

Date: Mon, 2 Mar 1998 17:09:15 -0500 (EST)  
From: "Matthew S. Meselson" <msm@wjh.harvard.edu>  
To: "Col. David FRANZ" <col\_david\_franz@ftdetrck-ccmail.army.mil>  
Cc: Jeanne GUILLEMIN <guilleje@bcvms.bc.edu>  
Subject: Englund article

Franz

Dear Dave,  
Saddam overload has kept me from answering this email you sent on the 23rd.

I find nothing that is both new and true in Englund's February 20 article in the Baltimore Sun. It appears that Englund has never read our November 1994 article in Science. Here are some comments on his statements:

- 1) There were indeed more men than women who died, about 2.5 times more. Of course we published this in Science in 1994. Without knowing the age/sex/dosage distributions associated with the outbreak, nothing useful can be concluded from it. Sex differences in infectious disease data are of course commonplace.
- 2) It is true and was stated in our Science article that we found no evidence that anyone younger than 24 had systemic anthrax, neither among those who died nor among people who received ICU care and survived. In our article we also cited a 1971 Russian publication reporting almost the same lack of young victims of inhalation anthrax. This could be interesting. I have the impression that there is a similar lack of young persons among victims of legionellosis. It would be interesting to have a proper review of the statistics. Good task for a summer intern if you have one to spare for it.
- 3) Accident on the morning of April 2. Judging from records of wind direction, together with evidence from interviews that five of the victims were probably nowhere near the danger area except on weekdays during the first week of April, we concluded that the accident happened on April 2. Whether it was caused by a spill, an explosion, a leak or something else, I have no knowledge. The apparent absence of upper respiratory tract infections (as I understand do sometimes occur in woolsorters disease) and the long travel distance of at least much of the infectious aerosol make me think that it came from an aerosol generator, not the result of an explosion or spill. But that's slim evidence.
- 4) Death toll closer to 1000 than 100. From everything we know, the number who died is close to 70. This is supported by the cross-checks that are made possible by comparing the 68 names on the Administrative List" with numerous other sources of information that we found. patients names. The "Administrative List" gives the names, birth years and 1979 addresses of 68 persons who died. It is used by the government to decide who is eligible for extra pension money authorized by Yeltsin in 1992 for families of the victims:

Interviews. During 1992 and 1993, our team organized by Jeanne Guillemin systematically interviewed families or friends of 43 of the 68 people on the Administrative List. Many of these people told us of other victims, but essentially all of the other victims they named were on the Administrative List.

Grave Markers. Of the 66 grave markers we examined in the graveyard sector we inspected, 61 bore names on the Administrative list and 5 had illegible or missing name plates.

Pathologists Notes and Recollections. Out of a series of 96 autopsies, Abramova and Grinberg diagnosed 42 as anthrax. Of these, 40 are on the Administrative list and one was an "unknown man" found dead with no ID. Abramova and Grinberg did not participate in all the autopsies that were done and some victims who died may not have been autopsied but in detailed conversations with us and in their articles published in Arkhiv Patologii in 1994 neither Abramova nor Grinberg have suggested that much larger numbers of people died than those of whom we are aware.

Informal Hospital Notes. We obtained diverse miscellaneous notes listing a total of 48 dead of whom 46 are on the Administrative List.

Compound 32. This is an army base immediately beyond a narrow road and south of the military biological facility. There are many large

apartment blocks on the base. In 1993, Jeanne Guillemin together with a Russian woman on our team went inside Compound 32 and interviewed the widow of a young officer who is on the Administrative List. The widow had kept on working in a base grocery store and had lived in the same apartment on the base since before the outbreak. When asked for the names of others in Compound 32 who died, she gave only names that we already had. We also interviewed the base post-mistress, who had been there since before 1979. She could add no names to those we already had. Of course we did not show our list to either the widow or the post-mistress.

Finally, if many additional local people had died and their families are not receiving extra pension money, there ought to be lots of complaints. We found one family with such a complaint but the medical evidence suggested that the victim, an elderly woman, did not die of anthrax.

5) Confiscation of death certificates by the KGB. Perhaps this happened occasionally but certainly not systematically. Our team was shown or told of death certificates of approximately 30 victims still in possession of the family. Most of these were shown and we have the certificate numbers. In contrast, however, we were emphatically told by people who I consider reliable that hospital and autopsy records were confiscated.

6) "Glasnost version of 1986 raised the death toll to 92". Englund is a bit mixed up here. The number stated by Burgasov and his associates in 1986 and published was 96, not 92. They said that this included 17 cutaneous cases and 79 systemic cases (they said gastrointestinal), of whom 64 died and 15 survived. We had no systematic way to identify those who did not die, but by various means, we found 2 cases of cutaneous and 11 survivors of the ICU.

7) A "second wave" of deaths. I know nothing reliable to support this even though some of the local people had the impression there was such a thing. The epidemic curve in figure 1 of our Science article is monotonic decreasing with time. Also, published data on resuspension experiments indicate that an original cloud will cause much higher dosage than subsequent resuspension.

Dave, if there were any usefulness in reviewing what is known and not known from the Sverdlovsk outbreak, Jeanne and I would be glad to come down and contribute whatever we can.

Sorry about the recent low fun meter readings but congratulations and thanks for staying there and benefiting us all.

Matt.

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On Mon, 23 Feb 1998 col\_david\_franz@ftdetrck-ccmail.army.mil wrote:

> Matt, Have I missed something, or is this just the press looking for a new  
> story? Are you aware of new information? Best Wishes, Dave

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> Subject: FW: the deadliest anthrax incident  
> From: Cheryl Parrott <CParrott@flash.niaid.nih.gov> at Internet-Mail  
> Date: 2/20/98 9:37

>

>  
>> Today is Fri Feb 20, 1998 9:33 am  
>> The deadliest anthrax incident  
>> Accident: Hundreds, perhaps thousands, died  
>> when a cloud of anthrax escaped into a city  
>> neighborhood from a secret underground Soviet  
>> military laboratory in 1979.  
>> -----

>> By Will Englund

>> SUN FOREIGN STAFF

>> MOSCOW -- A new and terrifying picture is  
>> emerging of the deadliest known incident in  
>> the history of biological weapons.

>> It was an accidental outbreak of anthrax in  
>> the city of Sverdlovsk in 1979, and it now  
>> appears that the disease was both more  
>> widespread and considerably more virulent than  
>> Russian officials have ever acknowledged.

>> The picture that emerges of the Sverdlovsk  
>> incident is one of helpless doctors and  
>> hundreds -- or perhaps even thousands -- of  
>> people dying quickly and in great pain. It  
>> provides a cautionary lesson in light of the  
>> arrests of two men in Nevada yesterday who may  
>> have planned to use a biological agent.

>> The new evidence raises new questions about  
>> the Sverdlovsk incident: Why were men three  
>> times as likely as women to die from the  
>> disease? Why were no children affected?

>> Anthrax is the disease of choice among nations  
>> building biological-weapons arsenals. United  
>> Nations inspectors report that they have found  
>> anthrax spores at a weapons-production site in  
>> Iraq. What the Sverdlovsk experience shows is  
>> that -- even 19 years ago -- the anthrax  
>> created in a laboratory is nothing like the  
>> disease encountered in nature.

>> The effects on a neighborhood called  
>> Chkalovsky were so devastating that Sergei  
>> Volkov, a former environmental official in the  
>> now-renamed city of Yekaterinburg, has made it  
>> his life's work, through painstaking  
>> door-to-door canvassing, to bring to light  
>> what actually happened.

>> Half a world away and unaware of Volkov's  
>> efforts, a team of microbiologists at the Los  
>> Alamos National Laboratory in New Mexico has  
>> been examining tissue from 11 people who died  
>> in that outbreak.

>> Their findings are unsettling.

>> The incident in Sverdlovsk began on the  
>> morning of April 2. A technician in a deep  
>> underground laboratory in a secret military  
>> base called Compound 19 spilled anthrax  
>> material and, in a panic, turned on a  
>> ventilation system that sprayed it out into  
>> the air, according to some accounts. Others  
>> maintain that there was a small explosion in  
>> the lab.

>> In any case, a cloud of anthrax germs wafted  
>> out from the compound. Winds blew it  
>> southward, over an adjacent military base  
>> called Compound 32, and two miles farther  
>> across the Chkalovsky neighborhood.

>>  
>> Two days later, a goat belonging to the  
>> Ignatiev family died. Soon the adults in the  
>> apartment were running high fevers, and then  
>> people all over Chkalovsky started becoming  
>> sick.

>>  
>> Doctors at first had no idea what they were  
>> dealing with. Internal bleeding was so profuse  
>> and painful that some patients were  
>> misdiagnosed as having heart attacks. Others  
>> were thought to have pneumonia. Death followed  
>> the onset of symptoms by a day, or even less.

>>  
>> High-ranking medical authorities arrived from  
>> Moscow and informed the locals that they were  
>> dealing with anthrax. But anthrax is not  
>> normally such a potent disease. It is found in  
>> cattle, and most commonly affects humans by  
>> forming ulcers on the skin. Penicillin  
>> effectively treats it.

>>  
>> In Sverdlovsk, antibiotics proved of little  
>> value. And the disease wasn't affecting its  
>> victims' skin, but lodging in their lungs.  
>> This, it is now clear, is because the germs  
>> had been spread by an airborne cloud --  
>> exactly as they would be if used in a military  
>> attack.

>>  
>> "People died on the street, at home, at work,"  
>  
>> says Volkov.

>>  
>> Although the KGB confiscated death  
>> certificates and hospital records pertaining  
>> to the outbreak, Volkov has tirelessly  
>> interviewed residents of the affected area and  
>> obtained a few records that escaped the KGB's  
>> sweep. He now believes the death toll was  
>> closer to 1,000 than 100. And that may be  
>> understating it.

>>  
>> When anthrax develops in the lungs, it is  
>> virulent and almost always fatal.

>>  
>> But the Los Alamos research, conducted by Dr.  
>> Paul Jackson, suggests that Soviet scientists  
>> had nevertheless taken steps to increase its  
>> potency.

>>  
>> His lab found four different strains of  
>> anthrax bacilli in the tissue samples it  
>> examined. This could be explained as an  
>> attempt to overwhelm any previous vaccinations  
>> among enemy soldiers.

>>  
>> The anthrax bacilli at Sverdlovsk, Jackson  
>> says, could easily have been cultured to be  
>> resistant to antibiotics. This is done by  
>> exposing some germs to antibiotics, and then  
>> essentially "breeding" the survivors.

>>  
>> Throughout the 1980s, Soviet officials  
>> maintained that the outbreak was traced to bad  
>> meat in a local market. A "glasnost" version  
>> in 1986 raised the official death toll to 92,  
>> and blamed sloppy medical practices for much  
>> of the problem, but still traced the cause of  
>> the outbreak to spoiled meat.

>>  
>> Five years ago, President Boris N. Yeltsin  
>> announced that the actual cause was an  
>> accident with biological weapons, as had long  
>> been suspected in the West. But details were  
>> still few.



