

## Chapter 7

### CBW and Public Health: An Appraisal

In the past few years interior Alaska has experienced some rather unusual medical cases which have yet to be fully explained. The Army admits to conducting open air tests with germ warfare agents in Alaska in 1966 and 1967. Since that time, the death of two servicemen stationed at Fort Greely, coupled with outbreaks of unusual maladies raises a troubling question: Does the CBW test program in Alaska threaten the people, the wildlife, and the environment of the northernmost state?

The curious illnesses reported in central Alaska since 1966 do not constitute proof that the Army's CBW program has had an adverse effect on public health in Alaska. On the basis of the information available, it is impossible to state with certainty that these cases are related to the CBW program. I strongly suspect that there may be a relation-

ship between the unexplained deaths, paralyses, and facial palsies and the CBW program, but the evidence is admittedly circumstantial. To assess the impact of CBW on public health in Alaska would require the long term efforts of a highly trained research group responsible for investigating the spread of diseases with particular emphasis on the Army's CBW activities.

### **DEATH AT FORT GREELY**

While looking into the CBW program I learned about a young serviceman who died suddenly in 1969 after contracting pneumonia at Fort Greely. I was troubled by the report of an unusual death at a post where the Army is known to have conducted atmospheric tests involving germ warfare agents. According to medical tests, tularemia—the one bacterial agent the Army has admitted testing in Alaska—frequently results in pneumonic complications. My concern was intensified when I learned that another GI stationed at Fort Greely contracted pneumonia and died less than a year later.

The first symptoms of the disease that killed Army Specialist Robert Shearer were those of a typical flu—headache, fever, and chills. Shearer was working on the annual spring cleanup at Fort Greely in May 1969 when he became ill. According to Army medical records, the twenty-five-year-old soldier entered the Bassett Army Hospital near Fairbanks on May 3, about twenty-four hours after the onset of the illness. Admitted "FUO" (fever of undetermined origin), his symptoms were soon diagnosed as pneumonia. Clinical records indicate that four days later he felt much better. his condition had "improved considerably"

and his fever had been stabilized at 102 degrees for some time.

Near midnight on May 7, Shearer began to suffer a reversal. The attending physician was called when the young GI showed signs of mental confusion. Earlier in the day, the clinical record shows, the patient had been rational and seemed stable. But by late evening his condition had changed markedly. He was "completely disoriented," and the physician noted on the clinical record, "I don't think this is clue to his pneumonia, as clinically he is better." Six hours later Shearer began to experience difficulty breathing. When the doctor was summoned again, Shearer was gurgling a pink, frothy fluid from his mouth. Within two hours, on the morning of May 8, 1969, Robert Shearer was dead.

The cause of death was recorded as cardiac arrest (heart failure), secondary to bilateral bronchopneumonia. An autopsy report gave myocarditis (inflammation of the heart muscle), probably of viral etiology, as the immediate cause of death; the basic cause of death was described as "interstitial pneumonitis, extensive, with secondary bacterial involvement." The viral and bacterial organisms responsible for Shearer's pneumonia were not identified.

In investigating this case I learned that Shearer, who was assigned to the post's continuing education program, also served as a member of his unit's Chemical, Biological and Radiological (CBR) team. According to his widow, he attended an extended CBR training program in 1967 and later was assigned routine responsibilities such as checking gas masks. "He may have had many duties in this regard," she wrote me. "I simply don't know." An Army spokesman at Fort Greely told me in May 1971 that Shearer's activities with the CBR team were routine and were not involved

with any tests. Every Army unit has a CBR team, he explained, and this assignment had nothing to do with CBW test activities at the post.

An unusual entry in Shearer's clinical history troubled me. When he was admitted to Bassett Army Hospital on May 3 Shearer was seen by Major Tom Carter, M.D. Major Carter's handwritten interview notes were brief:

25 y.o. caucasian male developed fever & chills yesterday pm, nausea this afternoon, and now mod. productive cough. Denies (rains or aches, previous URI [upper respiratory tract infection], drinking spree, etc. has had mild headache this afternoon.

In the typewritten history of the case, prepared three weeks after Shearer's death, Major Carter's comments were expanded to include the phrase, "specifically he denies ... exposure to gaseous toxins." The summary, dated May 29, 1969, reads:

This 25-year-old white male entered with a chief complaint of cough and fever for 24 hrs, which began in the afternoon of the day prior to admission, slowly progressed to include nausea, and eventually a productive cough. Specifically he denies having had a previous upper respiratory tract infection, generalized myalgia or arthralgia, excessive ingestion of any medications or ethanol, nor and exposure to gaseous toxins. At the time of admission his only additional complaint was that of a mild headache. [*italics mine-R.A.F.*]

According to Bassett's executive officer, it is not a customary admitting procedure to ask a patient whether he has been exposed to gaseous toxins. And in an interview,

Dr. Carter, now in private practice in Fairbanks, told me he did not remember asking Shearer any questions about CBW. "I had no reason to; I don't recall that lie was a member of a CBR unit." He said the "etc." in his handwritten notes was most probably an indication that he had asked about exposure to auto or stove fumes "or that sort of thing."

Shearer's death may have been nothing more than a medical oddity, but the anomaly was compounded in March 1970 when a second GI contracted pneumonia at Fort Greely and died at Bassett. Medical records on this case were not available. Information concerning the illness and death was obtained from hospital personnel and, subsequently, from the Army's reply to inquiries made by Senator Gravel. The text of this letter is in Appendix E.

Specialist J. V. Lewis was assigned to the Arctic Test Center as a cook and worked at Fort Greely's main post. A hospital attendant at Bassett recalls that the sick soldier was "a young guy.... He definitely had pneumonia. His lungs were all scarred." In its early stages Lewis's illness seems to have been even more unusual than Shearer's because he kept having convulsions. Convulsions are not a usual symptom of pneumonia. According to a reliable informant, hospital physicians at first did not know why he died. The autopsy indicated that the seizures and death were probably caused by pulmonary embolisms (undissolved material in the blood lodging between the heart and the lungs). A bruise on the body was believed to be the source of the embolisms, the Army told Senator Gravel, but the autopsy failed to discover the injury.

According to medical texts, pneumonia generally subsides without complications in healthy young adults. The

very young and the very old account for most pneumonia fatalities. United States Public Health Service statistics bear out that Shearer's death was an unusual occurrence. National averages indicate that men in their twenties are among those least prone to death by pneumonia. In 1967, the last year for which Public Health Service statistics are available, thirty-six deaths in Alaska were attributed to pneumonia. Of these, all but five occurred in persons younger than five years of age or older than sixty-five. Pneumonia was not listed as the cause of death for any males between the ages of one and forty-four. Because autopsies are not performed in most deaths Public Health Service statistics on the incidence of pneumonia are suspect. But they do indicate that pneumonia is seldom fatal to healthy young adults.\*

\*According to statistics provided by the Army, pneumonia was associated with only one military death at Bassett between January 1, 1969 and June 18, 1971. The victim was from Fort Greely and died in 1970. (From the Army's description, this must have been Lewis. For statistical purposes Army records apparently list Shearer's death as something other than pneumonia. The failure to include Shearer-a supposed classical "viral pneumonia" according to the autopsy-as a pneumonia death also raises questions about the Army's ability *or* willingness to examine its own records and draw meaningful conclusions.) The Army's breakdown on military deaths in interior Alaska is given in the following table.

	Fort_Greely	Fort_Wainwright Eielson Air Force	Ratio
Military personnel, 1969(a)	980	8825	1:9
Military deaths at Bassett from January 1969 to June 18, 1971(b)	4	27	1:7
Number of deaths listed as pneumonia	1	0	1.0

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Sources: (a) Alaskan Command

(b) Registrar, Bassett Army Hospital, letter, June 18, 1971

Without identification of the disease organisms responsible for the deaths of Shearer and Lewis the assertion of a link between these cases and the CBW program must be considered highly inferential. But the fact remains that in each of the years 1969 and 1970 the death of a soldier at Fort Greely has been associated with pneumonia, a disease which is rarely fatal to young adults. Could the disease causing agent in either case have been a CBW pathogen? What was the significance of the discrepancies in the hospital record of Shearer's case?

To learn more about the situation, I arranged an interview with Major Michael Collins, the Army physician on duty at Bassett when Shearer died. Major Collins has since left the Army and returned to private practice. In a formal, tape recorded interview with the hospital's executive officer and a stenographer present, Major Collins told me that he felt Shearer's disorientation on the eve of his death was "compatible with the toxic course of his underlying pneumonia." He also pointed out that myocarditis frequently accompanies a severe viral pneumonia such as Shearer's.

I asked Major Collins whether a CBW pathogen could have been the cause of Shearer's death. He was cautious on this point. "Not being an expert on chemical warfare," he replied, "I don't feel qualified to make a comment on this question." He added, "I feel that the case above is compatible in its clinical course and histological findings with an overwhelming viral pneumonitis and in my mind, [this is the cause of demise of this patient."

Major Collins told me that Col. William Meriwether, a visiting pathologist from the Madigan General Hospital in Seattle, had concurred in the diagnosis of "overwhelming viral pneumonitis." Colonel Meriwether observed that

similar cases had occurred in the Seattle area and were attributed to influenza virus.\*

Shearer's attending physician, however, did not agree that the diagnosis of viral pneumonia was justified. Doctor Carter noted that it is difficult to differentiate severe bacterial diseases from viral diseases after intensive treatment with antibiotics. From the written records he concluded that "there is ally no evidence for overwhelming viral disease (as opposed to bacterial I." He emphasized that it was difficult to arrive at an accurate diagnosis from the written records without examining the microscopic slides.

The Shearer case was recalled by Dr. Carter as "one of the most striking deaths" to occur during his tour of duty in Alaska. But, he said, any attempt to link the case to CBW might be criticized on the "thoroughly inferential basis" of the evidence.

I was disturbed by the ambiguities in the medical record, coupled with the irregularity of two pneumonia associated deaths occurring at a base where the Army has

\* Meriwether's influenza virus hypothesis is mentioned in the autopsy report.

Influenza is frequently listed as a military agent. In 1951 the Air Force School of Aviation Medicine sent a research team to Alaska to attempt to locate influenza virus from the 1918 pandemic. The Air Force medical expedition sought to recover the virus from the bodies of influenza victims buried in permanently frozen ground. This project indicates that the military has had an interest in influenza in Alaska. The project is reported in "An Attempt to Recover Pandemic-Type Influenza Virus" (Air University School of Aviation Medicine, 1953).

The influenza that swept the world during the latter years of World War I assumed its peculiarly lethal quality in combination with a bacterial agent. Neither the virus nor the bacteria was particularly virulent alone, but in combination they produced an illness far more dangerous than one would have imagined. (Clarke, *The Silent Weapons*, pp. 77-78).

acknowledged open air testing of biological warfare agents. Consequently, early in 1971 I turned over the information I had gathered to Senator Gravel, who asked the Secretary of Defense to provide further information on the deaths of Shearer and Lewis. Colonel Philo G. Hutcheson of the Army's legislative liaison office replied June 2, 1971 that "no evidence was found in the official records to support the possible involvement of chemical agents in the deaths of either Specialist Shearer or Specialist Lewis."

Though Colonel Hutcheson assured Senator Gravel that "a complete and thorough review of official records was conducted," his letter left several critical questions unanswered. (1) Perhaps the most conspicuous shortcoming is Hutcheson's failure to mention the possibility that biological agents might be implicated in either death. Hutcheson did not refer to tularemia, which the Army admitted testing in secrecy at Fort Greely, or to other biological agents the Army may have tested at other times. (2) Hutcheson referred only to the official records. Were microscopic slides examined? Were the physicians involved in these cases contacted by the Army? My discussions with medical specialists indicate that several parts of the official record require further interpretation and that analysis of the microscopic slides from both autopsies could contribute significantly to an understanding of these cases. There is no indication that the Army took these steps, which would seem essential to a "complete and thorough review." (3) Senator Gravel noted the discrepancy in Shearer's record and asked ". . . why the Army found it necessary some three weeks after his death to include in his medical record that Mr. Shearer `denies ... exposure to gaseous toxins.'" Colonel Hutcheson maintained that the statement was in fact taken

directly from Dr. Carter's handwritten notes. "None of the statements previously handwritten were either altered or were any additional statements added," he said in his letter to the senator. But the fact remains that there was no handwritten reference to "gaseous toxins" in the copy of Shearer's medical record given to me by the registrar at Bassett in February 1971. The reference appears only in the typewritten summary prepared several weeks after Shearer's death.

In sum, the record on the pneumonia deaths at Fort Greely is ambiguous. On the one hand the link to the C13W program is, as Dr. Carter puts it, "thoroughly inferential." On the other hand an Army physician who examined the record concluded that ninety-nine out of a hundred cases like Shearer's would recover if treated properly. "It wasn't the ordinary, street-walking type of virus that killed Shearer," the Army doctor observed. "Otherwise you would have a lot more people dying of pneumonia."

### **PARALYSIS IN FAIRBANKS**

In October 1968 two Fairbanks children were hospitalized when paralysis followed what had appeared to be routine virus infections. Parents of both children were employed at nearby Fort Wainwright in a civilian capacity. There are reports that another child was hospitalized at Fort Wainwright's Bassett Hospital with similar symptoms.

One of the victims, a girl who was ten months old when she was afflicted, still wears a foot brace. The second, a boy of about six years, has recovered near normal use of the paralyzed limbs. Although Bassett spokesmen were not

able to provide any information, a Fairbanks physician told me that recovery was spontaneous and complete for the case treated there.

Clinical details of these two cases, treated simultaneously at the Fairbanks Community Hospital, were similar enough that the neuropathologist who examined them, Dr. Jack Petajan, now on the faculty at the University of Utah's medical center, believes that "from logic one might presuppose they are related (cases)." However, Dr. Petajan pointed out, until more is known about diseases of the nervous system - and about what has and has not been tested - you're on pretty shaky grounds."

The symptoms exhibited by both patients, Dr. Petajan noted, did not conform to those of a frequently occurring disease.

Child neuropathies are rare. Causes can be identified for some-many, for example, are classified as chronic hereditary or diabetic - but for others the causal agent remains unknown. Both Fairbanks cases are in the "unknown" category. Diverse factors such as heavy metal poisoning or exhaust fume intoxication could be responsible for these paralyses, but the medical records provide no definite answer. As Dr. Warren Levinson, a microbiologist at the University of California's Medical Center in San Francisco, sums it up, "When you're dealing with aberrant bugs, you just don't know."

Between 1966 and 1968 Dr. Petajan treated eleven persons for facial palsies. As in the case of the paralyzed children, the origins of this kind of malady are unknown. Could these neuropathies have been caused by biological agents used in a military test? "It hadn't crossed my mind," Dr. Petajan stated. Like most Alaskans, he did not know at the

time that the Army had tested germ warfare agents at Fort Greely in 1966 and 1967. Given the scant information available about the military's test program, he did not rule out the possibility that military biological agents may have been responsible for the outbreak of facial palsies he treated.

Ten of the eleven facial palsies Dr. Petajan reported occurred between September 1966 and March 1968, the period immediately following the open air testing of biological agents on the Fort Greely military reservation at a site approximately sixty miles southeast of Fairbanks.

As in the case of the pneumonia deaths at Fort Greely, more information is needed on the paralyzes described here in order to determine whether there is a link between these cases and the CBW program. One of the missing pieces in the puzzle is candid disclosure by the Army of its test activities in Alaska.

### **EPIDEMIOLOGY: THE NEED FOR FURTHER RESEARCH**

How many other unusual medical cases of unknown cause have occurred in the Fairbanks area in recent years? Is this incidence of unusual cases greater than one would expect for interior Alaska? Have more unexplained and unusual cases occurred since the Army began testing CBW agents at Fort Greely than occurred prior to that time? To ascertain the impact of the CBW program on public health in Alaska would require the long term efforts of an independent epidemiology research group.

One candidate for this task is the Arctic Health Research Center (AHRC), a U.S. Public Health Service institute

housed in a large, modern building on the University of Alaska campus near Fairbanks. The center has had an active interest in epidemiology since its inception in 1949. That interest was spurred in 1965 when a child from Dot Lake, a village about thirty miles east of Gerstle River and sixty miles from Port Greely, died from an encephalitis of unknown origin. Although AHRC spokesmen were reluctant to disclose details of this project, in 1970 I learned that the institute's epidemiology unit was running checks of blood samples taken from the Alaskan villages of Dot Lake, Eagle, Mentasta Village, Northway, Tanacross, and Tetlin - all located between Fort Greely and the Canada border. Specific tests were made for tularemia and insect borne viruses which produce encephalitis.

The blood checks for tularemia in the villages near Fort Greely gave tentative serological evidence of the presence of tularemia, according to the AHRC's December 1969 in house quarterly report. The relatively high rate of sub-clinical tularemia in northern and western Alaska is puzzling to AHRC researchers. Microbiologist Lawrence Miller said he would like to conduct further work in this area. His interest and that of AHRC, he assured me, is purely theoretical and in no way connected with the Army. Could the puzzling presence of tularemia antibodies in blood samples taken from the residents of villages east of Fort Greely be caused by an Army CBW germ? Miller thought not. The high serology counts, he said, are from the villages farthest away from Fort Greely. The samples taken from the villages closer to Fort Greely, he says, show no signs of tularemia activity. Arctic Health Research Center scientists note that the presence of tularemia in interior Alaska predates the Army's activity. A clinical case of tularemia was

reported in Alaska in 1938, and sporadic cases have been reported since that time.

Early in 1971, AHRC reported that California encephalitis organisms had been isolated from animals in the interior region. Doctor Robert Rausch, head of the research center's infectious disease unit. That California encephalitis is distinct from Venezuelan equine encephalitis, which former Congressman McCarthy charges the Army tested at Dugway. Doctor Rausch said that he would have expected investigators to locate an encephalitis organism eventually, and that there is no reason to link that disease to Fort Greely's CBW activities.

Could the CBW test program be hazardous to public health? "I don't know," Dr. Rausch said. "Whether or not it could be important depends on what has been done." And what the Army has done, he pointed out, has been classified.

One would think that AHRC researchers would have a professional curiosity about CBW activities at Fort Greely, especially since they are looking for one disease the Army has admitted experimenting with in Alaska and another which is on the list of prime candidates. But nobody I interviewed at the center in 1970 admitted knowing that the Army had conducted CBW tests involving dissemination of tularemia pathogens at Fort Greely several years earlier. "Other than what I read in the newspapers," AHRC researcher Elmer Feltz told me, "I don't know anything about their (the Army's) activities." Feltz is a specialist in insect borne viruses who has been taking samples in the area east of Fort Greely.

Early in 1970 Dr. Paul Clark, then head of the AHRC epidemiology unit, told me that his group had no reason to

be interested in the Army's CBW program or the epidemiological studies conducted at Fort Greely by the University of Oklahoma Research Institute. The Oklahoma group is the only other epidemiology unit known to be working in interior Alaska.

Because it is not charged with day-to-day clinical health care problems that confront other public health institutions dealing with epidemiological matters, AHRC would seem to be an ideal choice for tackling the CBW question. But the research center maintains that it is not checking up on the Army. "We are not inspired one way or the other by anything they [military test groups] have done or are alleged to have done," AHRC associate chief Dr. Edward Scott told me.

Disavowal of interest in the CBW program is a strange characteristic of many professional scientists. "A good portion of the medical and microbiological professions in most countries tend to ignore the subject," Carl-Goran Heden commented in the Swedish Karolinska Institute's 1967 report on biological warfare. It is a common enough human trait to push horrendous thoughts out of mind.

### **BIOLOGICAL WARFARE TESTING: A SPECIAL HORROR**

The threat to public health posed by CBW testing is not necessarily a thing of the past. The CBW field of military technology has always been research oriented, and that research continues today. Though nerve gas accidents brought CBW to the attention of the public, it may be the biological research program that poses a greater threat to the welfare of man and his environment.

Because they are living organisms, biological agents can spread with all the unpredictability of life itself. Out of 10,000 germs, 9,999 may be killed on exposure to sunlight, but the 10,000th microorganism may find its shady way to a host and multiply. The unpredictability of biological pathogens is one of the factors scientists and military men like least about them. Another objection to biological warfare is that there is a great deal yet to be learned about the control of diseases. Once unleashed, an attack with a biological agent may assume epidemic proportions, killing civilians as well as combat personnel. The infecting agent may even turn against the user.

Scientific caution would dictate that we avoid developing strange diseases that might contaminate our environment. But prudence does not flourish in an atmosphere of international hostility. "We are forced to record," Heden observed, "that there is an undeniable paranoid tendency in the relations between nations." The inclination of military planners to assume the worst of their potential enemies - and to believe that the only course of action is to match the suspected threat - is a prime example of what Heden calls the "undeniable paranoid tendency."

Dugway and Fort Greely, victims of the Army's pursuit of what Richard McCarthy labeled the ultimate folly, are the only known germ warfare testing targets in the United States-areas where biological agents were released into the atmosphere. The Army's reticence concerning CBW activities at Fort Greely parallels the secrecy surrounding its projects at the Dugway test facility. Though Hersh and McCarthy both maintain that the Army has conducted many biological tests at Dugway since the early 1950s, the Army has conducted many biological tests at Dugway since the early 1950s, the Army has admitted only one open air experiment. That test

was acknowledged only when the Army was confronted by congressmen with an Air Force map identifying "permanent bio-contaminated" areas. This hard evidence required explanation.

Has the Army tested other CBW agents in addition to nerve gas and tularemia in Alaska? Have biological tests been conducted since 1967? The pattern of disclosures concerning CBW activities in Alaska and elsewhere clearly indicates that the Army reluctantly acknowledges its dragon only when the evidence cannot be denied. Official admission of the CBW program in Alaska followed an article by Seymour Hersh documenting details of the 1967 biological testing at Fort Greely. Prior to that time the Army had played ostrich. The aborted test of 1968 near Clear indicates that the Army was interested in further testing. That episode also demonstrates that it would be possible to conduct tests in a remote area, away from military reservations, without detection. John S. Foster, Jr., the Defense Department's director of Defense Research and Engineering, noted in 1969 that there are more than one hundred biological warfare agents. (Having gone to great lengths to set tip the secret test operation in Alaska, it does not seem likely that the Army would limit itself to tests with one disease agent.

Suppose a secret CBW test were to trigger an outbreak of influenza during midwinter in Alaska? Physicians would probably attribute its rapid spread to the harsh climatic conditions and the small living quarters characteristic of the Far North. Would a doctor be likely to check with Fort Greely? Probably not; Dr. Petajan, the specialist who tried to diagnose the unusual paralyses that occurred in the Fairbanks area, did not consider the possibility of a military

pathogen because he did not know that the Army had been conducting CBW tests. The general assumption arising from current public statements on CBW is that the United States is no longer developing its biological warfare capacities. But this is not the case, as has been shown in chapter :3. If an alert doctor suspected a germ warfare agent and called Fort Greely for assistance in diagnosis, would he be given the information needed to treat the victims? Judging from the difficulties one encounters in obtaining information about CBW activities from the Army it might take days for the Pentagon to decide whether to make classified information available to public health authorities. Such a delay might be critical to the prevention of further contagion and treatment of those already exposed. The possibilities are real, and frightening. One can only hope that restraint - if not an unequivocal resolve to abandon biological weapons - will prevent the Army's continued CBW activities from triggering an outbreak of disease that could have severe consequences for the people and wildlife of Alaska.