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UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

FEDERAL PERSONNEL AND
COMPENSATION DIVISION

B-196320

MARCH 17, 1982

The Honorable Melvin Price
Chairman, Committee on Armed Services
House of Representatives

Dear Mr. Chairman:

Subject: DOD and Rand Corporation Studies Do Not Provide an Adequate Basis for Deciding on a Military Physician Assistant Grade Structure (FPCD-82-36)

This is in response to your September 25, 1981, request that we review the use of physician assistants within the Department of Defense (DOD). Specifically, you asked that we review and analyze the conflicting findings and recommendations of two independent studies of the physician assistant grade structure; one study was conducted by DOD, 1/ and the other was conducted for the Air Force by the Rand Corporation. 2/ You pointed out that the Army, Navy, and Air Force each have different grade structures for physician assistants, and you were concerned about the need for uniformity among the services.

We have concluded that neither DOD's Health Affairs study nor the Rand Corporation study provides an adequate basis for

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1/"Report on the Grade Structure of Physicians Assistants in the Military Health Care System," Office of Planning and Policy Analysis, Office of Assistant Secretary of Defense (Health Affairs), January 1979.

2/Susan Hosek, "Potential Civilian Earnings of Military Physician's Assistants," The Rand Corporation, February 1980 (N-1342-AF).

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making a decision on whether physician assistants should be commissioned officers, warrant officers, or noncommissioned officers, or what the grade structure should be within any one of these options. Furthermore, neither study adequately addresses the pros and cons of requiring a uniform grade structure among the three services.

Our conclusions are based on the fact that both studies contain significant deficiencies with regard to their scope and analytical methodology. DOD's Health Affairs study, although recommending a uniform warrant officer grade structure, was, in essence, a recitation of individual service positions without any independent verification of the services' assumptions or analyses. The Rand Corporation study was limited in scope in that it attempted to support the Air Force's position that physician assistants should be commissioned officers by comparing potential civilian and military earnings. The Rand Corporation study failed, however, to take into account the full range of military pay options or other factors such as command authority, educational level, role, and responsibility. Furthermore, the data used in the Rand study were somewhat dated even when published and, in our opinion, the data used in both studies no longer reflect current conditions.

The key question in the debate over the appropriate grade structure for physician assistants seems to center on how to attract and retain the number needed by each service in the most cost-effective manner. Since each service is currently attempting to solve this problem in somewhat different ways, and since neither the DOD Health Affairs nor the Rand Corporation study provides definitive answers, the committee could capitalize on the current differences among the services by tasking DOD to collect and analyze data on the actual annual and projected lifecycle cost and on the recruiting and retention effectiveness of each method currently being used by the services in carrying out their respective programs. At the completion of a reasonable period, both DOD and the Congress would be in a position to make a well-reasoned decision on the most cost-effective and appropriate grade structure.

The enclosure to this report contains more detailed information on our analysis of the DOD Health Affairs and the Rand Corporation reports regarding military physician assistant grade structure. This enclosure also contains our objective, scope, and methodology.

As your office requested, we did not obtain comments from DOD on this report. As arranged with your office, we are sending copies of this report to the Secretaries of Defense, Army, Navy, and Air Force and to other interested parties.

Sincerely yours,

Clifford I. Gould
Director

Enclosure

DEFENSE STUDIES DO NOT PROVIDE AN ADEQUATE BASIS FOR DECIDING ON A MILITARY PHYSICIAN ASSISTANT GRADE STRUCTURE

OBJECTIVE, SCOPE, AND METHODOLOGY

As requested, our objective was to determine the adequacy of DOD's Health Affairs study and the Rand Corporation's study. We performed our review from November 1981 to February 1982 in the Washington, D.C., area. We obtained data and interviewed officials of the Office of the Assistant Secretary of Defense (Health Affairs); the Offices of the Surgeon General, Departments of the Army and the Air Force; the Office of the Chief, Bureau of Medicine and Surgery, Department of the Navy; the Rand Corporation; and the American Academy of Physician Assistants. The workpapers for the two studies were not available to us; therefore, we based our analysis upon the data contained in the two reports, supplemented with interviews when possible. We used generally accepted statistical techniques to analyze the two studies and performed our review in accordance with the General Accounting Office's (GAO's) current "Standards for Audit of Government Organizations, Programs, Activities, and Functions."

Our study was limited to analyzing the adequacy of the two studies and did not include an independent GAO analysis of the most appropriate rank, grade, or pay structure for military physician assistants.

BACKGROUND ON THE DEBATE OVER PHYSICIAN ASSISTANTS GRADE STRUCTURE

As a result of increasing shortages of military primary health care physicians (a phenomenon that was occurring Nationwide), the Army, Navy, and Air Force each established a physician assistants program during 1971 and 1972. The programs were designed to increase the physician's productivity by having assistants perform a wide variety of health care tasks which do not require a trained physician. The physician assistant is a trained generalist who, under supervision of a physician, provides limited general medical care including diagnosis, treatment, and the writing of prescriptions within specified limits. At the time of our review, DOD was authorized 1,148 physician assistant positions distributed among the services as follows: the Army, 400 positions; the Navy, 303 positions; and the Air Force, 445 positions.

Since the physician assistant programs first began, the services have not used a uniform grade structure. Both the Army and Navy decided to use warrant officer grades, whereas the Air Force decided to use enlisted grades E-6 through E-9 for its program. According to the Air Force, one of the reasons it did not use warrant officer grades was because it had discontinued its warrant officer program in 1959 and did not think it would be cost-effective to reintroduce it for physician assistants. In April 1978, the Air Force began commissioning physician assistants who had received baccalaureate degrees.

The Air Force's decision to commission physician assistants caused the disparity in grade structure among services to come to the attention of the House Committee on Appropriations. As a result, the committee asked the Secretary of Defense to report on the economic benefits of appointing physician assistants under various grade structures and to justify the Air Force's decision to commission physician assistants. In January 1979, the Office of the Assistant Secretary of Defense (Health Affairs) issued its report which did not support the Air Force's decision and recommended that all the services use warrant officer grades. The study indicated general consensus among the services that enlisted grades for physician assistants were inappropriate. As a result of this report, beginning in fiscal year 1980, the Air Force was restricted to granting commissions only to those physician assistants who had already been guaranteed commissioned status. Also, physician assistants would not be able to be promoted to a grade higher than 0-4. These restrictions were extended through fiscal year 1981. As a result of these restrictions, the Air Force suspended plans to expand the physician assistant program, stopped all recruiting of civilian trained physician assistants, and did not allow new students to enter its in-service training program.

In response to the DOD Health Affairs report which did not support the Air Force position, the Air Force contracted with the Rand Corporation for a limited study to estimate how much military physician assistants could earn in the civilian economy as compared to the amount they could earn as commissioned and warrant officers. In essence, the Rand Corporation study supported the Air Force's decision to commission its physician assistants. As a result of this study, the restrictions placed on the Air Force were partially lifted in fiscal year 1982. The fiscal year 1982 DOD Authorization Act (Public Law 97-86, Dec. 1, 1981) now requires the Air Force to appoint physician assistants as commissioned officers. The restriction on advancement beyond the grade of 0-4 was retained.

Service arguments concerning appropriate physician assistant grade structure

Each service put forth various arguments to support their positions concerning the most appropriate physician assistant grade structure for their particular service. The positions taken and the rationale to support these positions are summarized below.

Army and Navy position

Both the Army and the Navy believe that warrant officer grades are appropriate for physician assistants because:

--Physician assistants are highly trained technicians as are the other warrant officer groups within the two services. Their responsibilities do not, and are not meant to, include management and administrative duties expected of a commissioned officer.

--Warrant officer physician assistants can more easily establish rapport, and relate to, understand, and work with both officer and enlisted personnel in both on-base medical facilities and field units.

--Warrant officer physician assistants provide an important upward mobility program for enlisted medical personnel.

--Warrant officer educational criteria is more in line with private sector physician assistants' educational requirements. In the private sector, as in the warrant officer ranks, an individual is not required to have a baccalaureate degree to be a certified physician assistant.

--Warrant officer pay is competitive with the pay offered physician assistants upon entering the Veterans' Administration, the Public Health Service, or other Federal civil service and is also competitive with the pay and benefits in the private sector when military retirement and other benefits are considered.

--Warrant officer status had not caused a morale problem with Army or Navy physician assistants, at least not until the Air Force began commissioning physician assistants.

Air Force position

The Air Force believes that commissioning physician assistants is appropriate because:

--The physician assistants' level of education required to obtain the position and their required continuing education is similar to the education and training levels required for other commissioned officer health care providers such as nurses, therapists, and dieticians.

--The physician assistants' duties parallel the duties of other commissioned officer health care providers.

--The commissioned officer grade structure has the highest recruiting potential in terms of status and pay. Although the starting pay of commissioned and warrant grades, assuming no prior service, is nearly the same, the commissioned grades offer a greater future pay progression to civilian physician assistants considering a military career. Commissioned pay is more comparable, over the long term, to the pay of physician assistants in other Federal agencies.

--Reintroducing a warrant officer program for physician assistants would not be cost-effective.

--The enlisted grade structure for physician assistants was causing morale problems.

BOTH STUDIES ARE INADEQUATE

Neither the Health Affairs study nor the Rand Corporation study provides an adequate basis for a current policy decision on the most appropriate military physician assistant grade structure. Both studies base their findings and conclusions on analyses which contain significant deficiencies. Furthermore, the compensation data used in both reports is now out-of-date and should not be relied on for making current policy decisions.

Analytical deficiencies in the Health Affairs study

Although DOD was tasked by the Congress with studying the physician assistant programs in each service, the Health Affairs study fell far short of providing an independent analysis of the proper grade or pay structure for physician

assistants. Instead, the report recited each service's position on this matter. The Health Affairs study group merely consolidated the services' estimates concerning grade structure options without independently verifying the services' methodologies or attempting to reconcile differences among the services' positions or cost estimates.

The Health Affairs report contained six recommendations, two of which directly related to the proper grade structure for military physician assistants. The report recommended that (1) DOD adopt a policy of having a uniform grade structure for physician assistants among all the services, and (2) the warrant officer grades be used for this uniform structure. These recommendations may or may not have merit, but, as discussed below, we believe the report did not provide adequate support for them.

Uniform grade structure

The study group recommended DOD adopt a uniform physician assistant grade structure because, in its opinion, the three services' physician assistant programs were essentially the same. In reaching this conclusion, however, the study group apparently ignored or discounted what appear to be significant differences in the services' programs. For example, the Army uses its physician assistants primarily at the field level to provide medical services to battalion combat organizations, whereas the Navy and the Air Force primarily use physician assistants at on-base medical facilities. Physician assistants assigned to the on-base facility may face a wider variety of medical problems because they treat not only active duty members, but also retired members and dependents. Those assigned to combat organizations would be expected to treat only active duty members. Consequently, we believe the range of skills and training required to fill the combat organization positions are not necessarily the same as those required to fill the on-base positions.

Although both the Army and the Navy stated in the Health Affairs report that the physician assistant grade structure within DOD should be uniform, both services have made the grade structure even less uniform. For example, at the time the report was issued, both services appointed physician assistants to the warrant officer grade of W-1. Since that time, the Navy has phased out the W-1 grade and now appoints its physician assistants to the grade of W-2. Appointment at the W-2 grade obligates the Navy physician assistants to 3 years of service. The Army, however, gives its service-trained physician assistants the option of being appointed

as a W-1 if they agree to a 4-year obligation or as a W-2 if they agree to obligate for 6 years. The Army does not give a similar option to its civilian-trained physician assistants who are appointed to the grade of W-1 for a 3-year obligation.

Warrant officer

The study group recommended that military physician assistants be appointed as warrant officers because the cost data provided by the services indicate that the warrant officer grade structure is the most cost-effective. The study group made this recommendation based on cost alone, dismissing issues other than costs as "not compelling." The services, however, have not attempted to implement the grade option which their own analyses showed to be least costly.

The study group based its warrant officer recommendation on the three services' cost analyses without attempting to reconcile differences among the analyses or to critically review the analyses' results. This in itself appears questionable because:

--Each service already had a position it wanted to defend and maintain, bringing into question their independence and objectivity.

--The services, at the time of the study, had practically no longitudinal data upon which to base their physician assistant recruiting, retention, and retirement assumptions. The validity of assumptions made in this area is critical to the outcome of the analyses.

--The cost data used by each service was inconsistent with the facts and certain assumptions made seem unreasonable. The Navy's analysis, for example, used identical salary costs for the warrant officer 100-percent service-trained option and for the warrant officer 100-percent civilian-recruited option. This is unrealistic because salary costs for the service-trained option are greater than for the civilian-recruited option due to longevity increases. Service-trained physician assistants had generally graduated at the end of their 8th year of military service while civilian-trained physician assistants enter the military with little or no prior service and thus a lower longevity step. In the Army's analysis,

the procurement/training costs for the warrant officer--50-percent service-trained option and 50-percent civilian recruited option--was shown to be greater than the total combined procurement/training costs for the warrant officers 100-percent service-trained option plus the warrant officers 100-percent civilian-recruited option. We believe this is an illogical assumption.

The Health Affairs warrant officer recommendation simply ignored the fact that the Air Force does not have a warrant officer program and would have to reintroduce one if the Air Force were to follow the recommendation to assign physician assistants to warrant officer grades. To reintroduce a warrant officer program just for physician assistants, the Air Force would have to create a warrant officer personnel management structure which would include developing separate policies and regulations, modifying the Air Force personnel computer system, establishing separate selection boards, and creating an overhead structure to manage the warrant officer program. All this would add to the cost of the Air Force's personnel system, costs which should be considered in any decision on the proper grade structure for physician assistants.

Analytical deficiencies in the Rand Corporation study

The Rand Corporation study estimated the current potential earnings of civilian physician assistants with up to 20 years experience and compared these earnings with those of military physician assistants having equal experience and appointed to warrant officer and commissioned officer grades. The Rand Corporation concluded that the potential earnings of civilian physician assistants gave mixed implications for commissioned officers pay versus warrant officers pay. The Rand study identified the warrant officer option as "clearly riskier" than the commissioned officer option in "light of the general inadequacy of warrant officer pay rates."

The Rand Corporation study contains weaknesses both in the data and the procedure used to develop its estimates. The number and significance of these limitations raises questions about the usefulness of the estimates and comparisons made and about the validity of conclusions based on these estimates and comparisons.

The Rand Corporation used data collected by the Association of Physician Assistant Programs to estimate the potential earnings of civilian physician assistants. This may not have been the best choice since, in our opinion, the

Association's data was not complete or detailed enough for use in such an analysis. For example:

--Much of the pertinent information could not be used because data was (1) missing from the file, (2) for a military physician assistant, or (3) for a physician assistant who did not have the characteristics of an Air Force physician assistant. As a result, data for only 17.3 percent of physician assistants in the Association's files could be used by the Rand Corporation in its comparison.

--Some key questions (such as questions about income and hours worked) in the Association's questionnaire which collected the data were too vague to elicit usable responses.

--The Association collected very limited information on fringe benefits received by physician assistants. Consequently, the Rand Corporation was unable to make a meaningful comparison of the value of benefits such as retirement, paid leave, and paid malpractice insurance.

The Rand Corporation developed statistical models to estimate the potential earnings of the civilian physician assistants with various years of experience and compared these estimates with the warrant officer and commissioned officer regular military compensation in effect October 1, 1978. This comparison was a point-in-time comparison; even if there had been no problems with the data or the statistical procedures, the comparison was of questionable validity when the report was issued in February 1980. In addition, the civilian physician assistant earnings projections are questionable for several other reasons:

--The models did not fit the data very well. The models explained less than 20 percent of the variance in physician assistant earnings, leaving over 80 percent attributable to factors outside the model.

--Physician assistants, as an occupational specialty, had been in existence for only about 10 years at the time of the Rand Corporation's analysis. In light of this, a 20-year earnings projection would be of questionable reliability.

--The projection techniques assumed that civilian physician assistant salaries have no ceilings. However, physician assistants are in a subordinate role to

physicians and convention would dictate that no physician assistant may earn more than the physician, regardless of the length of experience, thus causing the civilian physician assistant earnings to have some upper limit.

--The inclusion of age in the model may have caused the data on civilian physician assistant's potential earnings to be overstated. Although age is often used as a substitute measure for experience, length of experience was also included in the model. The Rand Corporation did not show a justification for a unique impact of age on earnings; in this study earnings increase with both age and experience.

Out-of-date compensation data

Both the cost analysis in the Health Affairs study and the earnings analysis in the Rand Corporation study were based on the October 1, 1978, military compensation rates. Since that time, military pay has increased at a much faster rate than either Federal white-collar employees' pay or physician assistants pay in the private sector. Since 1978, the average regular military compensation for a W-1 warrant officer physician assistant has increased 43.5 percent, while for a commissioned officer physician assistant at the O-1 grade it has increased 46.9 percent. During the same period, the salary of a GS-7 Federal civilian physician assistant has increased only 22.3 percent, and the starting salary of a private sector physician assistant has increased about 33.3 percent. The differing rates of increase between the warrant officer and commissioned officer compensation could affect the results of the Health Affairs study's cost analyses, and the differing rates of increase between the military and civilian pay could affect the results of the Rand Corporation study's earnings analysis. Considering the current pay rates may alter the conclusions reached in the two studies.