DEPARTMENT OF DEFENSE
ARMED FORCES EPIDEMIOLOGICAL BOARD

AFEB
THE EXECUTIVE SECRETARY
ARMED FORCES EPIDEMIOLOGICAL BOARD
OFFICE OF THE SURGEON GENERAL
DEPARTMENT OF THE ARMY
WASHINGTON, D. C. 20315

8 December 1966

MEMORANDUM FOR: THE SURGEON GENERAL
DEPARTMENT OF THE ARMY
WASHINGTON, D.C. 20315

SUBJECT: Proposed Respiratory Disease Study

The Armed Forces Epidemiological Board, in executive session on 6 December 1966, approved the following statement of the Commission on Acute Respiratory Diseases:

The Commission has reviewed the letter (MEDPS-PM) regarding a "Proposed Respiratory Disease Study" addressed to the Executive Secretary of the Armed Forces Epidemiological Board by The Surgeon General, Department of the Army, on 8 November 1966. The proposed study was also reviewed by the Commission on Influenza at its annual Fall Meeting on 14 November, and by the Director of the Commission on Streptococcal and Staphylococcal Diseases. The following represents a summary and synthesis of the comments of individuals representing these Commissions.

The proposed plan was initiated at the request of the Deputy Commanding General, CONARC, and it is noted with gratification that the Chief of Staff is genuinely interested in the important subject of housing. Those responsible for recruit training have an understandable interest in preserving unit integrity, and note that this can be accomplished by placing 55 men in a 48 man barracks. Instead of housing a partial platoon at the recommended 72 square feet of sleeping space per man, one full platoon could be billeted in a World War II barracks if the space were reduced to 62-66 square feet per man. The advantages of maintaining platoon integrity by this mechanism are obvious, and the study proposes to determine whether there would be significant differences in total respiratory disease rates between basic trainees housed at 72 square feet per man and trainees housed at 62-66 square feet per man. The basic trainees under study would be those housed in World War II barracks at Fts. Bragg, Polk, and Lewis. At any one time, at any one post there would be some 750 men under observation.

It is the consensus of opinion that the study as proposed is not likely to yield any useful information, and there is danger that the data accumulated will be misinterpreted both now and in the future. The following specific criticisms are offered:

1) Respiratory disease rates are currently low at the 3 posts considered.

2) The number of recruits under observation at any one time is too small.

3) The range of differences in square footage per man (72 square feet _vs._ 62 square feet) is considered too small for a valid test of the influence of crowding on respiratory disease rates.

4) A study of housing requires more detailed plans of actual bed spacing and some control or standardization of the mixing of the men outside of barracks.

5) Crude respiratory disease rates could be calculated, but it is most desirable to have some idea as to the etiology of the disease occurring in the various study units; by chance, all of the diseases occurring in basic trainees may at times be limited to one company, and indeed to one barracks.

6) Low incidence of streptococcal infection should not bias the studies, and should simplify observation of other forms of respiratory disease.

7) Oral type 4 adenovirus vaccine is still being used on an experimental basis, and adequate laboratory surveillance should be available to those bases where trials are in progress.

In summary, it is desirable to have knowledge of the agents responsible for infection, and it seems problematical that significant differences in respiratory disease rates would be detectable in a study of the proposed magnitude. It is estimated that at least 8,000 men would have to be observed simultaneously at a time when differences in the rates of persons occupying different footage would exceed 10% in order to give statistical validity to the findings.

As repeatedly emphasized by the Armed Forces Epidemiological Board, studies of the influence of housing on illness are highly desirable. Such studies require extremely sophisticated research plans and extensive laboratory support; they must consider the entire complex of environment, including the psychological as well as the physical aspects of recruit training. Many of the complexities of such studies are illustrated by material contained in reports of the Laboratory on Housing and Illness at Sampson Air Force Base. These reports were prepared by Dr. Harold Houser, Director of the Laboratory, and appear in the Annual Reports of the Commission on Acute Respiratory Diseases for 1956, 1957, and 1958. A report by Dr. Clifton Rhead of a pilot study on the relationship among troup housing, emotional health of troups, and group morale was included in the Commission's report in 1956. Dr. Houser's final report, submitted in the Commission's Annual Report in 1961, includes an outline of a study plan for a definitive approach to the study of the relationship of military housing to respiratory disease. Additional information regarding such studies is included in a memorandum of 20 April 1956 from the AFEB to The Surgeon General, Department of the Army, Chief, Bureau of Medicine and Surgery, Department of the Navy, and the Surgeon General, Department of the Air Force. Finally, it is noted that the need for studies of the ecology of recruit training was most recently emphasized in a letter from the President of the AFEB, dated 11 April 1966, to The Surgeon General, Department of the Army, outlining work that might be conducted in a meningococcal field laboratory as suggested by the Committee on Meningococcal Infections of the Commission on Acute Respiratory Diseases.

All Commissions involved are encouraged and pleased by the interest of the Chief of Staff, and are hopeful that they can be of continued assistance to the Department of Defense.

FOR THE ARMED FORCES EPIDEMIOLOGICAL BOARD:

Sidney A. Britten

SIDNEY A. BRITTEN
Captain MC, USN
Executive Secretary

Copies furnished:
- Board Members
- Commission Directors
- Surgeon General, D/N, D/AF
- DASD (H&M) (2)
- Chief, PMD, D/A, D/N, D/AF (4)