If by saying we're doing these six you go to something else, that's fine. Then we'll come up with seven that are important. There is the B list and there is the C list.

Baer: And it's all published. I think if you're a terrorist who's smart enough to be able to get anthrax and you've read anything that I've read, then what worries me more is whether these events will change our culture in the sense

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of our freedoms. I can get a hold of all kinds of things because of the freedoms that we have. It was pretty amazing to see what was out there then and what's out there now in terms of what can be done in the future.

Beckner:

I would address that the other way around. Something that we do quite a bit of the time that we're encouraged to do is portrayal of certain things we utilize—of abilities, investigative abilities, tricks and traps, that sort of thing. They like to have those get out there because they figure the bad guys are watching, so let's show how we can catch them every single time. And that breaks morale on the other side.

And so, some investigative agencies encourage us. We'll get information on stuff, and I ask if they're sure they want us to write about it. Their response is no, rather, tell them this is how we're doing it and we're watching every move they make. You figure they're giving me one particular scenario because they have something so much better than this that I can't even think of.

Ostroff:

The last thing that I'll say is we're actually right now dealing with a very interesting phenomenon in the scientific community. There are a lot of people out there who do research on microbes, and many of them have been fairly unhappy that their bug isn't on the list. They're unhappy about it because there are so many resources for work on the agents that are on the list. They're trying to figure out ways to convince us that their bug should be on the list. We're barraged by scientists all over the country who want to be able to access research funds.

Riskin:

Thank you so much to all of you—this was absolutely a terrific panel. I think we learned a lot. There's a very clear relationship between what writers do and what the CDC does, which is this interface with the public and this keen sense of responsibility you have to inform, without frightening, the public. My sense of things is that you do it responsibly and ethically.

One of the things that we're exploring here at the Guild are more occasions for writers to come together and talk about the ethical challenges that we face when we're choosing topics—certainly on something as critical as bio-terrorism.

I also want to underscore that the Centers for Disease Control and Hollywood, Health & Society are available to members of the Writers Guild and to the community to get accurate information, credible, reliable information. I want to thank also Melissa Rosenberg and Elizabeth Hunter, who are on the board of directors of the Writers Guild, and Peter Blake—all three co-hosted this evening. It's nice to come together as a family of writers and scientists and talk, so thank you for coming.