# • Civil Defense Against Biological Warfare* •

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In this brief introductory talk, I want to explain to you the need for a national civil defense program and the type of Federal organization that is being developed.

I am certain that all of you know that a Federal Civil Defense Administration has been created by Public Law 920, and that the Honorable Millard F. Caldwell, former Governor of Florida, has been appointed its Administrator. There are to be six Assistant Administrators. One of them, Colonel W. L. Wilson, heads a Health and Welfare Office. The Health and Welfare Office consists of two Divisions: the Welfare Division and the Health and Special Weapons Defense Division.

The Health and Special Weapons Defense Division, headed by Dr. Norvin C. Kiefer, is responsible for such civil defense needs as casualty services; public health and sanitation; services to minimize the effects – on people, animals, and crops – of atomic, biological, and chemical warfare; the recruitment and training of professional, technical, and other personnel needed for these services; the provision of an effective emergency hospital and first aid system; and the plans for the procurement and use of supplies, equipment, and facilities essential to these activities.

These are only some of the most important responsibilities, not all of them. Even this abbreviated list is a most formidable one. Realization of such a program will require herculean efforts, painful sacrifices, a heavy financial burden, intelligent planning, good judgment, and unselfish cooperation.

Lest you underestimate the dimensions of the civil defense program, let me set for you a proper stage and background for your further acts and considerations:

First, Russia has the planes and the bombs to deliver an atomic attack, in force, on a dozen or more of our cities at any time.

Second, after we extend our air defense system, at least 70 percent of an attacking air force could get through. This is the estimate of General Hoyt Vandenberg, Chief of Staff of the United States Air Force. This means, then, that we cannot stop an air attack on our civilians.

Third, such an attack could be made at any time, with little or no warning. If the attack came today – and it could – we would perhaps have only one or two minutes warning. As our radar and warning systems are developed, this period may be extended to as much as one-half hour.

Fourth, our civilians may face greater personal danger than our armed forces. As Governor Caldwell recently stated, "You must realize that your own back yard may be the next front line."

Fifth, one atomic bomb may cause tens of thousands of deaths and serious injuries. Remember that one nominal bomb caused about 80,000 deaths and 100,000 injuries at Hiroshima. It is thus entirely possible that mass attacks on our country might result, in a week or even a day, in millions of casualities.

Sixth, the atomic bomb is not the only source of peril to our civilian population. Incendiary and high explosive bombs in the second World War took tolls of human lives that in some cases were as frightful as the destruction at Hiroshima and Nagasaki. In addition, there can be no doubt of the feasibility of an attack on American civilians by biological warfare or the nerve gases. To these real dangers must be added the probability of widespread sabotage.

To summarize these points, enemy attack, in force, by any of these methods, could be made at any time with little warning; we could not stop it, and many thousands, even millions, of civilian casualties could result.

We are not being deliberately pessimistic. We are reporting to you either established facts or the considered estimates of our Nation's most competent authorities. The sooner these grim possibilities are recognized, the sooner they will be accepted in true American spirit, as challenges which must be met head-on.

*Presented by Dr. Flinn to the Conference of State Epidemiologists on National Morbidity Reporting, April 18-20, 1951, Atlanta, Ga.

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But the damaging effect of such attacks can be greatly reduced by sound planning, hard work, and thorough organization. In fact, our ability to survive may well depend on the extent of our success in such endeavors. I hardly need to tell this audience that nowhere in civil defense is such planning, work, and organization more important than in health and special weapons defense services.

Let us consider the question of responsibility for civil defense. I will begin by saying bluntly that there is too much tendency to depend on the Federal Government to do this job.

I can assure you that the Federal Civil Defense Administration will do everything in its power to furnish national leadership and guidance, to provide information and advice, to establish civil defense training methods, and to help construct from individual State and local efforts an effective Nation-wide civil defense program. We have recommended Federal stores of certain health supplies to back up those in target areas and Federal grants-in-aid to help provide initial supplies within or nearby such target areas. We also have proposed expenditures for further research to devise better methods of coping with many civil defense health and special weapons defense problems, and to provide training for key personnel.

But it is State and local efforts that comprise the real substance of our civil defense program. It is the contribution of each citizen that, collectively, will determine the strength of our civil defense health and special weapons defense services.

With this in mind, let us turn now to specific considerations of biological warfare defense. I told you earlier in this speech that this phase of civil defense – whether for humans, animals or crops – is a responsibility of the Health and Special Weapons Defense Division in the Federal Civil Defense Administration.

In States, however, the organization may be slightly different because at that operating level existing agencies may be responsible for the various aspects of the program without a central coordinating agency of technical experts. Thus, the State health department may be charged – under the supervision of the State civil defense agency – with responsibility for biological warfare defense for humans; the State veterinarian, for animals; and the State agricultural department and its extension agents, for crops.

The primary interest of this group would seem to be in defense against biological warfare on people. You have heard of some of the possible methods of using biological warfare against people. I therefore am going to confine the remainder of this talk to defense measures for humans.

Defense measures can be divided into five broad categories:

1. **Detection.** A wide variety of instruments are available for air sampling, but better methods are needed and are now being devised. Recognition of the presence of biological warfare agents in air, or in water and food, is initially a task for local laboratory technicians who will need special training for this purpose. Identification of unusual agents can be made, in many instances, by State and local laboratory personnel if they have special training. The Federal Civil Defense Administration hopes to make such training available through existing Government facilities, such as the Communicable Disease Center of the Public Health Service.

Ultimate, exact identification would, in most cases, require technicians with highly specialized skills and equipment. For this we hope to use existing Federal or Federally-sponsored laboratories, organized on a regional basis that will assure adequate geographical coverage. Shipment of specimens to such laboratories should usually be by air.

2. **Epidemic Intelligence.** In many cases, particularly in diseases with short incubation periods, the first positive evidence of biological warfare attack is likely to be the occurrence and diagnosis of actual cases of the disease caused by the agent. Prompt diagnosis, followed by immediate reporting of such diseases, would be imperative. For this purpose our existing epidemiological and reporting systems require expansion and expediting. Careful integration of State and local epidemiological information into a Nation-wide network, sponsored by the U. S. Public Health Service, and close coordination with official civil defense agencies will be needed.

The cooperation of physicians in private practice, and of hospitals, would be essential to the success of such epidemiological intelligence. For actual investigations, mobile teams of qualified epidemiologists, sanitary engineers, veterinarians, public health nurses, and other professional people should be organized and available.

3. **Personal Protection.** The civil defense agency and the official health agency in each target community should be prepared to initiate a

rapid, wide-scale immunization program at any time that it is advised of the necessity of doing so. This program might consist of active or passive biological immunization if suitable preparations to combat the specific agent were available. Mass chemoprophylaxis, using drugs or antibiotics, should also be planned.

In addition, methods and materials for treatment of large numbers of victims, using biological preparations, antibiotics or drugs, should be well-organized and ready for any emergency.

**4. Collective Protection.** Protection of air in public buildings should be assured. Air conditioning systems of buildings must be protected against sabotage and any air-raid shelters that might be installed should be equipped with adequate filters.

Although security measures to protect buildings are not a responsibility of Federal, State, or local health services, advice on the effectiveness of protective measures and devices should be furnished by civil defense health and special weapons defense experts.

**5. Decontamination.** For the ground, streets, or buildings, flushing with a fire hose or, in some instances, washing with hypochlorite or other disinfectant solutions might be necessary to remove biological warfare agents. Indoors, the usual washing, airing, and sunning procedures should be used. Assurance and supervision of these services is a responsibility of the sanitation units of the State and local civil defense health and special weapons defense services.

These are, briefly, the chief categories of biological warfare defense services. Don't forget, however, that there is another large group of biological agents that State and, particularly, local civil defense services must be prepared to combat. I am referring to diseases well known to this country which always offer potential hazards following disasters.

An atomic bomb attack, for example, might result in deprivation of water, in flooding, or in loss of water sanitation facilities. Homeless people would have to use communal kitchens and thereby incur all of the risks of food poisoning and spread of diseases associated with improper food handling, loss of refrigeration, and lack of adequate dish washing and other sanitation equipment. Crowded billeting after widespread destruction of homes could greatly increase the hazard of spread of air-borne and other communicable diseases.

These possibilities constitute another or indirect form of biological warfare for which we must be prepared. Unlike biological warfare, in many instances the risk of secondary cases and extensive epidemics would be great. Furthermore, this latter form of biological warfare is more likely than any other because it can be a result of any form of enemy attack.

# • Potentialities of Biological Warfare* •

KARL HABEL**

Popular books and, recently, governmental manuals have given general coverage of the subject of biological warfare. Dr. Victor Haas, Director of the Microbiological Institute of the National Institutes of Health, has published an article on the biological warfare problem and its defense in the Journal of the American Medical Association (1), and just a few weeks ago Dr. Alexander D. Langmuir of the Communicable Disease Center presented an epidemiological appraisal of the potentialities of biological warfare in Public Health Reports (2). Even television programs have presented this subject to the public. The purpose of my talk today is to emphasize one current and emergency aspect of the background problems against which the discussions planned in the next 3 days will take place. Here, in the form of the potentialities of biological warfare against man in the United States, is another practical need for the communicable disease information that can

*Presented at the Conference of State epidemiologists on National Morbidity Reporting, April 18-20, 1951, Atlanta, Ga.

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