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NATIONAL RESEARCH COUNCIL

Division of Medical Sciences

Conference on Postwar Research
18 April 1946

Bull Vet. Med. Prob.

Note: ^{1 p. 1-10}
(Minutes of pre-
liminary meetings)



The meeting was held in the National Academy of Sciences -- National Research Council building, Washington, D. C., with Dr. Edward D. Churchill, Harvard Medical School, Boston, as Chairman.

Those present were:

- Aberle, Dr. S. D., National Research Council
- Anderson, Dr. Otis L., U. S. Public Health Service
- Beecher, Dr. Henry K., Harvard Medical School, Boston
- Bennett, Dr. Geo. E., Johns Hopkins University School of Medicine, Baltimore
- Benson, Col. Otis O. Jr., Hq. Army Air Forces
- Cutler, Dr. Elliott C., Harvard Medical School, Boston
- DeBakey, Col. Michael E., Office of Surgeon General, U. S. Army
- Dorn, Major Harold F., Office of the Surgeon General, U. S. Army
- Dowling, Capt. G. B., Bureau of Medicine and Surgery, U. S. Navy
- Dublin, Dr. Louis I., Metropolitan Life Insurance Co., New York
- Dyer, Dr. R. E., Ass't Surgeon General, U. S. Public Health Service
- Felix, Dr. R. H., U. S. Public Health Service
- Grow, Maj. Gen. Malcolm C., Air Surgeon, Army Air Forces
- Gilmore, Capt. F. P., Bureau of Medicine and Surgery, U. S. Navy
- Hamilton, Eugene L., Office of the Surgeon General, U. S. Army
- Heisser, G. J., Statistician, Bureau of Medicine and Surgery, U. S. Navy
- Ivy, Dr. Albert C., Northwestern Medical School, Chicago
- Karsner, Dr. Howard T., Western Reserve University School of Medicine, Cleveland
- Kubie, Dr. Lawrence S., New York
- Loeb, Dr. Robert F., Columbia University College of Physicians and Surgeons
- Long, Dr. Perrin H., Johns Hopkins University School of Medicine, Baltimore
- Magee, Maj. Gen. James C., National Research Council
- Magnuson, Dr. Paul B., Veterans Administration
- Mallory, Dr. Charles R., U. S. Public Health Service
- Menninger, Brig. Gen. W. C., Office of the Surgeon General, U. S. Army
- Morgan, Dr. Hugh, Vanderbilt University, Nashville, Tennessee
- Ney, Dr. Joseph, National Research Council
- Oughterson, Dr. A. W., American Cancer Society, New York
- Owen, Dr. G. C., Veterans Administration
- Owen, Dr. Philip S., National Research Council
- Pepper, Dr. O. H. P., University of Pennsylvania School of Medicine, Philadelphia
- Powell, Col. W. H., Army Air Forces
- Simmons, Brig. Gen. James S., Office of the Surgeon General, U. S. Army
- Sofield, Dr. Harold A., Chicago
- Spurling, Dr. R. Glen, Louisville, Kentucky
- Still, Dr. J. W., Veterans Administration
- Stone, Col. W. S., Army Air Forces

Walker, Dr. A. M., Veterans Administration
Ware, Capt. R. C., Bureau of Medicine and Surgery, U. S. Navy
Weed, Dr. Lewis H., Chairman, Division of Medical Sciences, National Research Council
Whitehorn, Dr. John C., Johns Hopkins University School of Medicine, Baltimore
Winternitz, Dr. Milton C., Yale University School of Medicine, New Haven, Connecticut
Woodhall, Dr. Barnes, Duke Hospital, Durham, North Carolina

Dr. Churchill called the meeting to order and asked Dr. Weed to explain its purpose.

Dr. Weed reviewed briefly the events which led to the calling of this conference. The conference was first envisaged by the Surgeon General of the United States Army, Maj. Gen. Norman T. Kirk, who discussed the organization and purpose of such a conference in a letter addressed to Dr. Frank B. Jewett, President, National Academy of Sciences, dated 12 March 1946. General Kirk suggested that a conference be arranged between representatives of the National Academy of Sciences, the National Research Council, and the Surgeons General of the U. S. Navy, U. S. Army, and U. S. Public Health Service, and the Chief Medical Director of the Veterans Administration to discuss the desirability of and the means for continuing into the postwar period the organization of wartime activities of the National Research Council in its relation to the Federal medical services. One of the specific purposes would be a project to establish a long-term follow-up clinical research program on Army material described in a memorandum by Col. M. E. DeBakey, dated 5 March 1946, a copy of which was inclosed in General Kirk's letter to Dr. Jewett.

A preliminary conference called at the suggestion of General Kirk was held on 29 March 1946. At that meeting it was agreed that strong efforts should be made immediately to continue the services of the National Research Council and that plans to this end be formulated. To initiate the program it was suggested that a conference be called to discuss the specific problem referred to in Colonel DeBakey's memorandum.

As a result of the meeting on 29 March 1946 the Division of Medical Sciences of the National Research Council called this second conference to discuss the proposed program of clinical research and long-term medical investigation and follow-up studies on clinical material which had accumulated in hospitals of the Armed Forces during the recent war. Dr. Weed indicated that the primary purpose of the present conference was to explore the desirability and the feasibility of the program outlined by Colonel DeBakey.

The Chairman then asked Colonel DeBakey to present the memorandum in which this program was proposed. The following text was read by Colonel DeBakey:

1. During the period beginning with the mobilization of the Army in 1940 and continuing to date, an enormous amount of material of great clinical value has accumulated in the records kept in Army hospitals and dispensaries and in medical installations of other branches of the Armed Forces. It can fairly be said that no similar amount of material has ever been accumulated, and it is doubtful whether a similar amount will ever again be available.

2. Furthermore, the rigidly controlled Army system of personnel and records has made this material unusually complete. This is particularly true of records of patients who had to appear before boards for disposition and who for that reason were usually studied very intensively.

3. It is suggested that this accumulation of material should be turned to practical use by the establishment of a clinical research program, including a follow-up system to determine the natural and post-treatment history of such diseases and conditions as might be selected for the study. Failure to establish such a system would result in an incalculable loss to clinical medicine, as well as to the Armed Forces. From the standpoint of military medicine, the findings would furnish a rational basis for the development of professional procedures and operational policies and would indicate the wisdom of inducting men with certain disabilities because factual data would be available as to their usefulness while in service and as to their pension rights after their separation from the service.

4. A recollection of the manpower shortages and other difficulties which frequently occurred in World War II will make clear the usefulness of such data. The military value of follow-up studies was repeatedly proved during the course of that war. Follow-up studies on pilonidal sinus in 1944 showed that existing policies as to surgical treatment were wasteful of manpower and that a change toward a more conservative policy would save over 435,000 man-days per year. A similar study on herniated nucleus pulposus radically altered the management of that condition, and other studies had equally valuable results.

5. Peptic ulcer is an illustration of a condition which has not been, but could be, investigated with value both to clinical medicine and to the establishment of policies in the Armed Forces. A follow-up study of cases identified in military personnel would establish the incidence of the disease in certain age groups and the proportion of cases which might be expected to go on to perforation, hemorrhage, cicatrization and other complications over given periods of time. It would probably settle the disputed question as to whether or not benign peptic ulcers undergo malignant changes. It would undoubtedly establish the results of various forms of treatment in respect to mortality, morbidity, recurrence and long-term disability. These and other data, departing from a given base line and followed up over long periods of time, dispassionately and in the absence of special pleading, have never been available.

6. Similar studies could be made of numerous other conditions such as internal derangements of the knee, chronic osteomyelitis, bone defects, head injuries, pulmonary suppuration, bronchiectasis, foreign bodies in the lung, peripheral vascular insufficiency, malignancies of certain types and in certain parts of the body, and peripheral nerve injuries. At the present time the only one of these conditions in which follow-up studies are being conducted is peripheral nerve injuries. The valuable information gathered from the Peripheral Nerve Registry established in 1944 emphasizes the potential importance of the program proposed. At the clinical research level it furnishes an opportunity to provide an investigative program in which the entire medical profession could participate and from which all would profit.

7. In general, the following plan might be followed:

a. The project would preferably be a joint undertaking of the Army and Veterans Administration.

b. It could perhaps be set up as a project under the National Research Council and assigned to various subcommittees, as was done with such success in other undertakings in World War II. Whether or not this was done, however, a most important consideration would be the appointment of a carefully selected committee to initiate the project, determine its extent, establish methods of procedure, and exercise a general supervisory function.

c. It could be financed by grants from the proposed National Research Foundation, legislation for which is now pending, or by a Federal subsidy, depending upon the set-up.

d. An adequate sample of the mass of material available in each category selected for study would be made from the available material. The records would be photostated and the original records returned to storage for use as other needs for them arose.

e. The length of the follow-up would be determined upon for fixed periods of time, and in some instances for life, according to the nature of the condition to be studied.

f. Contacts would immediately be made with the patients in each category through the Veterans Administration, the Army, civilian hospitals, social agencies, and civilian physicians. The mechanism now exists for follow-up studies on patients in the Army hospital system or returned to duty, though it has not been fully utilized for a variety of reasons and it is obviously self-limited.

8. Other details of procedure could be worked out by a survey of the problem and the formulation of detailed objectives. It is suggested, however, that, if such a project is initiated, there should be no delay in setting it in motion, while clinical material to be used in the program is still readily available.

The Chairman then opened the program for discussion.

Dr. Morgan emphasized in his discussion the immense value of such a program and referred briefly to various conditions in internal medicine which might be studied to great advantage. He exemplified the value of such studies by reference

to the cardiovascular follow-up study which had recently been completed.*

General Menninger stated that in the field of neuropsychiatry there would be great need for studies of this nature. He referred briefly to a number of conditions that are not well understood, in which follow-up studies would be essential. The subjects included combat-incurred psychoneuroses, in which little is known concerning the prognosis; recovered psychotic patients, in order to determine whether they maintained their recovery; normal men exposed to great strain; war heroes of whose personality and characteristics little is known; and individuals discharged without honor, or dishonorably. General Menninger considered that it was of the utmost importance to make studies of this nature in the field of neuropsychiatry.

General Simmons emphasized the great importance of studies in the field of preventive medicine. He referred to some of the conditions in which studies of this kind would be particularly important, including infectious hepatitis, coccidioidomycosis, typhoid carrier states, rheumatic fever, diphtheria, infectious encephalitis, tuberculosis, malaria, kala azar, schistosomiasis, filariasis, amebic dysentery, atypical lichen planus, syphilis, lymphogranuloma venereum, granuloma inguinale, and gonorrhoea. He stated that, in general, data to be shown in the disease follow-up should include the results of observations to determine the duration of life of individuals with the various conditions, the number and severity of recurrences when these facts were applicable, the occurrence of other conditions related either directly or remotely to the basic condition, the types and results of therapy, and the effects of the conditions in question upon the individuals' general health, well-being, and ability to follow gainful occupations.

*Fenn, G. K. et al. Re-examination of 4,994 men rejected for general military service because of the diagnosis of cardiovascular defects. American Heart Journal, 1944, 27: 435-501.

Hillman, Charles C., et al. Studies of blood pressure in army officers. J.A.M.A., 1944, 125: 699-701.

Levy, Robert L. et al. Report of reexamination of 4,994 men disqualified for general military service because of the diagnosis of cardiovascular defects. J.A.M.A., 1943, 123: 937-944, 1029-1035.

Levy, Robert L. et al. Transient hypertension; its significance in terms of later development of sustained hypertension and cardiovascular-renal disease. J.A.M.A., 1944, 126: 829-833.

Levy, Robert L. et al. Transient hypertension; the relative prognostic importance of various systolic and diastolic levels. J.A.M.A., 1945, 128: 1059-1061.

Levy, Robert L. et al. Transient tachycardia. J.A.M.A., 1945, 129: 585-588.

Captain Dowling stated that it was important to undertake studies of this nature as soon as practicable methods could be found for doing so. He felt that the first problem would be to ascertain which group had a paramount interest in the program; that in turn should determine who might be responsible for financing the project, and for selecting the principal investigators as well as the other personnel. One of the most difficult hurdles to be overcome is the difference which exists in the nomenclature and filing systems among the several services. There must be developed some unification of the various nomenclatures either by unifying the terminology or developing a key. The exact method to be used in working with the records will depend upon the availability of the records themselves and the size of the project.

General Grow concurred in the previous statements as to the importance of such a program and stated that there were certain problems in aviation medicine in which follow-up studies would be particularly valuable. These include otologic disturbances caused by noise and barometric changes, the problem of aero-otitis media, the possible effects of flying on the development of urinary calculi, peptic ulcer and sinus diseases.

Dr. Woodhall emphasized the value of follow-up studies in neurosurgery. He briefly referred to the establishment of the registry of peripheral nerve injuries in November, 1944, in the Office of The Surgeon General and described its operation. He stated that, at the present time, 7,050 cases of peripheral nerve injury in which repair had been done were included in this registry and that the follow-up studies already made in this subject had provided new information of great value.

Dr. Magnuson agreed with the previous speakers regarding the value of the proposed program and stated that the Veterans Administration was ready to provide funds to carry it out and to support the organization which the National Research Council might establish. He referred briefly to certain defects that might be encountered in identifying and utilizing the records but said that he did not feel that this was a serious deterrent to carrying out the program.

Dr. Cutler believed that there was no question about the desirability of this program and said that the important consideration was the development of effective means for its implementation. He referred to the establishment of large centers in the Veterans Administration hospital system for specialized studies, such as centers for neoplasms of the lung, traumatic epilepsy, plastic surgery, paraplegia, etc. These centers would be established in various parts of the country so as to provide good geographic distribution and would be staffed with proper personnel. He also mentioned the importance of finding out the subsequent history of individuals not inducted into the Army because of physical disability and felt that such studies might provide better standards for induction.

General Menninger stated that plans had been set up for following up individuals first classified as 4-F, and later, because of the lower physical standards adopted by induction centers, taken into the Army.

Dr. Dyer of the U. S. Public Health Service strongly emphasized the value and importance of a follow-up program of this kind. He stated that here was an opportunity to follow a whole generation of men and trace their life history and that such an opportunity was unparalleled.

Dr. Dublin further emphasized the importance of this program. He stated that there was nothing comparable to this opportunity in the entire world and that to miss it would be utterly tragic. He stated that while insurance companies had been able to do some work of this nature, it was indeed small compared to what might be done with material that exists in the Army and the contribution that might be derived from long term statistical studies. He recalled that after the first World War an effort was made to inaugurate such a program but that the effort proved fruitless. He considered it absolutely essential to organize properly for this work, and said that in the organization a broad conception should be maintained. He believed that the organization within the National Research Council could be used most effectively; that while the details could be worked out later, it was desirable now to conceive of the study in broad terms. He emphasized, however, the vital need to have in the center of this operation highly skilled personnel. It is a type of job which cannot be done by the ordinary physician. It should be guided throughout by one thoroughly trained in statistics and record-keeping so that the program can be done in an orderly fashion. He emphasized particularly the initial organization and the need for personnel with these specialized skills.

Dr. Loeb also emphasized the importance of this program and called attention to the need for orderly arrangement of the records for the Veterans Administration.

Dr. Oughterson stated that here was a tremendous opportunity for epidemiological studies in the cancer field and for a study of economic factors as they influenced the effectiveness of diagnosing and treating cancer. He referred to special studies that might be made, for example, on testicular tumors and cancer of the lung. He referred to future problems pertaining to the atomic bomb and its possible long-term carcinogenic effects, as well as its effects on germ plasm. Only by follow-up studies could problems of this kind be properly evaluated.

Dr. Pepper referred to a "Report of a Survey of Medical Records Created by the Federal Government" prepared by the National Archives in collaboration with the Committee on Medical Records of the National Research Council, January 1945, which surveyed records created within approximately the past 30 years. Dr. Pepper read the conclusions and recommendations of this report (pp. 11-12) as follows:

- "1. The records which we have considered do not contain material for future research of such quality and kind as to justify the expense of preserving, indexing, and servicing them specifically for research use.
- "2. The records are not considered valuable for actuarial research.
- "3. Since the majority of these documents must be retained for administrative purposes, a records office should be established under the direction of the National Archives Establishment, in or near Washington, for the care of noncurrent personal records.
- "4. After the war emergency, efforts should be made to standardize practices of medical record keeping throughout the Government services.
- "5. A permanent joint committee of experts should be formed and charged with advising Federal agencies on matters pertaining to medical records."

Dr. Pepper felt that it was desirable to establish the degree of accuracy of records beyond which they would be considered too unreliable to be of use in research. As a special problem he suggested that the life expectancy among individuals with multiple immunization might well be studied.

Colonel Still referred to the report of the Survey of Medical Records and the conclusions of the report read by Dr. Pepper, stating that it should be made clear that the records of the war just concluded do have a clinical value and that he personally felt that they also have research value. He stated that there were two principal things to be done, however, in order to utilize them effectively; first, the centralization of all the records, including those of the Army, Navy, and Veterans Administration, and, second, some means whereby the records in the Veterans Administration could be correlated with the records of the same individuals when they were under Army and Navy control, since record keeping in the three agencies differed.

Major Dorn, commenting upon the report read by Dr. Pepper, stated that the records are as good as the doctors who make them out and that these are the same doctors who have made out records in civilian life. The records therefore varied in adequacy and excellence but, in general, they were certainly no worse than the records in civilian hospitals in this country. The use of these records for research purposes would depend upon the type of research that might be planned; in the Army's experience their use for follow-up purposes has shown that they are adequate. Thirty million records, he said, were being transferred to St. Louis and they should be filed by December 1946. The home address of each man when he left the Army was part of the record.

Dr. Karsner stated that pathologic records of the Army were adequate for research of this kind. He referred briefly to the Committee on Pathology of the National Research Council and its recommendations to The Surgeon General and to the general registries of pathology which had been established in the Army Institute of Pathology. He also mentioned the plans for staffing the Army Institute of Pathology with skilled personnel and felt that it should play a vital role in this program.

Dr. Beecher emphasized the potential value of the preclinical records; he felt that for certain purposes they would be most useful.

Dr. Dublin stated that it was not necessary to think in terms of totality of records, that it was quite conceivable that all the records could not be used but that this would not vitiate the value of the type of studies here considered because of the magnitude of the material.

Dr. Spurling further emphasized the value of this program for neurosurgery and cited the following illustration as an example: Of some 10,000 patients with penetrating wounds of the brain in the Army, most have been discharged. About 40 per cent of these patients have subclinical epilepsy and about 20 per cent manifest clinical epilepsy. The treatment of epilepsy is still in a nebulous state, with no unanimity of opinion regarding the most desirable form of therapy; this is a golden opportunity for studies on the problem. He felt that the investigation should be started as soon as possible and that it could be best implemented through the organization of the National Research Council.

Dr. Churchill pointed out that many of the questions being discussed were of an operational character and said that it was evident that there was need of an operational agency. He wished to bring up for discussion the question as to whether the National Research Council might not be a good, balanced agency to guide and direct the administrative agency.

Dr. Magnuson stated that the Veterans Administration was prepared to supply funds to permit the National Research Council to continue to provide advice on the research projects which might be developed. He thought that this might well be the first project with which the National Research Council should concern itself and that plans should be developed to set up the ways and means to implement the program. He would like to see a carefully selected committee begin work on this problem.

Dr. Whitehorn: The study being contemplated would provide for psychiatry much data unobtainable at present. In addition to the points already mentioned, it would be of inestimable help to the psychiatrists if some evaluation could be obtained of the performance of the units to which the men and officers under observation were attached.

Dr. Kubie stated that good follow-up work can be done in the face of defective records if the individual himself is available and can supplement the omissions. He emphasized the need for close interchange of information among the various Federal medical services.

Dr. Ivy stated that he was most enthusiastic about this program. He felt that the difficulty of the problem should not deter attempts to solve it. The first matter to be settled in the program was organization. He stated that the opportunity existed not only to study the natural history of disease but also to do laboratory research upon disease. Adequate facilities for doing such work exist in both the Army and the Navy hospitals but there is need for personnel. He declared that money was not a serious problem; funds could be found if the medical program which was established was a good one, and it would be easy to obtain funds from Congress with a good medical research program.

Dr. Long considered that this was an unparalleled opportunity to study the natural history of disease.

Dr. Bennett also emphasized the value of this program and the great opportunity that existed, particularly in the study of orthopedic problems. The great wealth of material amassed in Army and Navy hospitals provides an exceptionally good opportunity to study these problems.

Dr. Winternitz stated that this was the most inspirational meeting he had ever attended and called attention to the fact that from 10 to 12 per cent of the population in the United States and from 10 to 12 per cent of their life expectancy were represented in the records of the Armed Forces during the period of the war. He felt that a study of this kind would show how good and how bad these records were, and that from it might come some recommendation for revision of the record system; that there might arise from this study a more effective plan or system for recording good and pertinent data. Of particular importance, too, was the potential influence of a program of this kind upon medical education.

Dr. Sofield again emphasized the value of the proposed program and in discussing the records stated that in his experience they were, in general, better than some of the records he had seen in some of the best civilian hospitals. He stated that the percentage of error in studying records of this kind naturally depended upon the numbers involved and that fortunately the vast numbers of cases could minimize this percentage of error. He felt that in most instances these records would be adequate for the type of follow-up study suggested. He referred to a number of problems in orthopedic surgery in which such a program would be extremely desirable. He then asked the specific question: "Would a committee formed under the National Research Council for carrying out this program be welcomed by the Armed Forces, the Public Health Service, and the Veterans Administration?"

In answer to Dr. Sofield's question, Dr. Magnuson stated that he was authorized to speak for General Hawley in this regard and that the Veterans Administration not only would welcome this program but was very much interested that it be done in this manner.

Colonel DeBakey stated that he could speak for General Kirk in this regard and that it was also General Kirk's wish that the program be implemented through the National Research Council.

Dr. Dyer stated that while he had not discussed this matter with The Surgeon General of the United States Public Health Service, he personally had a great interest in it; he believed that The Surgeon General would continue to cooperate completely and effectively with the National Research Council in carrying out a program of this kind.

Dr. Churchill appointed Dr. Morgan, Dr. Karsner, and Dr. Pepper to draft a resolution during the lunch hour, in which the consensus of the conference might be expressed.

Immediately after the lunch hour the following resolution prepared by this committee was read:

"WHEREAS during World War II there has accumulated a wealth of medical material of great potential scientific importance, including records and observations on patients and pathological specimens, and

"WHEREAS the continuing study of this material is possible in the Veterans Administration hospitals as well as in the hospitals of the United States Army, the United States Navy, and the United States Public Health Service, and elsewhere, and

"WHEREAS an unexcelled opportunity thus exists to gain from this material information of the utmost value to medical science,

"THEREFORE this conference group recommends to the National Research Council the appointment of a committee to explore the most effective means by which a medical research program utilizing this material can be carried out, to the end that the care of patients, the investigation of disease, and the improvement of medical practice and education be advanced."

On a motion presented by Dr. Morgan and seconded by Dr. Karsner, THE RESOLUTION WAS UNANIMOUSLY ADOPTED.

The meeting was adjourned at 2 p.m.