SUMMARY REPORT ON NATIONAL EMERGENCY MEDICAL CARE

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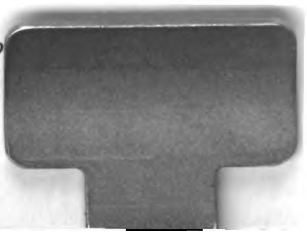

SUMMARY REPORT

ON

National Emergency Medical Care

The Report on National Emergency Medical Care was prepared by the American Medical Association at the request of and for the Office of Civil and Defense Mobilization.

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executive vice president

ERNEST B. HOWARD, M.D.
assistant executive vice president

April 15, 1959

Honorable Leo A. Hoegh
Director
Office of Civil and Defense Mobilization
Executive Office of the President
Washington 25, D. C.

Dear Governor Hoegh:

In accordance with the terms of contract CD-SR-58-1 of July 26, 1957 between the United States Government and the American Medical Association, there are being forwarded, under separate cover, fifty (50) copies of the final report of the research study project which has been conducted by the Association. This report embodies recommendations with respect to the planning, training and operational organization needed as a basis for a national emergency medical care plan for the treatment and care of casualties and noncasualties prior to, during and after a thermonuclear attack upon the United States.

It will be recalled that the Association agreed to assume this complex and challenging task with the recognition that there is a real need and urgency for a solution of the problem; that it vitally concerns the entire medical profession; and that it is an essential part of medical civil defense preparedness. Moreover, the Association realizes that, in the final analysis, physicians and allied medical and health personnel will have the tremendous burden and responsibility for fulfilling the medical and health requirements in time of a grave national emergency.

A Commission on National Emergency Medical Care was created by the Association and vested with the authority and responsibility for planning, initiating and directing the special study project. National health and medical organizations designated representatives to serve on the three task forces created to assist the Commission. Further, the Commission utilized the services of scientific and other experts from fields of endeavor germane to the study. Representatives of the Office of Civil and Defense Mobilization also furnished advice and participated at all official meetings of the Commission.

The report has been approved by the Board of Trustees. It is consistent with and in furtherance of the stated position of the Association with respect to medical civil defense affairs. The Association believes that the report fulfills all of the requirements of the contract and provides suitable criteria

required for the preparation of a national emergency medical care plan. The report reflects the concept that civil defense is the responsibility of all levels of government and of all citizens and anticipates their participation.

The report recommends that a national medical civil defense plan be initiated and coordinated at the national level and that the Federal Government assume the primary role of guidance and coordination of the total national effort. Such a plan, under current concepts as enunciated in Public Law 606, 85th Congress, which makes civil defense a joint responsibility, would be implemented by the Federal Government, the several states and their political subdivisions.

The Association assures you of its continued willingness to cooperate and assist in every way possible in preparing the nation, medically, to survive and recover in the event of enemy attack.

Sincerely,

F. J. L. Blasingame

F. J. L. Blasingame, M. D.
Executive Vice President

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF CIVIL AND DEFENSE MOBILIZATION
WASHINGTON 25, D. C.

OFFICE OF THE DIRECTOR

May 29, 1959

Dr. F. J. L. Blasingame
Executive Vice President
American Medical Association
Chicago 10, Illinois

Dear Dr. Blasingame:

I would like to express the appreciation of myself and the staff of the Office of Civil and Defense Mobilization for the pioneering work done by the American Medical Association in preparing the report on National Emergency Medical Care under contract with the former Federal Civil Defense Administration.

The report's analysis and recommendations dealing with the role of the medical and associated professions, their functions, responsibilities, and training in this nuclear age represent important and timely advances in medical thinking. The acceptance of the expanded roles that the dental, nursing, and other health professions will be called upon to perform and for which they must be trained now is eloquent testimony of the farsighted leadership of the Association and the competence of the several hundred physicians and members of the related health professions who participated in developing the report. It should be made available immediately to official agencies and to the health professions for civil defense mobilization planning and training.

With regard to the portions of the report dealing with assumptions, organization, and National policy, there have been advances in these fields during the course of the study, and it was understandably difficult or impracticable to take account of all the developments in the report. As an illustration, the report concludes that there is at present no national system of shelters. Actually, a National policy was promulgated in 1958. This policy, adopted after intensive study, points out that fallout shelters offer the best single civil defense

measure for the protection of the greatest number of people following attack. It calls on each citizen to provide a fallout shelter for the protection of himself and his family, with the Federal government providing the necessary guidance and direction. Request for funds to implement this policy is now before the Congress.

To have withheld the report to make changes as each new development occurred might have meant the report would never be completed. I believe that by distributing a copy of the National Plan for Civil Defense and Defense Mobilization, issued October 1958, with each copy of the report, up-to-date information on Office of Civil and Defense Mobilization policies will be in the hands of all who study and use the report.

A National Health Plan, Annex 18 to the National Plan for Civil Defense and Defense Mobilization, is now nearing completion. In its preparation, the Office of Civil and Defense Mobilization was assisted by the Department of Health, Education, and Welfare, the Veterans Administration, the Department of Defense, other appropriate Federal agencies, and the Health Resources Advisory Committee. Copies of the Annex have been sent to you for review and suggestions. When it is completed, copies will be distributed to those who have received the American Medical Association report so that they will be kept up to date on our planning.

Again, please allow me to thank you for the willingness of the American Medical Association to undertake this work. My thanks especially to the Commission on National Emergency Medical Care under the chairmanship of Dr. Harold C. Lueth for its execution in such a superior manner.

Sincerely,

Leo A. Hoegh

Foreword . . .

Civil defense is as essential for the survival of our country as is military defense. There is a need for a clear definition of civil defense and an appreciation of its mission, so that it may be assigned a role in the protection of the nation equal with the Armed Forces.

The threat of nuclear warfare, with its capability of mass destruction of huge elements of our nation, has imposed on the medical and allied health professions of this country a tremendous responsibility in the nation's efforts to survive. Never before in history has the productive individual assumed such importance as he is expected to assume in modern warfare. The saving of lives, particularly of those who can contribute to the survival efforts, has become extremely important and the medical and allied professions must assume a far larger role in our war potential than ever before. They face their greatest challenge.

In view of the critically important role that organized medicine in all its phases must play, prior, during and subsequent to a mass attack on the United States, a national medical plan, far-reaching in scope, adequate in concept, permanent and flexible in nature, and wholeheartedly supported by the medical profession, is an absolute, incontroversial and immediate necessity, if this country is to survive such an attack and live to fight back.

Since it is not within the purview of the American Medical Association to study and recommend other than the medical aspects of civil defense, the recommendations contained herein embrace the first essential measures that may effectively be initiated at a modest cost. Implementation of those recommendations by an adequate and competent medical staff will result in a national medical civil defense program of increased leadership, intelligence, interest and competence. *The recommendations in the report and the following summary are advisory only and do not necessarily reflect Office of Civil and Defense Mobilization policy.*

REPORT ON NATIONAL EMERGENCY MEDICAL CARE RESEARCH AND STUDY PROJECT CONDUCTED BY THE AMERICAN MEDICAL ASSOCIATION FOR THE OFFICE OF CIVIL AND DEFENSE MOBILIZATION

SUMMARY OF THE REPORT

BACKGROUND

In December, 1956, the Federal Civil Defense Administration, now the Office of Civil and Defense Mobilization, proposed that the American Medical Association, as the representative of the medical profession, become the primary contractor for a comprehensive study encompassing, on a national scale, medical disaster planning and preparedness. The Federal government was particularly interested in the development of criteria needed as the basis of a broad plan for the treatment and care of the surviving population, casualty and noncasualty, in the event of an enemy attack on this nation. It was proposed that the project would be financed by the government at a cost not to exceed $150,000.*

On the recommendation of its Council on National Defense, the Board of Trustees of the Association approved the project in February, 1957 and authorized the Council to take appropriate action to develop and negotiate the contract provisions and subsequently to activate and implement the program.

The Association agreed to undertake this unique and challenging task with the recognition that there was a real need and urgency for the provision of preventive and remedial health care under disaster conditions; that it concerns the entire medical and health professions; and, that it is a vital part of this nation's nonmilitary defense efforts. Since, the Board reasoned, individual physicians would have the burden and responsibility to fulfill the emergency medical requirements in time of war, the Association had an obligation to take an active lead in the development of the project.

The House of Delegates, in December, 1957, approved the action of the Board in authorizing the study project. The House also adopted a commendation submitted by its Reference Committee on Medical Military Affairs which stated, "Your Committee wishes to commend the Board of Trustees for its action in authorizing the research program and initiation of the plan of study to establish criteria for the provision of medical care of the surviving population in the event of an enemy attack on our nation."

*The entire cost of the project, financed by the government, was $83,612.40, including the printing and binding of 650 copies of the report.

With the approval of the Board, the Council on National Defense took action to form an appropriate study group to conduct the project and initiated other activities to commence the program. Simultaneously with the development of these administrative matters, preliminary negotiations on the provisions of the contract were being carried on with the Federal Civil Defense Administration.

After numerous communications and conferences, the formal contract was executed on July 26, 1957 between the United States Government, acting through the Federal Civil Defense Administration, the predecessor of the Office of Civil and Defense Mobilization, and the American Medical Association.

A special study group was created to conduct the project, called the Commission on National Emergency Medical Care. In December, 1958, the Council on National Defense reviewed and approved the report submitted by the Commission and referred it to the Board of Trustees for review for action.

Meeting in Chicago in February, 1959, the Board of Trustees voted unanimously in favor of the report and requested that the report be prepared for submission to the Office of Civil and Defense Mobilization.

On April 15, 1959, fifty copies of the report were sent to the Office of Civil and Defense Mobilization, in accordance with the terms of the contract between the United States Government and the American Medical Association. Subsequently, the government requested that 600 additional copies of the report be printed to provide an extra 100 copies for the Office of Civil and Defense Mobilization and to permit the Association to distribute copies of the report to other organizations and individuals who have a particular interest and responsibility in medical civil defense affairs.

ORGANIZATION

The Office of Civil and Defense Mobilization particularly desired the Association to study and recommend the planning, training and operational organization needed as a basis for a national civil defense medical plan.

In developing a realistic organizational plan of medical readiness, the study commission recognized that civil defense of necessity rests upon the efforts of each individual citizen. Unless and until each citizen learns his duties and accepts his obligations, there will be an inadequate civil defense protection of the nation. Families must be willing to do their part, neighbors fulfill their share of the work to make the program effective. Cities, counties and states, in turn, have increasingly larger obligations and they must each be well organized, trained and operative units. Origi-

nally, civil defense was conceived as essentially a state operated organization with a small central federal staff. After nearly five years it had become apparent that there must be an increasingly larger federal role. Recent legislation has made civil defense a federal-state partnership. This study has been concerned largely with the federal aspects of civil defense, since there has been a lack of a strong central planning, training and procurement agency. Implementation of plans through state participation would of necessity follow and have not been the direct concern of this study. It was felt that if suitable central, federal planning and training were developed, these plans could be quite easily adopted to meet the needs and the capabilities of the several states.

In order to give direction and impetus to medical civil defense activities and to prepare the nation for mass casualty conditions, the report recommends that:

1. A National Medical Planning Group, under the Director, Office of Civil and Defense Mobilization, should be created to prepare a complete, integrated, and coordinated national medical care plan for the care of mass casualities and for the medical support of surviving noncasualties.

The Medical Planning Group should be assigned the following missions:

a. Estimate the current national medical situation.
b. Determine the medical resources required to support the Civil Defense of the United States in all types of all-out war.
c. Determine the potential medical resources expected to be available in the United States subsequent to all types of mass attack.
d. Prepare a complete, integrated, coordinated and sound national medical plan for the care of mass casualties and for the medical support of surviving noncasualties.*
e. Prepare sound and adequate national medical training plans, literature, aids and programs that will ensure effective training of all medical, health, semi-professional and nonprofessional personnel normally engaged in medical and health activities, including the general population, for mass casualty conditions.*
f. Prepare and enunciate sound policies, principles and procedures that will result in standardization and employment of the most effective mass casualty treatment methods.*

*Missions (d), (e), and (f), should be developed on the basis of the Planning Assumptions, outlined in Annex C of the report and utilizing the principles contained in Annex D (Role of the Medical Profession), Annex E (Additional Functions for Health Personnel Under Mass Casualty Conditions), Annex F (Disaster Training Medical Objectives), Annex G (Triage), Annex H (Treatment Principles) and Annex I (Mass Casualty Administrative Policies).

g. Determine which laws and statutes limit or prevent the utilization and training of personnel to the extent deemed necessary as outlined in the sections of this summary report devoted to Disaster Medical Training Objectives beginning on page 13 and Emergency Medical and Health Functions for Health Personnel beginning on page 15, and recommend ways and means of having such laws and statutes amended or repealed, in order that the required medical training of such personnel may be accomplished.

h. Develop a public information plan, which when implemented, will ensure proper understanding and acceptance by the public of the objectives of the national medical training programs.

i. Determine and recommend the detailed organization and missions of the proposed Medical Directorate and its place within the federal government structure.

2. A Medical Advisory Council should be established to assist and advise the Director, Office of Civil and Defense Mobilization, and the Director of the National Medical Planning Group on problems and policy matters relating to all aspects of the Nation's medical and health resources in time of a national emergency.

The Medical Advisory Council should be comprised of physicians of national stature. It must be an organization that can exert leadership throughout the Nation at a time when the greatest challenge in history is presented to the medical and health professions by the threat of an all-out nuclear war. Furthermore, it would be the medium through which the federal government would seek the highest quality of medical advice available in helping to solve problems of such magnitude and scope.

The major, initial, if not the crucial, problem subsequent to an all-out mass attack on the United States, will be medical in nature and will require the services of the entire health and medical professions. It is logical that the medical profession of the United States should be given the opportunity to assume its rightful role in the planning for the survival and recovery efforts of the Nation, should such a mass attack occur, through the provision of assistance and advice to the Director, Office of Civil and Defense Mobilization, and his medical staff.

The Medical Advisory Council should provide advice and assistance on the following matters:

a. All phases of disaster and survival medicine.

b. National medical headquarters organizations and their functions.

c. National medical plans and policies.

d. Civil defense field medical organizations, their employment, staffing and equipment.

e. Utilization and training of medical and allied health personnel.
f. Training of all segments of the population in appropriate fields.
g. Medical equipment, supplies and assemblies.
h. Public health, preventive medicine and welfare matters.
i. Medical aspects of chemical, biological and radiological warfare.
j. Communications, transportation and other ancillary services required to support nation-wide medical efforts subsequent to a mass attack.
k. Such others as may be appropriate.

3. A National Medical Directorate, as an integral part of an appropriate federal agency, be created in order that complete and coordinated national medical planning may be continued, training of the population initiated, and exercise of continued control over the available national medical resources under emergency conditions ensured.

The Medical Directorate should be a permanent national medical organization which will replace the National Medical Planning Group when that agency has completed its missions. The Medical Directorate is designed to be a permanently functioning body, so organized and staffed as to execute effectively the training and operational plans of its predecessor organization and prepare to supervise and direct the nation-wide medical services in the event of a national disaster. It should become functional prior to the accomplishment of the missions assigned to the National Medical Planning Group for two reasons: first, to initiate execution of the plans devised by the Planning Group and secondly, to have in being an organization ready to function in case of war.

ROLE AND RESPONSIBILITY OF THE MEDICAL PROFESSION

The role of the medical profession is to prepare its members to cope effectively with the results of a mass attack on the United States and to assist actively in preparing the Nation to withstand such an attack. In the event of a mass attack on this country, the role of the medical profession is to provide to the Nation the highest quality and best organized remedial and preventive medical services possible in order that maximum numbers of physically and mentally fit survivors, imbued with high morale and a courageous spirit, are and will become available to assume their share of responsibility in the ensuing national recovery efforts and to participate in concurrent and subsequent combat operations.

It is the responsibility of the medical profession, in respect to preparation for, and recovery from, a mass attack on the United States, to provide the leadership and guidance that will:

a. Promote sound mass casualty planning at all levels of government and at all levels within the professional medical and health organizations.
b. Encourage the population of the United States to engage in individual and collective survival training.
c. Lend assurance that successful recovery from a mass attack is possible.
d. Ensure adequate medical training of personnel of the medical and health professions and of all other personnel potentially able to assist themselves and the health professions in the care and treatment of the survivors of a mass attack.
e. Ensure full utilization of available medical and health personnel resources, including selected segments of the general public, both prior and subsequent to a mass attack.
f. Ensure proper steps to be taken so that optimum amounts of the required medical supplies and equipment are stockpiled and ready for use in the event of a mass attack.
g. Ensure the development, through research, of improved and increasingly effective methods of preventing and treating disease and injury.
h. Ensure prompt mobilization of all available necessary personnel for provision of the medical care that will be required subsequent to a mass attack.
i. Ensure provision of the best possible medical care to the maximum number of casualties within the means available subsequent to a mass attack.
j. Ensure prevention of unnecessary illness, injury and loss of life during and subsequent to a mass attack.
k. Ensure maintenance of the health, physical stamina and morale of the uninjured survivors of a mass attack.

DISASTER MEDICAL TRAINING OBJECTIVES

In view of the anticipated disparity between the number of casualties and the number of physicians that will be available, as well as the number of injuries amenable to competently administered self-aid and first-aid treatment, subsequent to a mass attack on the United States, it is imperative that:

a. All physicians regardless of their specialty qualifications, and osteopaths, receive training and become proficient in the practice of disaster medicine.
b. Dentists and veterinarians receive training and become proficient in the practice of disaster dentistry and disaster veterinary medicine, respectively, and additionally, receive

such training in disaster medicine as will enable them to take effective lifesaving and first-aid measures and to assist the medical profession by performing approved additional functions.

c. Nurses receive training and become proficient in the practice of disaster nursing, develop the ability to direct and supervise the activities of large numbers of nursing assistants and additionally, receive such training in disaster medicine as will enable them to take effective lifesaving and first-aid measures and to assist the medical profession by performing approved additional functions.

d. Medical and dental technicians and technologists of all categories, occupational and physical therapists, optometrists and podiatrists receive training and become proficient in the application of lifesaving and first-aid measures and competent to assist members of the health professions by performing approved additional functions.

e. Medical social and psychiatric social workers, clinical psychologists, hospital dietitians and ambulance drivers receive training and become proficient in the application of lifesaving and first-aid measures, including psychological first-aid.

f. Hospital administrators, pharmacists and medical librarians receive training and become proficient in performing their normal functions under the difficulties inherent in casualty and disaster conditions, including operation in the field. Medical librarians, in particular, should become proficient in the preparation and distribution of emergency medical records.

g. The general public receive training and become proficient in the application of first-aid and self-aid procedures.

h. All personnel receive instructions in the casualty-producing effects of mass weapons, passive defense measures and sanitation, to the end that they may protect themselves from preventable injuries and disease in the event of an all-out war.

TRAINING RESPONSIBILITY OF THE MEDICAL PROFESSION

The American Medical Association expects that the professional medical associations of the United States, including state, county and city medical societies, will actively encourage and take the lead in supporting such approved professional and technical training programs as may be designed to ensure the medical preparedness of the Nation for an all-out war. It further expects individual physicians will assist, advise, and conduct training sessions when requested, demonstrate their assumption of leader-

ship in the field of disaster medicine and ensure adequate and proper instruction of the general public.

To accomplish the training objectives, it is recommended that:

a. The Medical Education for National Defense program be continued, expanded to include all approved colleges of medicine, refined to the end that all essential instruction is incorporated, made uniform to the extent practicable and supported by Federal funds.

b. That appropriate programs, similar to the Medical Education for National Defense program, be instituted and supported by Federal funds for all approved colleges and schools of osteopathy, dentistry, veterinary medicine, and nursing.

c. National, state, county and city medical and health associations, commissions and societies conduct professional sessions, dealing with those aspects of all-out war and mass casualty care that are appropriate for members of such organizations.

d. National, state, county and city semi-professional and medical technical associations and societies conduct technical sessions dealing with those aspects of all-out war and mass casualty care that are appropriate for members of such organizations.

e. The general public be systematically trained in the appropriate aspects of all-out war, sanitation and first-aid and self-aid procedures, through the media of newspaper and magazine articles, radio and television facilities, classroom instruction in the case of school children, college and university students, and organized classes for adults (such classes taught by physicians, other professional health personnel or qualified lay personnel, as appropriate), as will permit the application of proper self-aid and first-aid measures and the institution of adequate sanitation precautions under mass casualty conditions.

f. In the training of all groups, the fullest possible use be made of actual cases, effective training aids, applicatory exercises and participation in alerts and field exercises.

g. Those political subdivisions of the Nation conducting approved and effective training courses for their citizens receive Federal financial assistance.

EMERGENCY MEDICAL AND HEALTH FUNCTIONS FOR HEALTH PERSONNEL

It is imperative that additional functions be performed under mass casualty conditions by persons other than physicians, not only to relieve physicians of functions which others can perform,

but also to ensure that the fullest possible use is made of all available personnel resources. The employment of non-medical health personnel to perform additional functions, *after adequate preparation and training*, is essential and practicable under mass casualty conditions.

Casualties will receive more adequate care, under mass casualty conditions, if physicians can be relieved of those functions which others can be trained to perform. Members of the allied health professions are capable of being trained to perform, under general medical supervision, the following listed additional functions.

It is recommended that those members of the disciplines, as listed under the following groups, be trained in the additional functions indicated and that any National Emergency Medical Plan and training publications prepared and distributed by the Federal government, in connection with preparations for a mass attack, include as doctrine such expanded utilization.

GROUP I —Veterinarians

GROUP II —Dentists

GROUP III—Nurses

GROUP IV—Medical Laboratory Technicians and Technologists, X-ray Laboratory Technicians and Technologists, Medical Technicians and Technologists, Dental Laboratory Technicians and Technologists, Occupational Therapists, Physical Therapists, Optometrists, Podiatrists, Dental Hygienists, Dental Assistants, and Pharmacists.

GROUP V —Medical Social Workers, Psychiatric Social Workers, Clinical Psychologists, Hospital Dietitians and Ambulance Drivers.

ADDITIONAL FUNCTIONS FOR HEALTH PERSONNEL

1. First-aid, including but not limited to artificial respiration, emergency treatment of open chest wounds, relief of pain, treatment of shock and the preparation of casualties for movement. (Groups I, II, III and IV)
2. First-aid, including but not limited to artificial respiration, emergency treatment of open chest wounds, treatment of shock, and the preparation of casualties for movement. (Group V)
3. Control of hemorrhage. (All Five Groups)
4. Attainment and maintenance of patent airway, and intratracheal catheterization, to include tracheotomy. (Groups I and II)

5. Attainment and maintenance of patent airway, and intratracheal catheterization, to include emergency tracheotomy. (Group III)

6. Attainment and maintenance of patent airway. (Groups IV and V)

7. Proper and adequate cleansing and treatment of wounds. (All Five Groups)

8. Bandaging and splinting. (All Five Groups)

9. Administration of anesthetics under medical supervision. (Groups I, II, and III)

10. Assisting in surgical procedures. (Groups I, II, III, and IV)

11. Insertion of nasogastric tubes to include lavage and gavage, as directed. (Groups I, II, III, and IV)

12. Administration of whole blood and intravenous solutions, as directed. (Groups I, II, III)

13. Administration of parenteral medications, as directed. (Groups I, II, and III)

14. Administration of parenteral medications when directed by a physician. (Group IV)

15. Catheterization of males and females. (Groups I, II and III)

16. Catheterization of males by males, and females by females, as directed. (Group IV)

17. Administration of immunizing agents, as directed. (Groups I, II, III and IV)

18. Sanitation, to include waste disposal; examination of water sources, methods of water treatment and distribution; milk sources, methods of sterilization and distribution; and inspection of foods, to include detection of radioactive contamination. (Group I)

19. Triage of facial and oral injury cases, including oral surgery. (Group II)

20. Management of the psychologically disturbed. (Group III)

21. Assist in the management of the psychologically disturbed. (Group V)

22. Management of normal deliveries. (Group III)

23. Operation of treatment and aid stations in reception areas and in communities where physicians are inadequate in number, to include the diagnosis and treatment of minor illnesses and injuries, institution of life-saving measures

and the referral of more serious cases to physicians. (Group III)

TRIAGE (SORTING)

DEFINITION OF TRIAGE

For the purposes of this document, triage is that dynamic and continuing professional medical process of classifying the sick and injured according to the urgency and types of conditions presented, in order that each casualty may receive optimum treatment and care in the best staffed and equipped treatment facility available, within the optimum time and in favorable condition, to the end that the greatest good can be rendered to the greatest number in the shortest time within the means available.

The most highly qualified physicians available in disaster and support areas should be employed in the triage of casualties and the most competent physician specialists available prescribe the treatment procedures for those casualties whose injuries fall within their respective fields. Triage should be a continuing function at all medical installations and facilities treating the casualties resulting from a mass attack.

Insofar as priority of treatment, evacuation, hospital admission and out-patient care are concerned, all sick, injured and wounded personnel in disaster and support areas, whether physically or mentally incapacitated or suffering from acute or chronic conditions, be classified into the following treatment priorities:

a. Priority I —Those requiring out-patient care only.
b. Priority II —Those moderately injured and ill whose chances of recovery are good following immediate definitive treatment.
c. Priority III—Those injured and ill whose chances of recovery are not jeopardized by delayed definitive treatment.
d. Priority IV—Those critically injured or ill who require extensive, complicated, time-or material-consuming procedures, and those who are beyond help.

OBJECTIVES OF TRIAGE

The objectives of triage under mass casualty conditions are to:

a. Ensure that, at the earliest possible moment, maximum numbers of casualties are restored to a state of mental and physical health that will enable them to fulfill an effective role in the recovery efforts of the Nation.
b. Ensure appropriate care for each casualty in accordance with established priorities and within the available resources.
c. Ensure maximum use of available medical facilities and resources.

d. Ensure an even flow of casualties through the evacuation chain into proper treatment facilities.

e. Ensure that only casualties in need of professional care receive it.

f. Ensure that casualties who, after treatment for minor conditions will be able to participate in recovery efforts, are given a high treatment priority classification.

g. Ensure that casualties whose conditions are such that immediate treatment is necessary and successful recovery is likely without the use of inordinate amounts of time, equipment, supplies and personnel, are given a high treatment priority classification.

h. Ensure that casualties whose conditions are such that, following emergency care, their definitive treatment may be delayed without detriment, are given a high treatment priority classification initially and a lower classification subsequent to emergency treatment.

i. Ensure that casualties whose conditions are such that recovery is unlikely or that inordinate amounts of time, equipment, supplies and personnel will be required in their treatment, to the detriment of others, are given a low treatment priority classification.

j. Decrease morbidity and mortality to the extent possible.

CONSIDERATIONS IN TRIAGE OPERATIONS

Since effective triage is the key to optimum use of available medical and evacuation resources, each physician triaging casualties, in addition to being highly competent and well-trained in his field, must demonstrate mature judgment, be capable of quick and sound decisions and possess knowledge of and give consideration to the following factors when determining priority of treatment, evacuation and destination of mass casualties:

a. Mass casualty treatment priorities.

b. Expected number of casualties by treatment priorities.

c. Capacity, capabilities and census of his own installation.

d. Capacities, capabilities, census and locations of other, particularly supporting, installations.

e. Surgical back-logs at his own, adjacent and particularly supporting medical installations.

f. Type and length of treatment procedure each casualty requires, amount and length of post-operative treatment likely to be required and the chances of recovery each casualty possesses.

g. Effect of delayed treatment on each casualty.

h. Effect of treatment or evacuation of one casualty on others.

i. The status of the supplies and equipment at his own, adjacent and supporting installations.
j. Types and availability of evacuation vehicles.
k. Evacuation times, by type of vehicle, and condition of routes between his own and other medical installations.
l. Effect on supporting installations of evacuating casualties thereto.
m. Malingerers.

RESULTS OF TRIAGE FAILURE

Failure of triage or inadequate triage result in the following:

a. Waste of time, medical personnel, supplies, equipment and evacuation vehicles.
b. Accomplishment of less good to fewer casualties.
c. Delayed treatment for those in need thereof.
d. Increased disability.
e. Prolonged convalescence.
f. Greater morbidity and mortality.
g. Overloading of one, several or all medical facilities.
h. Underloading of one or several medical facilities.
i. Over or under use of evacuation vehicles.
j. Loss of needed manpower.
k. Lowered morale among medical and health personnel, as well as patients.

TREATMENT PRINCIPLES

Certain principles are particularly applicable in the treatment and management of mass casualties during the emergency phase subsequent to an attack.

It is imperative that these principles, in addition to such others as may be appropriate, form the basis for:

a. The early management of mass casualties.
b. Instructional material for training in mass casualty care.

It is recommended that the following treatment principles, in addition to such others as may be appropriate, be promulgated through inclusion in any National Emergency Medical plan and training publications prepared and distributed by the Federal government in connection with preparations for a mass attack.

It is imperative that, if maximum care is to be provided to the greatest number of mass casualties under the conditions of austerity that are expected to prevail following an all-out attack:

GENERAL

1. Treatment procedures and principles at all levels be designed to result in the greatest good to the greatest number within the means available.

2. Treatment procedures in disaster and support areas be simplified and standardized.

3. The control of hemorrhage, the attainment and maintenance of a patent airway and the treatment of shock are the critically essential lifesaving measures that receive the highest priority at all levels.

4. During the emergency period following a mass attack on the United States, no treatment procedure be performed that renders a casualty less able to care for himself.

5. Treatment procedures be designed to preserve life over limb and function over appearance.

6. Casualties requiring only self-aid, first-aid or out-patient care will be treated as indicated in disaster or support areas, while admission to hospitals must be reserved for more seriously ill patients.

7. Psychologically disturbed individuals not be admitted to hospitals treating the injured.

8. No patient be removed from his litter or improvised stretcher until he has reached a place of definitive treatment or removal is otherwise essential.

9. Similar types of cases be grouped to the extent practicable to simplify, standardize and expediate treatment.

10. Medical laboratory procedures be held to the absolute minimum.

11. X-ray examinations be held to the absolute minimum.

12. Blood typing of casualties be carried out prior to transfusion and cross-matching also be carried out, if practicable.

13. Casualties be transferred to convalescent facilities or discharged and treated on an out-patient status as early as possible.

MORPHINE

1. Morphine and other narcotics not be issued to rescue workers, litter bearers, ambulance drivers and others of like category for use on casualties.

2. Morphine and potent opium derivatives be administered only in medical treatment facilities by qualified personnel.

3. In the treatment of injured personnel, morphine be used only for the purpose of relieving severe pain. Since major wounds frequently are quite painless, there is no indication for morphine to be administered solely because of the presence of such wounds.

4. Morphine or other potent narcotics not be administered to casualties exhibiting signs of traumatic or hemorrhagic shock.

5. Morphine or other respiratory depressants not be administered to casualties suffering head injuries, severe chest injuries, respiratory depression or distress.

6. The smallest effective doses of morphine be employed.

7. The dosage of morphine and the hour, date and route of administration be entered on the medical records of those casualties who receive it.

ANESTHESIA

1. During the immediate post-attack phase, anesthesiologists available in disaster and support areas supervise teams of less highly trained personnel in the administration of anesthetics.

2. The smallest effective amounts of anesthetic agents be employed in the care of mass casualties.

3. A local anesthetic be employed where a satisfactory state of analgesia will suffice for the performance of treatment procedures.

4. A local anesthetic be considered the agent of choice for casualties with wounds of the extremities.

5. Ether be considered the agent of choice for most casualties requiring a general anesthetic.

GENERAL SURGERY

1. The main surgical effort be directed to those injured and wounded who have sustained fractures and soft tissue injuries.

2. Airway-to-airway artificial respiration be considered the method of choice.

3. Sucking wounds of the chest be adequately closed by first-aid and definitive procedures at the earliest practicable moment.

4. The use of tourniquets be restricted to cases of hemorrhage that cannot be controlled by compression.

5. When a tourniquet is employed, it be applied sufficiently tightly to occlude arterial blood flow.

6. A tourniquet, once applied, not be removed until definitive treatment is available. This entails possible loss of the limb.

7. Casualties who have suffered mechanical or thermal injury be considered to have bacteriologically contaminated wounds.

8. Those mechanically injured and burned casualties known to have been immunized with tetanus toxoid, such as members and former members of the armed forces, receive a booster dose of tetanus toxoid, and an adequate dose of antitoxin, when deemed necessary, after determination of absence of sensitivity thereto.

9. Mechanically injured and burned casualties not known to have been immunized with tetanus toxoid receive an adequate dose of tetanus antitoxin after determination of absence of sensitivity thereto.

10. Four units (2000 cc) of dextran be the maximum, administered to any one casualty during the initial phase of treatment.

11. Maximum hemostasis be practiced in debridement procedures to conserve blood.

12. In disaster and support areas, traumatic wounds, except wounds of the scalp, face and neck, receive adequate debridement, be left open initially, dressed with moderate pressure dressings and closed secondarily when circumstances are favorable.

13. Traumatic wounds of the scalp, face and neck receive adequate debridement, be closed primarily and dressed with moderate pressure dressings.

14. Superficial wounds of the chest be debrided and left open while open chest wounds be debrided and closed tightly, with the pleural cavity aspirated or drained.

15. Superficial wounds of the abdomen be debrided and closed in layers, except that the skin be left open. If exploration of the abdominal cavity is indicated, the approach should not be made through a traumatic wound.

16. Definitive treatment of wounds of the stomach and small bowel consist of closure in accordance with treatment priorities.

17. Definitive treatment of wounds of the upper large bowel consist of exteriorization of the involved area.

18. Definitive treatment of wounds of the lower large bowel and rectum consist of closure, posterior drainage and protection of the wounded area by diverting colostomy.

19. Definitive treatment of the injured spleen consist of removal rather than repair.

20. Definitive treatment of the injured liver and pancreas consist of repair and adequate drainage.

21. The casualty with an injured kidney be managed conservatively.

22. A torn or ruptured bladder be treated as a suprapubic cystostomy or closed and protected by an indwelling urethral catheter.

23. A casualty who is unconscious or semi-conscious following surgery be placed on his side.

24. Traumatic wounds of the joints receive adequate debridement, to include removal of detached bone, cartilage fragments and foreign bodies, followed by irrigation and closure of the capsule, and immobilization if indicated.

25. In all traumatic wounds, bone, nerves, vessels, tendons and testes be covered with tissue upon completion of debridement.

ORTHOPEDICS

1. Initial amputation procedures be the open circular type in disaster and support areas.

2. Fractures of the long bones be splinted prior to movement of the casualty, whenever practicable.

3. As a general rule, fractures be splinted without traction.

4. Casualties who have sustained closed fractures of the small bones and closed fractures of the upper extremities have their fractures immobilized, be placed in treatment priority I and handled as out-patients.

5. Casualties who have sustained closed fractures of the long bones of the lower extremities have their fractures immobilized and be placed in treatment priority III.

6. When limbs are splinted, casted or bandaged because of fractures or burns, the joints be placed in functional position.

7. When the use of plaster is required in the treatment of injured extremities, it be applied in the form of splints in preference to casts.

8. Casualties who require a splint and traction have adequate padding applied to those portions of the limb subjected to pressure and circulatory restriction.

9. Plaster casts, when applied to extremities, be bivalved as soon as the plaster is set.

OPHTHALMOLOGICAL INJURIES

1. To the extent practicable, ophthalmological surgery be performed by ophthalmologists.

2. Dressings and bandages be lightly applied to injured eyes.

3. When one or both eyes are severely injured, both eyes be occluded by lightly applied dressings.

4. Casualties with eye injuries who cannot be evacuated as litter cases have a pinholed opaque disk placed before the uninjured eye and be escorted by an attendant.

5. The decision to enucleate an injured eyeball be made by an ophthalmologist, whenever possible.

6. First-aid care of ophthalmological injuries consist of prompt flushing of the eye with plain water, if superficial foreign bodies or chemicals are present, and application of a loose fitting bandage or dressing. Local anesthetics and mild antiseptics, if available, may be instilled into an injured eye to relieve pain and prevent infection.

7. Ointments not be applied to a perforated eyeball or one with a poorly sutured wound.

8. Casualties with intra-ocular injury, perforating or other serious wounds of the eyeball have a high priority for evacuation as litter patients for ophthalmological care.

9. Casualties with traumatic intra-ocular hemorrhage be referred to an ophthalmologist, whenever possible.

10. Casualties with foreign bodies in the eye that cannot be removed in two gentle attempts be referred to an ophthalmologist, whenever possible.

11. Lacerated eye lids be repaired by an ophthalmologist, whenever practicable.

12. The cornea of injured eyes be protected from drying. Temporary suturing of lacerated lids or suturing one lid to another or to the cheek or eyebrow should be employed, if necessary.

THERMAL INJURIES

1. The treatment of choice for thermal burns be the open method. For ambulatory burn casualties, a suitable protective dressing may be applied. Antibiotics will be employed in suitable cases.

2. Casualties with second degree burns of 20% or less of the body surface be placed in treatment priority I and treated as outpatients under mass casualty conditions.

3. Casualties with third degree burns of 40% or more of the body surface be classified treatment priority IV under mass casualty conditions.

4. In the treatment of casualties from a nuclear blast, medical units screen in-coming patients for radioactive contamination.

RADIATION INJURIES

1. Medical units be responsible for decontaminating in-coming patients who are contaminated with radioactive material and maintain uncontaminated installations.

2. Until there is available an accurate method of estimating or determining the amount of radiation to which personnel have been exposed, the degree of radiation injury sustained by casualties, as a result of a nuclear detonation, be determined on a clinical basis.

3. Casualties known to have suffered a fatal dose of radiation and those showing early, severe signs and symptoms of radiation injury following a nuclear detonation be placed in treatment priority IV.

4. Since antibiotics are not indicated in the prophylactic treatment of radiation injuries per se, they be administered to radiologically injured casualties only if other indications for their use are present.

5. Since whole blood is not indicated in the prophylactic treatment of radiation injuries per se, it be administered to radiologically injured casualties only if they have lost blood.

DISASTER FATIGUE

1. Barbiturates be the drug of choice and employed as indicated for the relief of apprehension and anxiety. Narcotics are not indicated in the relief of these conditions.

2. Individuals manifesting disaster fatigue be given psychological first-aid on-the-spot by non-medical personnel.

3. Since most individuals temporarily distraught, as a result of a mass attack, will require only psychological first-aid, disaster fatigue cases be removed to reception areas for temporary housing and feeding only if their ineffective behavior persists subsequent to administration of first-aid.

4. Only those cases of disaster fatigue which fail to respond simple treatment in reception centers be evacuated to mental hospitals.

EVACUATION

1. No casualty from a disaster or support area be evacuated to a more highly specialized medical treatment facility than is required by his condition.

2. Those casualties whose chances are poor of surviving evacuation from one medical facility to another not be evacuated.

3. Casualties suffering fractures and suspected fractures of the spine, except of the cervical region, be transported in the prone position.

4. Casualties suffering fractures and suspected fractures of the cervical region of the spine be transported in the supine position with the head adequately supported.

5. When practicable, unconscious casualties be placed on one side for transportation and this position maintained until such time as definitive treatment may be administered. In the event placing a casualty on his side is not practicable, the head should be turned to one side to prevent the aspiration of vomitus and secretions.

6. Unconscious casualties with fractures of the mandible not be transported if bandaged so tightly or otherwise splinted that opening of the mouth is prevented.

7. Conscious casualties with fractures of the mandible may be transported with the jaws tightly bandaged or otherwise splinted, provided the attendant is so informed and possesses the means to remove the bandages or splinting materials expeditiously.

MASS CASUALTY ADMINISTRATIVE POLICIES

Certain policies are applicable to medical installations, units and personnel preparing for and engaged in the treatment of mass casualties.

It is recommended that the following policies, in addition to such others as may be appropriate, be incorporated into any National Emergency Medical plan and training publications prepared and distributed by the Federal government in connection with preparations for a mass attack.

It is imperative that, if preparations for and the rendering of care to mass casualties are to be adequate:

HOSPITAL OPERATIONS

1. All fixed hospitals in the United States prepare plans that envision maximum expansion in case of a mass attack and that consideration be given to requisitioning and utilizing nearby suitable homes and buildings.

2. Throughout the United States, fixed hospitals prepare plans to operate their installations on an expanded scale in locations sufficiently distant from target areas, errors in aiming considered, as to be reasonably safe from damage from a nuclear detonation and, to the extent possible from knowledge of prevailing winds, safe from radioactive fallout.

3. Throughout the United States, population centers prepare plans to establish and operate, as soon as required, specialized treatment centers for the treatment of mass casualties, utilizing and coordinating all available hospitals and medical resources.

4. Throughout the United States, population centers prepare plans to establish and operate, as soon as required, convalescent centers for the treatment of casualties convalescing from a mass attack, utilizing and coordinating all available medical resources.

5. In the event of ample warning of an impending mass attack, hospitals within target and support areas discharge those in-patients for whom hospital care is not absolutely essential.

6. When circumstances require immediate displacement, prior or subsequent to a mass attack, hospitals in target areas displace to preplanned locations with operating personnel, maximum essential equipment and supplies and patients.

7. Following a nuclear attack, hospitals not be established within disaster areas until the need therefor exists and conditions are such that the hospitals can operate safely and effectively.

8. Following a nuclear disaster, hospitals not be established in areas dangerously contaminated with radioactive materials.

9. Each hospital in disaster and support areas establish patient reception facilities conveniently located in respect to the examination and emergency treatment facilities.

10. Each hospital in disaster and support areas locate its out-patient facilities separate from the main hospital if practicable.

11. In mass casualty situations, each hospital locate its psychiatric treatment facilities separate from the main hospital if practicable.

12. Hospitals engaged in mass casualty care be arranged to decrease the manual carry of patients to the minimum.

13. In disaster and support areas, traffic in and about hospital grounds be so arranged and controlled as to facilitate the entrance and exit of casualty—and supply-carrying vehicles and the exclusion of other.

14. An adequately staffed information service be established by each hospital engaged in mass casualty care to provide accurate information to friends, relatives, appropriate officials and recognized members of the press.

15. The curious be excluded from medical installations engaged in the care of mass casualties.

16. Legitimate visitors to medical installations engaged in mass casualty care be rigidly controlled as to numbers and destinations within the installations.

17. Following a mass attack upon the United States, personnel engaged in the care of mass casualties maintain good relations with the public press and information media.

PERSONNEL

1. Assignments of personnel to key positions and, to the extent practicable, all other positions in medical installations and units, both fixed and field, be made and kept current.

2. Following a mass attack on the United States, every able-bodied survivor with knowledge or skill in a health field be utilized to the full extent of his knowledge and capabilities in an appropriate medical or health activity.

3. Medically trained personnel not be utilized in rescue or other non-medical operations following a mass attack on the United States.

4. Following a mass attack on the United States, the most adequate round-the-clock staffing possible be provided for medical installations to enable personnel engaged in the care of the sick and injured to obtain adequate rest in order that they may work at top speed, employing sound medical judgment, over periods of time as long as weeks or months.

5. Subsequent to a mass attack, normal deliveries in disaster and support areas be attended by nurses and midwives to the extent practicable.

6. Medical and nursing personnel determine the capabilities of members of the health professional personnel working in their installations subsequent to a mass attack, make duty assignments to such personnel, prescribe limitations not to be exceeded and supervise their work.

7. Physicians, osteopaths, dental and veterinary surgeons, as well as other health personnel who require a license to practice in their home states or territories, practice without a license in any area which requires their services in the care of mass casualties.

8. Members of the recognized health and medical professions practicing the healing arts in the care of mass casualties in the United States be immune from professional liability suits brought by such casualties or their relatives.

9. State emergency medical plans provide that only minimum essential medical and health personnel be available in areas not engaged in mass casualty care, in order that the maximum numbers of such personnel may be mobilized for employment in the care of mass casualties elsewhere.

10. Existing medical resources within and in proximity to areas subjected to a mass attack be fully utilized in the treatment of casualties resulting therefrom.

11. Hospitalized personnel, including psychiatric and chronically ill patients, able to assist in the recovery efforts of the Nation, subsequent to a mass attack thereon, be so utilized.

12. Following a mass attack on the United States, local medical resources be utilized fully before assistance from outside areas is provided.

13. Requests for medical assistance from states subjected to a mass attack be submitted to the Office of Civil and Defense Mobilization regional office having jurisdiction over the area involved.

14. Retired medical and health personnel be the first to be relieved from compulsory service following the emergency period subsequent to a mass attack on the United States.

SUPPLIES AND EQUIPMENT

1. Conservation of medical supplies, equipment and personnel rigidly be practiced nation-wide subsequent to a mass attack on the United States.

2. Personnel engaged in the care and treatment of survivors of a mass attack ensure adequate safeguarding of narcotics, medical supplies and equipment.

3. As of the present time, for planning purposes in the treatment of mass casualties, the use of whole blood, blood derivatives and plasma volume expanders be on a ratio of one unit of whole blood to one unit of blood derivative and/or plasma volume expander.

4. Every effort be made during the first days subsequent to a nuclear attack to obtain and stockpile whole blood for the treatment of casualties.

5. Medical supplies and equipment allocated to an area for the care of mass casualties be based upon the expected capability of the collective medical installations, rather than the expected number of casualties.

PUBLIC HEALTH

1. Immunization of the population of the United States against tetanus, smallpox, typhoid and paratyphoid fevers, poliomyelitis, pertussis and diphtheria, in the proper age groups, be given immediate and continued emphasis as an individual survival measure.

2. Personnel not previously immunized against typhoid fever and smallpox be so immunized upon arrival at reception areas following a mass attack on the United States and that other post-attack mandatory immunizations be determined by then existing conditions.

3. Following a nuclear detonation, canned and packaged foods within the disaster and fallout areas be used after nothing more than cleansing of the outer containers.

4. Drinking water in disaster, support and reception areas be adequately treated and meet approved standards prior to consumption.

5. In disaster, support and reception areas, milk be either boiled or pasteurized according to approved methods prior to consumption.

6. The disposal of human and other wastes in disaster, support and occupied reception areas be sufficiently adequate to prevent the inception and spread of communicable diseases.

7. Adequate insect and rodent control measures be applied vigorously and continually in disaster, support and occupied reception areas as soon as possible following a mass attack on the United States.

EVACUATION

1. The evacuation of women, children, the sick and aged from target areas be encouraged upon strategic or tactical warning of an impending mass attack.

2. Hospitalized personnel, including psychiatric patients, be evacuated from danger areas, prior or subsequent to a mass attack, the same as other individuals.

3. All welfare activities, to include feeding, clothing, and sheltering of evacuees incident to a mass attack, be the responsibility of welfare agencies.

4. Reception areas be sufficiently distant from target areas, errors in aiming considered, as to be reasonably safe from damage from a nuclear detonation and, to the extent possible from knowledge of prevailing winds, safe from radioactive fallout.

RADIOLOGICAL PRECAUTIONS

1. Under mass casualty conditions, monitoring for determination of radio-activity be performed by radiologically trained non-medical personnel, except in the area of medical installations, where medical personnel will make such determinations.

2. Under mass casualty conditions, determination of radiologically safe working areas and times be made by specially trained non-medical personnel in conjunction with radiological medical specialists, when available.

3. Following a nuclear attack on the United States, personnel engaged in the care and treatment of the survivors wear or carry film badges or individual dosimeters and that the medical units to which such personnel are assigned determine when maximum acceptable amounts of irradiation have been received.

4. Radioactively contaminated clothing, bandages, dressings, personal belongings and items of equipment that constitute a hazard to personnel be segregated at medical installations or disposed of by accepted methods, as appropriate.

MISCELLANEOUS

1. Medical and health personnel in disaster and support areas during the emergency period following a mass attack should provide the necessary services to meet local disaster situations.

2. For medical and health personnel in disaster and support areas caring for casualties and non-casualties during the emergency following a mass attack, policies and methods of compensation should be developed.

3. State medical associations recommended the appointment of state medical advisory committees to assist and advise state Civil Defense directors, governors and legislatures.

4. State Civil Defense medical plans be submitted to the appropriate Federal agency to enable determination to be made as to their adequacy and as to their integration with the plans of adjoining states.

5. Wearing of light colored clothing be encouraged when a nuclear attack is likely or subsequent to a warning that such an attack is impending, in order to decrease the likelihood of thermal radiation injuries.

6. Following a mass attack upon the United States, the handling and burial of the dead, to include records and personal effects administration, be accomplished by non-medical personnel in disaster and support areas.

STATEMENT OF THE PROBLEM

Prior to the successful detonation of the hydrogen (fission fusion) bomb in November 1952, and of the uranium (fission fusion fission) bomb in February and March 1954, medical aspects of civil defense planning had been concerned primarily

with mass casualty care, little or no thought having been given to the care and treatment of non-casualties. Civil defense had been considered more or less in the light of scattered atomic disasters with recuperative responsibilities largely a local matter. This was the apparent concept of the Congress, which stated in Public Law No. 920, 81st Congress (known as the Federal Civil Defense Act of 1950), its policy and intent to vest the responsibility for civil defense in the states and their political subdivisions.

With the advent of the larger weapons and the knowledge of their vastly increased destructive capabilities, civil defense began to take on a newer meaning—that of national survival with the capability of the surviving population to arise from the ashes of mass destruction and piece together the remaining segments of national economy to support the armed forces in waging war to a successful conclusion. Likewise, the medical problem began to assume correspondingly larger proportions in that under this concept medical care must now encompass not only the treatment and care of mass casualties but must be extended to include non-casualties as well. In addition, the medical problem would be further compounded by the tremendous loss of professional and non-professional medical personnel as well as a large percentage of existing medical facilities and large segments of the medical manufacturing industry. Medical planners in the Federal government (FCDA) thus became faced with professional facets which they felt only the medical profession itself could resolve. Included among these was the determination to what degree medical allied personnel such as nurses, dentists and veterinarians could participate in medical care techniques ordinarily reserved for physicians and what training they should have in peacetime to prepare them for such participation following mass attack.

It was with this in mind that on December 11, 1956, the FCDA, through the Director of its Health Office, proposed to the AMA, through its Council on National Defense, that under present thermonuclear bomb capacities casualty care per se could not be a single service but would, of necessity, merge into medical care for the surviving population as a whole, casualty and non-casualty. In furtherance of its contention, the FCDA mentioned Operation Alert 1956 as an example of the magnitude and complexity involved in the medical problem arising from a mass thermonuclear attack. As a result of Operation Alert 1956, there were 25 million casualties of which about 19 million died by the 90th day. There was a minimum of 40 million displaced persons forced upon the remaining 100 million population, as a logistical problem. There were 32,650 casualties among the physicians of the United States and 55,630 among its nurses. The loss of acute general beds was 37,300 and, in addition, 123,900 were rendered immediately unusuable because of radioactivity. There was a loss of 14,400 long term beds and 35,100 additional unusable

long term beds because of radioactivity. Thus, the loss of facilities under a pattern of mass attack would be tremendous and the potential loss of professional medical and related personnel would also be of large magnitude. The statement was made in that connection that there were 5,200 general hospitals in the United States, 3,500 of these being less than 100-bed capacity each and containing a total of 144,000 beds, while 1,700 are more than 100-bed capacity each and contain a total of 440,000 beds, the majority of which are located in the metropolitan target areas.

Because of the magnitude of the problem and its involving both casualty and non-casualty care, the FCDA proposed that the AMA, as the representative of organized medicine, become the primary contractor for a study of this problem and develop criteria needed as the basis of a plan for the treatment and care of the surviving population, both casualty and non-casualty, and the coincidental problem of public health and environmental sanitation that would be present under such circumstances.

On February 9, 1957, the Board of Trustees of the AMA authorized its Council on National Defense to proceed with the research project and to initiate a plan of study designed to establish criteria for the provision of medical care for the surviving population, casualty and non-casualty, in the event of an enemy attack upon this nation. The Association agreed to assume this unique and challenging project with the recognition that there is a real need and urgency for a solution of the problem; that it concerns the entire medical profession; and that it is an essential part of medical civil defense preparedness. It furthermore realized that individual physicians had the burden and final responsibility for fulfilling the medical and health requirements in time of grave national emergency.

CONTRACT PROVISIONS

Following the approval by the AMA of the proposals submitted by the FCDA, staff representatives of the two organizations met on several occasions to draw up a formal contract, which was signed on July 26, 1957.

The contract provides that the AMA "shall study, develop and recommend the planning, training and operational organization needed as a basis for a National Emergency Medical Care Plan for the treatment and care of casualties and non-casualties prior to, during, and after a hypothetical 20 megaton ground burst thermonuclear attack upon a selected geographical area or areas in the United States." It also calls for the AMA to:

1. Furnish advice and recommendations for an organizational plan which will result in the optimum medical care to the nation in the event of enemy attack.

2. Study and develop recommendations for the utilization of professional and non-professional personnel of the medical and related professions in a post-attack period to carry out the medical care plan.

3. Outline the basic role and emergency medical responsibilities of the medical profession in the immediate pre-attack and post-attack period.

4. Outline those functions and responsibilities of the medical profession that may be properly delegated and performed by paramedical personnel under the general direction of the medical profession.

5. Furnish advice and recommendations as to the training and education that is needed by all health personnel, professional and non-professional, so that they may be prepared for operational capability in the event of enemy attack.

6. Furnish advice and recommendations as to the post-attack sorting of casualties.

ACTIVATION OF THE PROJECT

For carrying out its responsibilities under the contract, the AMA created the Commission on National Emergency Medical Care and vested it with the authority and responsibility for planning, initiating, establishing and directing the study project.

The six-member commission was composed of two members each from the Council on National Defense and the Council on Medical Service and two physicians selected from the geographical area (Minneapolis-St. Paul) within which the field study of the project would be made.

COMMISSION MEMBERS AND STAFF

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Earle Standlee, M.D., *Staff Director*
Dean Schamber, M.D., *Assistant Staff Director*
Mr. Thomas G. Boardman, *Staff Assistant*

The Commission viewed civil defense not in the more common and limited concept of being "concerned mainly with rescue operations and services to stricken populations," but rather in its

broader concept of being a dynamic aspect of national defense with importance second only, if not equal, to that of military defense and concerned "with the whole complex of non-military activities necessary to prepare and mobilize the nation's economy against possible war, to survive and emerge from the ashes of attack, to maintain the continuity of government and essential production, to proceed toward partial recovery and then toward full resumption of peace-time pursuits." The latter concept was that which had been adopted by the Congressional Subcommittee on Military Operations in its studies of Civil Defense for National Survival.

ESTABLISHMENT OF TASK FORCES

From the beginning the Commission considered it essential to bring into the research study, on a participating basis, national health and medical organizations which would be directly involved in the medical management and care of the surviving population in the event of an enemy mass attack upon this country. After due consideration it was decided that such participation would, under the circumstances, best be effected by the establishment of appropriate Task Forces to assist the Commission in its study project.

This concept was concurred in by representatives of the following national organizations: American College of Surgeons, American Dental Association, American Hospital Association, American Nurses' Association, National League for Nursing, American Public Health Association, and the American Veterinary Medical Association.

Three Task Forces were established to assist the Commission in its studies of the items specifically called for in the contract.

TASK FORCE ON ORGANIZATION

The Terms of Reference of the Task Force on Organization called for two areas of consideration in its studies; first, that of a national organization with its mission, organizational structure, its position in the national plan, its channels of communication with delegation of responsibility and authority, and secondly, a local organization with its various elements of organizational structure, their functions and operational procedures. The following organizations participated through representation in this Task Force, under the general direction of the AMA Study Group: American Public Health Association, American Hospital Association, American Dental Association, American Nurses' Association, National League for Nursing, and the American Veterinary Medical Association.

TASK FORCE ON PERSONNEL TRAINING AND UTILIZATION

In its Terms of Reference, the Task Force on Personnel Training and Utilization was called upon to recommend the manner in which the various categories and numbers of health personnel surviving a mass attack could best be utilized to cope with the many varied and complex medical problems with which the nation would be immediately faced. It also called for recommendations for the development of policies, means, methods and programs for the training and education needed to prepare all health and medical personnel, professional and non-professional, for occupational capacity in the event of enemy thermonuclear attack. The following organizations participated in the studies of this Task Force: American College of Surgeons, American Academy of General Practice, American Public Health Association, American Hospital Association, American Dental Association, American Nurses' Association, National League for Nursing, American Veterinary Medical Association, and the American National Red Cross.

TASK FORCE ON EMERGENCY MEDICAL CARE

Terms of Reference for the Task Force on Emergency Medical Care called for consideration to be given to every possible means and method of casualty management that would provide optimum care under mass attack circumstances. It was also asked to consider the desirability and practicability of utilizing paramedical personnel to perform under the supervision and direction of physicians certain medical functions, particularly life-saving functions, ordinarily performed by physicians themselves. Its Terms of References pointed up the problem of triage or sorting, and the Task Force was asked to give consideration to the development of medical methods and means of maintaining the personnel resources of the nation with the maximum strength possible under the circumstances to assure the nation's survival. The following organizations participated in this Task Force's studies: American College of Surgeons, American Public Health Association, American Hospital Association, American Dental Association, American Nurses' Association, National League for Nursing, and the American Academy of General Practice.

DEVELOPMENT OF THE STUDY

In making its selection of a geographical area for study as called for in the contract, the Commission gave consideration to the Boston, Cincinnati, Kansas City, San Francisco, and Minneapolis-St. Paul area complexes. In selecting the Minneapolis-St. Paul complex, the Commission decided to conduct a comprehensive review of the planning, training and operational capa-

bilities of the Minnesota Civil Defense Program as a part of its field analysis. Among the reasons the Minnesota plan was selected for study were its high quality, thoroughness of preparation and its state of being recently prepared.

Utilizing the data obtained in the OCDM Operation Alert 1958 as it pertained to the test exercises in Minnesota, the Commission conducted an urban analysis of medical civil defense capabilities and conditions in the field area. Part of the analysis involved the matching of all available medical resources (personnel, facilities, equipment, and supplies) against the total medical requirements resulting from a hypothetical 20 megaton ground burst thermonuclear attack on the Minneapolis-St. Paul complex. The analysis included weather and terrain characteristics, local (municipal, county, and state) medical organizations for civil defense and their working inter-relationships, training program and techniques.

The Commission gave consideration to (a) immediate pre-attack plans to soften the attack through shelter and dispersal; (b) estimated casualty load and damage appraisal; (c) radiation fallout hazards; (d) establishment of operating units; (e) dispatch of first-aid and litter bearer teams for rescue operations; (f) triage; (g) immediate casualty care; (h) evacuation of patients; (i) impact of attack on the nonshelter area; and (j) later phase definitive casualty and non-casualty care.

Simultaneously with the institution of the field study phase of the project, the Commission collected, examined, classified, and evaluated a voluminous amount of data and findings. It reviewed published literature and state planning data from 39 states. It utilized the services of 58 medical, scientific and other expert persons from fields of endeavor germane to the study. Representatives of the OCDM also furnished advice and participated at all meetings of the Commission. It reviewed the comprehensive hearings on Civil Defense for National Survival conducted by the Military Operations Subcommittee, House Committee on Government Operations, and the report on organization for disaster published in February 1955 by the Commission on Organization of the Executive Branch of the Government. Reports of civil defense conferences, articles on the medical aspects of civil defense published in numerous medical and other scientific journals, pamphlets, bulletins and other literature published by agencies of the Federal government were included in the wealth of material examined and analyzed by the Commission in the preparation of the report.

Periodic meetings of the three Task Forces were held in Chicago to screen the tremendous amount of resource material which had been assembled and to develop a generalized plan outline pertaining to their respective assignments. Reports of the findings, conclusions, and recommendations of the Task Forces were submitted to the Commission.

In turn, the Commission held many meetings to review resource material, to receive advice from experts in many fields, to be briefed on numerous military and non-military preparedness topics, and to review and act on the reports of the Task Forces.

After approval and submission of the draft final report of the Commission, the Council on National Defense, in a special meeting held in Chicago on December 14, 1958, approved the report and recommended to the Board of Trustees that it be adopted and transmitted to the Office of Civil and Defense Mobilization.