BIOLOGY

Army Fights Bio-Warfare

Esoteric diseases, occurring seldom if ever in the U.S., are being studied by Army scientists battling the spectre of biological warfare—By Jonathan Eberhart

➤ IN A CLUSTER of unimpressive-looking "temporary" buildings built during World War II, a task force that now numbers 350 men has for a decade waged the U.S. Army's only war against the horrifying spectre of biological warfare.

Using classified techniques against a classified number of diseases (less than 100) is a group at Ft. Detrick called simply The Medical Unit, including 172 men who double as human guinea pigs to test defenses against those few of the suspect diseases for which there is some known treatment.

Well-known maladies such as malaria and cholera are unlikely to be chosen as biological weapons, said Col. Kenneth Dirks, Deputy Commander of the Unit, so research centers on the "much more esoteric" diseases. Most of the ones being investigated occur seldom or never in this country, so that little is known about their cause, identification or treatment.

Though the Unit's work is emphatically described as defensive, it is often necessary to "think like the enemy" in order to develop countermeasures.

What kind of disease, for example, makes a good candidate as a weapon? It must be highly infectious, spread rapidly and be stable in storage. It must also be compatible with the means of delivery, such as aerosol spraying. It may be desirable to "tailor-make" the disease-causing organism so that it loses its potency after a period of time, allowing occupying troops to enter safely.

How do you deliver your disease? There are a number of ways: a crop-spraying-type airplane, a missile, an artillery shell.

A small vial emptied into a municipal water supply might also work, but most filtration and chlorination systems would remove all but very heavy dosages.

Biological warfare has never been used on any effective scale, Col. Dirks said, although in the French and Indian War, a century before the Civil War, the French tried sending the Indians blankets carrying smallpox crusts. How effective this was is not known.

Occasionally, the Medical Unit's research has proven valuable against epidemics that sprang from natural causes.

A vaccine against Venezuelan equine encephalomyelitis was made available "through diplomatic channels" when an outbreak of the disease caused Venezuela to ask the United States for help.

Another disease for which a Medical Unit vaccine was used among a general population was Q-fever. Characterized by fever, chills and muscular pains, the disease is caused by a rickettsia and transmitted by raw milk, by contact or by ticks.

Without the volunteers, of course, no research would be possible. Each member of the "volunteer detachment" may spend perhaps 30 days as a "guinea pig" out of his two-year hitch, of which only three to six days is the duration of the disease. All "protocols" involving the volunteers are carefully screened by the Armed Forces Epidemiological Board, the civilian Commission on Epidemiological Survey, the Surgeon General and the Secretary of the Army.

The Medical Unit is soon to be increased in size, raising the number of volunteers to 225.

Because of limited facilities, the number of diseases studied has been smaller than the Unit would like. A 126,000-square-foot laboratory has been approved through the design phase, but was stopped there by the Department of Defense. Nevertheless, the Unit hopes to begin construction by April 1, 1967.

Because the laboratory will be so complicated, it is expected to take about two and a half years to complete, at a total cost of about $9.3 million. The present annual budget of the Unit is $3.868 million.

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