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Navy Physicians' Pay Distributions Compared to Civilian Income

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ABSTRACT

In recent years, there has been concern over the size of the gap between pay for civilian physicians and pay for military physicians, and over the declining retention observed for Navy physicians. Efforts have been made to increase physicians' military pay and retention. This research memorandum derives actual pay distributions for 22 physician specialties and documents the size of the civilian-military pay gap for three experience levels within each specialty. The pay gaps are linked to acceptance patterns of the 1989 medical officer retention bonus. The large variation in pay gap size by specialty and experience level should enable future pay plans to address specific problems.

EXECUTIVE SUMMARY

INTRODUCTION

In recent years, there has been increasing concern over reports of significant gaps between Navy physicians' pay and civilian physicians' pay. Studies have verified the existence of positive civilian-military pay gaps for physicians, documented the high variation in pay across civilian specialties compared to relatively low variation in Navy pay, and demonstrated that Navy physicians respond with declining retention as civilian-military pay gaps increase.

Various pay plans were proposed to address the issue of increasing military pay to physicians to close the civilian-military pay gaps. In FY 1989, Congress authorized funding for a medical officer retention bonus (MORB). The MORB was intended to increase retention by requiring physicians to accept multiyear contracts to obtain a bonus. The MORB amounts varied by specialty and length of contract.

Evaluating the effect of the MORB and predicting the effects of pay plans has been hindered by lack of precise information concerning civilian-military pay gaps. Although pay gaps have been calculated, Navy physician pays have been constructed based on rules for receiving various pays applied to physicians' historical data from the Bureau of Medicine Information System (BUMIS). In addition, the construction rules rely on DOD averages by paygrade for some pays.

As part of an ongoing study jointly sponsored by OP-01/OP-08 to investigate actual pay profiles for Navy personnel, the Joint Uniform Military Pay System (JUMPS) pay data were merged with the Officer Master File and with supplementary pay records for MORB recipients to enable accurate pay distributions to be calculated for Navy physicians. This research memorandum (RM) analyzes actual pay distributions observed for 1989 for 22 physician specialties. This permits a very accurate estimation of civilian-military pay gaps for the 22 specialties, and facilitates evaluation of the impact of the MORB and predictions concerning the impact of future pay plans.

BACKGROUND

Physicians receive base pay, the basic allowance for subsistence (BAS), the basic allowance for quarters (BAQ), and in some cases a variable housing allowance (VHA). They also have a tax advantage (TAD) based on the amount of nontaxable allowances received compared to their effective tax bracket. Regular military compensation (RMC) is made up of these five components. In addition, some members receive a family separation allowance (FSA II), career sea pay, or hazardous duty pay type I (HD I).

In addition, physicians may also receive variable special pay (VSP), incentive special pay (ISP), additional special pay (ASP), and board certified pay (BCP). Also, for FY 1989 and FY 1990 fully trained specialists were eligible to receive a medical officer retention bonus (MORB) in return for signing multiple year contracts. The only pays that vary by specialty are ISP and the MORB. As a consequence, compensation tends to vary more across specialties in the civilian sector than it does for Navy physicians.

Methodology

To calculate monetary compensation profiles for Navy personnel, data from the JUMPS data base were obtained for the quarters of 1989 that ended in March, June, September, and December. For pay purposes, this comprises one year of data based on a single pay table and matches the concept of annual civilian pay.[1]

The method used is to derive an average monthly compensation figure, which is then annualized. The pays are derived for a snapshot of the people on active duty as of the December quarter of 1989. However, some pays are annual amounts that must be prorated to a monthly basis. Therefore, it is necessary to scan the quarters over a year to obtain accurate information concerning annual payments.

The compensation data used for this analysis were based on the inventory of fully trained physicians on the JUMPS tape on active duty during the December quarter of 1989 and on all pays received by these physicians during calendar year 1989. The JUMPS pay data were merged with the Officer Master File to obtain relevant personal data and with the FY 1989 medical officer retention bonus data to identify MORB payments. The annual pay reported includes all monetary pays received in the year plus the tax advantage.

Distributions of Income by Specialty

Distributions of annual monetary compensation were calculated for 22 physician specialties by paygrade. The most common paygrades observed for fully trained specialists are O4, O5, and O6. Civilian data from the American Association of Medical Colleges (AAMC) are obtained for assistant, associate, and full professors to match the Navy O4 through O6 paygrades.[2] The AAMC data represent net income after expenses but before personal taxes, and are based on faculty salaries plus supplemental income received from outside sources.

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1. For FY 1989, the military pay raise went into effect 1 Jan 1989. For FY 1990, the military pay raise went into effect 1 Jan 1990.
2. AAMC data were chosen due to level of specialty detail, consistent reporting from year to year, relatively large sample sizes, and comparability with regard to nonmonetary compensation.

As an example of the pay information calculated, table I shows the distribution of annual compensation received by Navy orthopedic surgeons for 1989, along with summary information on the average characteristics of these physicians by paygrade. The inventory reveals that orthopedic surgeons are a young group, with an annual mean income of $86,500. The income distribution for the O4 orthopedic surgeons ranges from a minimum of $50,100 to $105,000. The distribution is characterized by having a large proportion of people near the median, with few people at the extreme ends of income range.

Table I. Summary data for Navy orthopedic surgeons

	Paygrade				
	O3	O4	O5	O6	O7
Inventory	2	64	16	19	1
Number MORB takers		1	5	17	
Average age	30	34	40	50	ns
LOS	ns	5	12	18	ns
Marital status					
Percent married	ns	86	94	79	ns
Percent military spouse	ns	08	25	11	ns
Mean annual income	ns	74,500	93,600	122,600	ns
Minimum	ns	50,100	74,300	96,500	ns
10th percentile	ns	64,800	76,300	106,000	ns
30th percentile	ns	70,900	83,800	117,200	ns
Median	ns	75,900	86,600	127,000	ns
70th percentile	ns	78,400	104,400	130,300	ns
90th percentile	ns	84,600	118,300	133,600	ns
Maximum	ns	105,000	121,200	137,700	ns
RMC percentage of mean	ns	66	62	59	ns
Overall mean 86,500					
Median 78,900					

ns: Not shown due to small number of personnel in cell.

Based on mean income comparisons, an O4 orthopedic surgeon faced a civilian-military pay gap of $78,300 in 1989; an O5 and an O6 faced gaps of $92,000 and $78,800 respectively. The size of the gap was smaller for the O6 due to the existence of the FY 1989 MORB, which was taken by

most O6 orthopedic surgeons. Only 23 orthopedic surgeons accepted MORB contracts in FY 1989. Clearly the MORB was not very attractive to junior orthopedic surgeons. The senior orthopedic surgeons, who either were closer to retirement eligibility or had already chosen a career path of the Navy, were more willing to accept a MORB contract.

Even with the acceptance of a MORB, a large pay gap remains. For the O4 orthopedic surgeon, the average pay gap if a four-year MORB is taken is approximately $58,600. Orthopedic surgeons at the O4 level have an average of 15 years until retirement eligibility, and apparently most of them see the current pay gap as too large a detriment compared to the positive aspects of future military retirement pay. Only one O4 accepted a MORB contract in 1989.

Civilian-military earnings differentials based on mean and median incomes were calculated for Navy physicians and their AAMC counterparts by experience level for 22 specialties. Comparison of civilian-military pay gaps reveals that there are some specialties in which the differentials are very high, and some in which the differentials are very low or even negative. The relative size of the pay gaps by specialty is an important consideration for the crafting of future pay plans that may be created to replace or supplement the MORB.

CONCLUSIONS

The results reveal several important points that should be considered for any future pay plans. First, there is a considerable range of compensation received by Navy physicians even within a specialty and paygrade. Second, there is much greater variety of income across specialties in the civilian sector than in the Navy. Third, even with the MORB, the size of the civilian-military pay gap varies widely across specialties.

The MORB acceptance pattern combined with pay gap information by paygrade indicates that there should be continued concern for future retention on a specialty-specific basis. Overall, for the fully trained specialists in the 22 specialties examined here, only about 11 percent of the MORB contracts written were accepted by physicians at pay grade O4 or below. Given the continued existence of large pay gaps for certain specialties, even if MORB contracts were accepted, and the pattern of MORB acceptance focused on participation by senior physicians, there is reason to expect continued retention problems among junior physicians. Continued efforts to adjust medical pays to favorably affect retention should take these patterns under consideration.

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TABLES

INTRODUCTION

In recent years, there has been increasing concern over reports of significant gaps between Navy physicians' pay and civilian physicians' pay. This concern has been linked to accounts of declining retention for Navy physicians. In FY 1988 and FY 1989, studies verified the existence of civilian-military pay gaps for physicians, and also documented the high variation in pay across civilian specialties compared to the relatively low variation in pay across specialties within the Navy [1, 2].

Models of individual physician retention behavior verified that Navy physicians, as a group, respond with declining retention as civilian-military pay gaps increase [2, 3]. Various pay plans were proposed to address the issue of increasing military pay to physicians to close the civilian-military pay gaps. CNA recommended that pay increases be based on specialty, because the size of the civilian-military pay gap varies widely across specialties [2, 4].

In FY 1989, Congress authorized funds for a medical officer retention bonus (MORB). The bonus was intended to increase physician retention through encouraging physicians to accept multiyear contracts and longer service commitments. The MORB amounts[1] varied by specialty and by length of contract, which ranged from two to four years [5].

Evaluating the effect of the MORB and predicting the effect of various pay plans has been hindered by lack of precise information concerning civilian-military pay gaps. Although pay gaps have been calculated, Navy physician pays have been constructed based on rules for receiving various pays applied to historical data from the Bureau of Medicine Information System (BUMIS) on individual physicians. In addition, the construction rules rely on average amounts by paygrade for certain pay elements. These construction rules create estimates of physicians' pay with relatively little variation across specialties or within specialties.

As part of an ongoing study to investigate actual pay profiles by community for Navy personnel, CNA analysts merged the Joint Uniform Military Pay System (JUMPS) pay data with the Officer Master File, to provide personal background and training information, and with supplementary pay records for MORB recipients. The merge allowed accurate pay distributions for Navy physicians to be calculated based on aggregations of individual pay records. This memorandum documents CNA's

1. MORB amounts for FY 1989 varied from $1,500 to $20,000 annually, depending on specialty and length of contract.

analysis of actual pay distributions observed for 1989 for 22 physician specialties that have civilian counterparts.[1] These distributions will permit analysts to develop more accurate estimates of civilian-military pay gaps for the 22 specialties. They also will help analysts evaluate the effect of the MORB and predict the effect of future pay adjustments for physicians.

The main points of interest are the observed variability of Navy physicians' pay among and between specialties, the degree of actual differentials observed for civilian-military pay gaps by specialty and experience, and the proportion of military pay accounted for by regular military compensation (RMC). In particular, the actual civilian-military pay differential provides important information for expectations concerning retention behavior, evaluations of the effect of the MORB, and policy recommendations concerning future pay plans.

BACKGROUND

A declining retention pattern has been noted for Navy physicians in recent years. This has led to concern over the causes of declining retention. Analysis of the patterns of retention decisions for unobligated fully trained specialists[2] has revealed that the size of the civilian-military pay gap has had a significant influence on retention behavior [3]. Although many factors affect individual career decisions, the pay gap remains a significant factor after controlling for the effect of other considerations.

Retention studies indicate that a critical point in a physician's career occurs when a physician becomes unobligated for the first time. Usually a physician in the Navy will have an obligation for training.[3] The end of the obligation for training for a fully trained specialist will mark the end of initial obligation. As can be seen in table 1, the decline in retention observed for Navy physicians is clearly apparent among physicians reaching the end of their initial obligation.

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1. The 22 specialties cover approximately 92 percent of all fully trained specialists in the Navy.
2. Retention patterns were examined for fully trained specialists at the end of initial obligation and for all unobligated fully trained specialists. For all unobligated specialists, retention was examined by specialty, but small populations caused problems in detecting retention trends. In general, specialists at the end of initial obligation had low retention compared to all unobligated specialists.
3. Length of training obligation is usually three to four years. Although length of obligation can vary somewhat, the time until a physician works off an obligation varies greatly. No obligation time can be retired when a physician is in residency, so prolonged residencies can keep a physician obligated for many years.

In developing the Navy physician retention model, pay data for Navy and civilian physicians were compared from FY 1984 through FY 1988. Pay data for Navy physicians were constructed using data from the Bureau of Medicine Information System (BUMIS) combined with information concerning the eligibility of physicians for various medical pays. Data from the American Association of Medical Colleges (AAMC) were used to estimate the alternative civilian income for those specialties that had a civilian counterpart [6]. The data were chosen for the degree of specialty detail and because they provided a conservative metric of civilian pay [2].

Table 1. Retention rates of Navy physicians, fiscal years 1984-1988 (population in parentheses)

	Fiscal years					
	1984	1985	1986	1987	1988	1989
Unobligated specialists[a]	74 (1,029)	74 (958)	73 (979)	72[b] (950)	69[b] (893)	72[b] (843)
Unobligated physicians[c]	76 (1,500)	76 (1,573)	76 (1,583)	74 (1,569)	72 (1,463)	75 (1,454)
Physicians at the end of initial obligation (unobligated)						
Specialists[d]	47 (168)	45 (257)	44 (264)	34 (238)	33 (261)	29 (211)
GMOs[e]	53 (41)	50 (117)	40 (81)	32 (98)	31 (146)	29 (119)

a. Includes fully trained Navy specialists who can be matched to civilian counterparts from the Association of American Medical Colleges. These are the specialists who have clear civilian alternatives for employment and are used to analyze the sensitivity of physicians to pay differentials. Includes specialists at the end of initial obligation.

b. To provide comparability with earlier years, data for FY 1987 through FY 1989 were adjusted to remove physicians serving primarily in executive medicine. However, since the adjustment method relies heavily on 1986 data, the reliability of the method diminishes over time, and may overestimate physicians in executive medicine in recent years. See [7], appendix B, for a discussion of this issue.

c. Unobligated physicians include all physicians who reach the end of an obligation before or during the fiscal year.

d. Includes a small number of specialists not matched to civilian AAMC data. Nonmatched specialists make up less than 10 percent of the total.

e. Excludes General Medical Officers (GMOs) with specialty training.

Previous studies [2, 3, 4, 5] have relied on constructed pay estimates for Navy physicians. By the construction rules, pay among military physicians does not vary much across specialties. In addition, some pays received by physicians, such as career sea pay, are extremely difficult to allocate through construction rules. Finally, some pays are based on DOD-wide averages by paygrade, such as the variable housing allowance (VHA) and the tax advantage (TAD) due to nontaxable allowances received (basic allowance for subsistence (BAS), basic allowance for quarters (BAQ), and VHA).

Some of the data on BUMIS needed to construct pay are not very reliable, such as the family dependency status of the physician [8]. Also, some of the construction rules rely on accurate and complex manipulation of historical background data that are periodically updated. Although there is no reason to expect biased information using constructed pay data, it is clearly preferable to observe an actual pay distribution rather than a constructed distribution that includes average pays along with imputed individual pays.

One response to the problem of declining retention among military physicians was to modify physician pay on a specialty-specific basis. The MORB was intended to address this problem until a permanent pay plan could be devised. The effect of the MORB depended in part upon how strongly the MORB decreased the civilian-military pay gaps. Accurate knowledge of the income of Navy physicians compared to their civilian counterparts is necessary to correctly evaluate the effect of the FY 1989 MORB and the probable effect of the follow-on FY 1990 MORB, and to make recommendations concerning future pay plans.

Elements of Monetary Compensation

Physicians receive a number of pays in addition to the standard pay elements received by most military members. As is the case for most members, they receive base pay, the basic allowance for subsistence (BAS), the basic allowance for quarters (BAQ), and in some cases a variable housing allowance (VHA). In fact, for housing allowances, a physician may be eligible for some combination of the following: two types of variable housing allowance, an overseas housing allowance, a family separation allowance related to housing (FSA I), and a cost-of-living allowance that can be received in certain circumstances. All members have a tax advantage (TAD) based on the amount of nontaxable allowances received compared to their effective tax bracket. Base pay, BAS, BAQ, and any additional housing allowances plus the tax advantage make up regular military compensation (RMC). In addition, some physicians receive a family separation allowance (FSA II), career sea pay, or hazardous duty pay type I (HD I). In a few cases, physicians also receive diving pay, hostile-fire pay, and aviation career incentive pay.

In addition to receiving the pays that constitute regular military compensation and certain other allowances and special pays, physicians may also receive variable special pay (VSP), incentive special pay (ISP), additional special pay (ASP), and board certified pay (BCP). Also, for FY 1989 and FY 1990, fully trained specialists were able to receive a MORB in return for signing multiple-year contracts. The only pay ordinarily received by physicians that varies by specialty is ISP. In addition, the MORB also varies by specialty for the years for which it has been offered. As a consequence, compensation tends to vary more across specialties in the civilian sector than it does for Navy physicians.

Methodology

To calculate monetary compensation profiles for Navy personnel, data were obtained from the JUMPS data base for the quarters of 1989 that ended in March, June, September, and December. Although this "year" does not actually match the military fiscal year, which began 1 October 1988 and ended 30 September 1989, pay raises are not currently given to the military until January 1, which is in the second quarter of the fiscal year. Looking at pay according to the quarters that compose a fiscal year for the military would involve mixing pay tables. For pay purposes, the March, June, September, and December quarters make up a year's worth of data based on a single pay table. In addition, these data generally match the concept of annual civilian pay, which is usually based on the calendar year.

Although the pay information obtained is intended to represent the compensation observed for a single year, the method used is to derive an average monthly compensation figure, which is then annualized. In this method, most of the pays are based on the pay table in effect for the entire period, and data from any quarter could be used. In actuality, the only difference in choosing a base quarter depends on the distribution of people observed receiving pays for a given quarter. The pay information is derived for a snapshot of the people on active duty as of the December quarter of 1989.

However, data from a single quarter may under represent total compensation. Most pays are received and recorded on a monthly basis, but some pays are annual amounts that must be prorated to a monthly basis. ASP, for example, is received in a lump sum at the time the physician makes a commitment to stay in the Navy for one additional year. The JUMPS data fields for data of this type contain an annual amount in the first field, and the amount received to date this year in the second field.

Technically the annual amount and the annual amount received to date should be repeated in each quarter after the initial amount throughout the fiscal year. However, in practice, a physician may sign a contract and receive a lump sum in, for example, the quarter ending in March. The data for June, however, often do not repeat the annual

amount and year-to-date amount for this physician. Apparently, for data of this type, it is common for the entry to be made only for the quarter in which the lump sum payment was received. Therefore, it is necessary to scan the quarters over a year to be sure to obtain accurate information concerning payments received on an annual basis.

Most physicians receive ASP in a lump sum in the quarter ending in September, based on the time when they finish training and start their assignments. However, some payments are made during each quarter of the year, and frequently payments are not reported in subsequent quarters for a given physician.

The compensation data used for this analysis were based on the inventory of physicians on the JUMPS tape who were on active duty during the December quarter of 1989, and on all pays received by these physicians during calendar year 1989. The JUMPS pay data were merged by social security number with the Officer Master File to obtain relevant personal data and with the FY 1989 medical officer retention bonus data to identify MORB payments.[1]

Lump sum pays were converted to a monthly rate, added to other monthly rates of pay, and finally converted back to an annual rate of pay. All monetary pays actually received were included in the calculation, along with the estimated tax advantage of the nontaxable portion of the pays. The value of fringe benefits was not included in these calculations.

Distributions of Income by Specialty

Annual distribution of monetary compensation were calculated for 22 physician specialties by paygrade. The most common paygrades observed for fully trained specialists are 04, 05, and 06. The AAMC civilian data for assistant, associate, and full professors were matched with the Navy 04 through 06 paygrades. The AAMC data represent net income after business expenses but before personal taxes, and are based on faculty salaries plus supplemental income received from outside sources.

Although other sources of civilian physician pay data were available, the AAMC data were chosen due to the level of specialty detail and experience levels available. The other civilian data considered had small sample sizes for certain specialties, different specialties broken out from year to year, and much less specialty detail [2]. In addition, the AAMC information has the characteristic of

1. The FY 1990 MORB was generally implemented under ALNAV 012/90, although technically contracts could be written late in 1989. Six fully trained specialists took FY 1990 MORB contracts in October and November of 1989, but their pay was calculated without FY 1990 MORB payments.

being a conservative metric of civilian physician income data. Finally, AAMC data represent physicians who have employer fringe benefit coverage and malpractice insurance; thus, conditions are comparable to those for Navy physicians.[1]

As an example of the actual pay information calculated, table 2 shows the distribution of annual compensation received by Navy orthopedic surgeons for 1989, along with summary information on the average characteristics of these physicians by paygrade.

Table 2. Summary data for Navy orthopedic surgery

	Paygrade				
	03	04	05	06	07
Inventory	2	64	16	19	1
Number MORB takers		1	5	17	
Average age	30	34	40	50	ns
LOS	ns	5	12	18	ns
Marital status					
Percent married	ns	86	94	79	ns
Percent military spouse	ns	08	25	11	ns
Mean annual income	ns	74,500	93,600	122,600	ns
Minimum	ns	50,100	74,300	96,500	ns
10th percentile	ns	64,800	76,300	106,000	ns
30th percentile	ns	70,900	83,800	117,200	ns
Median	ns	75,900	86,600	127,000	ns
70th percentile	ns	78,400	104,400	130,300	ns
90th percentile	ns	84,600	118,300	133,600	ns
Maximum	ns	105,000	121,200	137,700	ns
RMC percent of mean	ns	66	62	59	ns
Overall mean 86,500					
Median 78,900					

ns: Not shown due to small number of personnel in cell.
LOS: Length of service (based on active duty base date).

As there are only two orthopedic surgeons at the 03 paygrade and one at the 07 paygrade, no summary information is shown for these classifications. In addition, the inventory of Navy physicians is very small for

1. However, no data are available on specific details of the level of fringe benefit coverage for civilian physicians.

some specialties. In such cases, information is not shown in order to avoid revealing pay or personal information concerning individual physicians. However, these physicians are included in calculations for the overall mean and median incomes.

The inventory reveals that the orthopedic surgeons are a young group of physicians: 65 percent are in paygrade 04 or below. The average age for paygrade 04 is 34, and the mean annual income is $74,500. The income distribution for the 04 orthopedic surgeons ranges from $50,100 to 105,000. The distribution is characterized by having a large proportion of people near the median, with very few people at the extreme ends of income range. For the middle of the income distribution, 40 percent of the orthopedic surgeons have an income of between approximately $71,000 and $79,000. However, this distribution demonstrates that there is still significant variation of income in the Navy even within a paygrade within a specialty.

Only 23 of the orthopedic surgeons accepted MORB contracts in 1989. Of these, 22 were taken by senior physicians (05 and 06). Of the 19 orthopedic surgeons at the 06 level, 17 took a MORB contract. Only one MORB contract was accepted by an 04. Clearly the MORB was not very attractive to junior orthopedic surgeons, who had an average of 5 years of service toward retirement. The senior orthopedic surgeons, who were either closer to retirement eligibility or who had already chosen a career path of the Navy, were the ones who were willing to accept a MORB contract.

For the 04 orthopedic surgeons, regular military compensation (RMC) accounted for about 65 percent of total monetary compensation. At the senior levels, RMC accounted for a slightly smaller proportion of monetary compensation. This is essentially due to the existence of the MORB, which adds to the compensation of senior physicians much more than to the compensation of junior physicians. This is based on likelihood of MORB acceptance, as MORB amounts do not vary by level of experience.

Appendix A contains similar information for Navy physicians in all 22 specialties. It should be noted that not all Navy physicians can be matched by pay to civilian specialties. In addition, the inventory of Navy physicians is very small for some specialties, which limits the amount of information revealed. Appendix B contains information on pay distributions for AAMC physicians for the same specialties.

Differentials Between Civilian and Military Earnings

Tables 3 and 4 contain comparisons of median and mean earnings for Navy physicians and their AAMC counterparts by experience level. Mean incomes tend to be slightly higher than median income figures, since the underlying distribution is not symmetric. The existence of a few physicians with very high incomes tends to pull the mean income figures

higher than median income figures. However, in some cases medians are higher than means. Specialties with a relatively large number of physicians tend to have means and medians that are close together.

In table 3, comparisons are shown for those specialties characterized as having a high civilian-military pay gap (HIGH). This classification is based on earlier studies and the structure of the FY 1989 MORB [2]. These physicians generally are characterized as highly skilled, meaning that they have several years of specialized training to achieve their specialty status. These are the physicians, in general, who have quite large civilian income opportunities. Table 4 includes comparisons for specialties characterized as having a low civilian-military pay gap (LOW). Physicians in this category, on average, have shorter periods of specialized training and tend to receive relatively lower income in the civilian sector than specialists in the HIGH category.

Table 3. Comparison of Navy physicians' pay to alternative civilian pay for selected physicians in the HIGH pay gap category, 1989

	Median income		Civilian-military difference	Mean income		Civilian-military difference	Navy inventory
	Navy	AAMC		Navy	AAMC		
Orthopedic surgery							
O4	75,900	136,000	60,100	74,500	152,800	78,300	64
O5	86,600	160,000	73,400	93,600	185,600	92,000	16
O6	127,000	174,000	47,000	122,600	201,400	78,800	19
General surgery							
O4	76,500	109,000	32,500	76,100	121,600	45,500	80
O5	99,600	145,000	45,400	95,400	156,100	60,700	38
O6	119,700	175,000	55,300	119,400	189,600	70,200	34
Anesthesiology							
O4	75,300	115,000	39,700	76,200	118,900	42,700	79
O5	102,200	140,000	37,800	100,100	145,400	45,300	25
O6	112,700	156,000	43,300	113,300	160,600	47,300	10
Ophthalmology							
O4	80,200	107,000	26,800	81,200	112,500	31,300	27
O5	103,000	146,000	43,000	98,400	161,000	62,600	14
O6	123,100	163,000	39,900	122,400	175,800	53,400	12
Otolaryngology							
O4	80,500	108,000	27,500	80,000	113,700	33,700	33
O5	102,600	142,000	39,400	93,400	143,000	49,600	11
O6	123,100	167,000	43,900	118,800	172,200	53,400	14
Radiology							
O4	77,700	105,000	27,300	78,900	108,400	29,500	42
O5	104,400	131,000	26,600	103,300	134,800	31,500	28
O6	110,700	159,000	48,300	110,700	162,400	51,700	14

Table 3. (Continued)

	Median income		Civilian-military difference	Mean income		Civilian-military difference	Navy inventory
	Navy	AAMC		Navy	AAMC		
Urology							
04	77,000	113,000	36,000	75,900	119,200	43,300	21
05	101,700	154,000	52,300	103,600	149,100	45,500	6
06	110,300	171,000	60,700	114,600	177,000	62,400	7
Obstetrics and gynecology							
04	74,800	97,000	22,200	75,400	105,400	30,000	64
05	101,800	123,000	21,200	94,900	134,500	39,600	17
06	113,900	141,000	27,100	110,500	148,900	38,400	16
Neurological surgery							
04	80,600	118,000	37,400	76,900	123,600	46,700	6
05	98,800	167,000	68,200	100,500	181,200	80,700	4
06	ns	204,000	ns	ns	218,600	ns	1
Thoracic/ cardiovascular surgery							
04	ns	150,000	ns	ns	179,100	ns	2
05	ns	220,000	ns	ns	288,600	ns	2
06	ns	232,000	ns	ns	263,900	ns	1
All	85,400	194,200	108,800	96,200	234,400	138,200	5
Plastic surgery							
04	ns	123,000	ns	ns	147,100	ns	3
05	78,600	187,000	108,400	85,300	184,100	98,800	7
06	120,500	213,000	92,500	119,200	222,700	103,500	4
Cardiology							
04	80,500	82,000	1,500	78,200	89,700	11,500	7
05	89,200	108,000	18,800	90,100	121,000	30,900	9
06	105,500	128,000	22,500	105,400	132,800	27,400	6
Gastroenterology							
04	78,300	79,000	700	75,300	80,400	5,100	9
05	87,800	101,000	13,200	90,100	105,100	15,000	6
06	ns	118,000	ns	ns	119,700	ns	2
Dermatology							
04	67,700	80,000	12,300	70,000	87,300	17,300	13
05	96,200	108,000	11,800	93,300	127,300	34,000	10
06	106,300	127,000	20,700	101,300	134,900	33,600	12

ns: Not shown due to small number of personnel in cell.

Table 4. Comparison of Navy physicians' pay to alternative civilian pay for selected physicians in the LOW pay gap category, 1989

	Median income		Civilian-military difference	Mean income		Civilian-military difference	Navy inventory
	Navy	AAMC		Navy	AAMC		
Family practice							
04	67,300	71,000	3,700	67,600	72,400	4,800	121
05	85,300	89,000	3,700	84,800	90,400	5,600	45
06	98,100	104,000	5,900	99,600	104,700	5,100	26
Pediatric cardiology							
04	ns	70,000	ns	ns	71,800	ns	0
05	ns	88,000	ns	ns	90,000	ns	1
06	ns	118,000	ns	ns	121,900	ns	1
All	87,600	91,500	3,900	85,100	94,100	9,000	2
Pediatric neonatology							
04	ns	75,000	ns	ns	81,300	ns	2
05	ns	101,000	ns	ns	116,000	ns	3
06	ns	119,000	ns	ns	120,100	ns	3
All	95,500	93,800	(1,700)	90,300	101,400	11,100	8
Other pediatrics							
04	65,200	67,000	1,800	65,400	70,000	4,600	67
05	88,900	83,000	(5,900)	88,100	83,300	(4,800)	46
06	100,500	100,000	(500)	101,500	102,400	900	52
Other internal medicine							
04	67,300	70,000	2,700	67,300	72,300	5,000	91
05	92,700	90,000	(2,700)	91,500	92,000	500	57
06	105,800	112,000	6,200	103,500	114,900	11,400	51
Pathology							
04	68,000	75,000	7,000	65,500	75,000	9,500	38
05	82,800	94,000	11,200	83,600	94,200	10,600	23
06	104,400	116,000	11,600	101,300	117,400	16,100	22
Psychiatry							
04	73,000	76,000	3,000	72,000	77,900	5,900	36
05	94,100	92,000	(2,100)	92,800	94,500	1,700	29
06	105,500	114,000	8,500	102,800	117,800	15,000	30
Neurology							
04	64,100	73,000	8,900	64,200	75,200	11,000	16
05	83,100	94,000	10,900	87,300	97,800	10,500	10
06	97,600	113,000	15,400	99,900	116,500	16,600	5

NOTE: Numbers in ( ) are negative.
n.s.: Not shown due to small number of personnel in cell.

Those specialties in the HIGH group include cardiology, radiology, anesthesiology, obstetrics and gynecology, surgery, gastroenterology, urology, otolaryngology, ophthalmology, dermatology, emergency medicine,

and internal medicine subspecialties. LOW specialties include family practice, pediatrics, general internal medicine, pathology, psychiatry, and neurology.

Considering orthopedic surgeons again, the civilian-military pay differentials show the same general pattern whether the calculations are based on the median income or the mean income. The size of the pay gap is substantial, and it increases for the average O5 compared to the average O4 but then decreases for the average O6. However, again, the pay gap pattern has been influenced by the MORB acceptance rate.

Comparison of civilian-military pay gaps reveals that there are some specialties in which the differentials based on means and medians agree very well, and some in which the differentials vary in magnitude between the two methods of comparison. In general, specialties with a large number of physicians tend to show a consistent differential for either method of comparison, as do those specialties in the LOW category. The direction of the civilian-military pay gap and the relative size of the pay gap by paygrade remains generally stable regardless of which comparison method is used.[1]

The selection of specialties into HIGH and LOW categories is generally verified, although there is wide variation in the size of the pay gaps observed within these general categories. There may be some question over the inclusion of gastroenterology, dermatology, and cardiology in the HIGH pay-gap group, as the magnitude of the pay gap for these specialties is considerably below that for the other HIGH specialties. However, for cardiology and dermatology the pay gaps as measured by the mean appear to be larger than those observed for LOW specialties. The relative size of the pay gaps by specialty is an important consideration for the crafting of future pay plans that may be created to replace or supplement the MORB.

As can be seen in table 5, if Navy compensation is calculated without MORB payments, the pay gap increases for O5 and O6 physicians and remains at about the same level for O4 physicians. This represents the low acceptance rate of MORB contracts by young physicians. This method of observing the pay gaps for 1989 is important because the MORB is not an entitlement, and it is useful to know how large the pay gaps would have been without the additional income offered by the MORB in exchange for long-term commitments.

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1. Civilian physician income distributions tend to be skewed to the right, reflecting high within-specialty income variability and high maximum incomes observed, especially for HIGH specialties. This tends to cause differentials based on means to be slightly higher than differentials based on medians for some specialties.

Table 5. Comparison of Navy physicians' pay to alternative civilian pay with and without MORB: 1989

	Civilian-military pay differential: mean income					
	04-assistant professor		05-associate professor		06-full professor	
	MORB	No MORB	MORB	No MORB	MORB	No MORB
Family practice	4,800	5,700	5,600	10,700	5,100	11,500
Pediatric cardiology[a]			9,000	10,000		
Pediatric neonatology[a]			11,100	19,500		
Other pediatrics	4,600	5,400	(4,800)	3,700	900	9,100
Other internal medicine	5,000	5,400	500	10,400	11,400	21,100
Pathology	9,500	10,000	10,600	15,300	16,100	23,400
Psychiatry	5,900	6,300	1,700	6,900	15,000	19,600
Neurology	11,000	11,000	10,500	14,400	16,600	21,800
Cardiology	11,500	11,500	30,900	34,200	27,400	31,200
Gastroenterology	5,100	5,100	15,000	17,300	ns	ns
Dermatology	17,300	18,700	34,000	45,900	33,600	44,700
Orthopedic surgery	78,300	78,600	92,000	97,700	78,800	94,900
General surgery	45,500	47,300	60,700	71,900	70,200	85,000
Anesthesiology	42,700	43,000	45,300	54,700	47,300	59,300
Ophthalmology	31,300	34,300	62,600	71,500	53,400	68,100
Otolaryngology	33,700	36,200	49,600	56,500	53,400	64,500
Radiology	29,500	32,100	31,500	45,300	51,700	64,900
Urology	43,400	43,400	45,500	58,200	62,400	71,500
Obstetrics and gynecology	30,000	30,800	39,600	46,800	38,400	46,800
Neurological surgery	46,700	46,700	80,700	93,200	ns	ns
Thoracic/ cardiovascular surgery[a]			138,200	145,200		
Plastic surgery	ns	ns	98,800	100,900	103,500	118,500

a. For these specialties, the overall average pay differential is given for the 05 pay grade as an approximation, to avoid revealing specific information.

ns: Not shown due to small number of personnel in cell.

The actual pay gaps with the MORB reflect not what the MORB could have done but what it actually did to the average size of the pay gap, given the acceptance pattern observed. Since physicians received additional MORB money based on specialty and length of contract taken, the reduction in the pay gap was limited by participation patterns. The general pattern is that very few O4 specialists take a MORB, while a relatively larger number of O5 specialists and virtually all O6 specialists take MORB contracts. This pattern is apparently based on how close the specialists are to retirement eligibility. Specialists in the O5 and O6 range are much more likely to be approaching retirement eligibility, and will therefore plan to stay at least until LOS 20 under any normal circumstances. There is no cost to these physicians to take a MORB contract unless they plan to retire within the next two years.

The result that very few O4 specialists took MORB contracts in FY 1989 is partly due to the fact that for the FY 1989 MORB, a substantial number of O4 specialists were not MORB eligible.[1] However, the MORB criteria generally included those with eight or more years since their Health Professional Pay Entry Date (HPPED) who were either unobligated or would finish any obligation for medical education or training prior to 1 October 1991. In addition, specialists of grade O7 or above were not permitted to accept a MORB contract.

Analysis of the length of service (LOS) data for the specialists reveals that many of the O4 specialists would qualify for the MORB. The average LOS (based on active duty base date) is usually four or more years less than the pay length of service (PLOS) based on the HPPED.[2] Adding a minimum of four years to the length of service shown in table 2 and in the tables in appendix A reveals that a significant number of O4 specialists would have been likely to be eligible for the MORB, although very few of them took a MORB contract. In addition, evaluation of the specialists indicates that approximately 30 percent of all fully trained specialists who were eligible for the FY 1989 MORB were at paygrade O4 or below. Therefore, many of the O4 physicians appear to have been MORB eligible. The lack of MORB contract acceptance by the O4 physicians is consistent with earlier analysis of the effect of the FY 1989 MORB, which revealed that a very small percentage of MORB-eligible physicians who were either still obligated or coming off an obligation were willing to accept MORB contracts [5].

Examination of the size of the civilian-military pay gaps with the MORB added indicates the nature of the problem. Even with the MORB contracts taken, for many specialties there will be a substantial

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1. The FY 1990 MORB has revised the eligibility rules to include more of the junior specialists. Any specialist who had satisfied the obligation for training or education was eligible for the FY 1990 MORB.
2. The HPPED is usually earlier than the active duty base date, since the HPPED gives credit for education and training received by physicians before they go on active duty.

civilian-military pay gap. Consider the case of orthopedic surgeons, as shown in table 5: In 1989, an 06 had a pay gap of around $94,900 without a MORB. With a four-year MORB contract, which adds an annual bonus of $20,000, the pay gap would still be $74,900 at best. For an 04 in 1989, the average pay gap with no MORB was around $78,600; with a four-year MORB it would be $58,600 at best. Three- or two-year MORB contracts for orthopedic surgeons carry a bonus of $15,000 or $10,000 annually, so would reduce the pay gap even less than the 4-year contract. Historically, most physicians who take MORB contracts sign up for four years.

Most orthopedic surgeons at the 06 level are career Navy physicians by choice. Some will leave at the 20-year point, but many choose to stay even after they reach retirement eligibility. For them, the MORB is a low-cost option, because they plan to stay in the Navy anyway. As a result, 17 of 19 orthopedic surgeons at the 06 level took a MORB. The 04 orthopedic surgeons, however, have an average of 15 years until they are eligible for retirement, and many of them apparently have decided that a reduction of the pay gap from $78,600 to $58,600 is not good enough to be worth staying in the Navy for an additional four years. Of the 66 orthopedic surgeons at paygrade 04 or below, more than half were eligible for the FY 1989 MORB, yet only one accepted a contract in 1989.[1] For the 05 level, only five of 16 accepted a MORB contract, even though the overwhelming majority were MORB eligible. The 05 physicians were closer to retirement eligibility, with an average LOS of 12 years, and responded more positively to the MORB than the 04 physicians, but the contract acceptance rate was still quite low.

CONCLUSIONS

The analysis demonstrates several important points that should be considered for any future pay plans. First, there is considerable variety in the level of income received by Navy physicians even within a specialty and paygrade. Second, there is much greater variety of income across specialties in the civilian sector than in the Navy. Mean income in the Navy in 1989 for 04 fully trained specialists ranged from $64,200 in neurology to $81,200 for ophthalmology. In the civilian sector, the range for assistant professors (AAMC data) was from $70,200 for general pediatricians to $179,100 for thoracic and cardiovascular surgery. For senior physicians, the Navy had a range of mean income of approximately $100,000 to $123,000, and the civilian-sector AAMC range was approximately $105,000 to $264,000.

Third, the attempts to target the levels of certain medical pays, such as ISP and the MORB, to specific specialties based on perception of civilian-military pay differentials, manpower shortages, or critical

1. Preliminary analysis of the FY 1990 MORB indicates that of 38 orthopedic surgeons eligible for the 1990 MORB at the 04 level, only two accepted contracts.

needs assessments, had an inconsistent effect as of 1989. For the specialties categorized as LOW, the civilian-military pay gaps for 1989 are generally low, and are near zero or even negative for a number of paygrades within these specialties. However, the medical pays have failed to significantly eradicate the civilian-military paygaps for many of the specialties in the HIGH group, and very high gaps are observed for the surgical specialties in particular.

The MORB acceptance pattern combined with pay gap information by paygrade indicates that there should be continued concern for future retention on a specialty-specific basis. Overall, for the fully trained specialists in the 22 specialties examined here, only about 11 percent of the MORB contracts written were accepted by physicians at paygrade O4 or below. Given the continued existence of large pay gaps for certain specialties, even if MORB contracts were accepted, and the pattern of MORB acceptance focused on participation by senior physicians, there is reason to expect continued retention problems among junior physicians. Continued efforts to adjust medical pays to favorably affect retention should take these patterns under consideration.

GLOSSARY OF TERMS

AAMC:	American Association of Medical Colleges
ASP:	Additional special pay
BAS:	Basic allowance for subsistance
BAQ:	Basic allowance for quarters
BCP:	Board certified pay
BUMIS:	Bureau of Medicine Information System
FSA:	Family separation allowance
GMO:	General Medical Officer
HD:	Hazardous duty
HIGH:	Physician specialty with a high civilian-military pay gap
HPPED:	Health Professional Pay Entry Date
ISP:	Incentive special pay
JUMPS:	Joint Uniform Military Pay System
LOW:	Physician specialty with a low civilian-military pay gap
LOS:	Length of service
MORB:	Medical officer retention bonus
PLOS:	Pay length of service
RMC:	Regular military compensation
TAD:	Tax advantage
VHA:	Variable housing allowance
VSP:	Variable special pay

REFERENCES

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[2] CNA Research Memorandum 88-266, *Pay and the Retention of Navy Physicians*, by Joyce S. McMahon, et al., May 1989

[3] CNA Research Memorandum 89-62, *A Retention Model for Navy Physicians*, by Joyce S. McMahon, Jun 1989

[4] CNA Research Memorandum 89-166, *Evaluation of Alternative Medical Special Pay Plans*, by Laurie J. May and Joyce S. McMahon, Jun 1989

[5] CNA Research Memorandum 89-304, *Initial Effectiveness of the FY 1989 Medical Officer Retention Bonus*, by Laurie J. May and Joyce S. McMahon, Jan 1990

[6] Association of American Medical Colleges, *Report on Medical School Faculty Salaries, Academic Years 1980-1988*

[7] CNA Research Memorandum 89-33, *Retention of Navy Physicians, FY 1984-1988*, by Amy E. Graham and Laurie J. May, Jun 1989

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APPENDIX A

PAY DISTRIBUTIONS FOR NAVY PHYSICIANS BY SPECIALTY

APPENDIX A

PAY DISTRIBUTIONS FOR NAVY PHYSICIANS BY SPECIALTY

Table A-1. Summary data for family practice

Paygrade	03	04	05	06	07
Inventory	25	121	45	26	1
Number MORB takers		13	32	23	
Avg. age	32	34	41	47	ns
LOS	3	7	14	19	ns
Marital status					
Percent married	76	82	84	92	ns
Percent mil. sp.	76	02	4	4	ns
Mean annual income	56,200	67,600	84,800	99,600	ns
Minimum	44,700	51,000	63,100	88,600	ns
10th percentile	47,100	58,700	73,200	92,000	ns
30th percentile	52,100	64,300	82,500	95,500	ns
Median	56,700	67,300	85,300	98,100	ns
70th percentile	58,900	69,900	88,000	104,200	ns
90th percentile	66,600	76,500	93,000	109,600	ns
Maximum	71,600	114,600	97,400	115,000	ns
RMC percent of mean	73	70	70	71	ns

Overall[a] mean 73,700
Median 69,700

ns: Not shown due to small number of personnel in cell.

a. Data for overall categories also include three physicians at the 03E paygrade (former enlisted).

Table A-2. Summary data for pediatric cardiology

Paygrade	03	04	05	06	07
Inventory	1		1	1	
Number MORB Takers			1		
Avg. Age	ns		ns	ns	
LOS	ns		ns	ns	
Marital status					
Percent married	ns		ns	ns	
Percent mil. sp.	ns		ns	ns	
Mean annual income	ns		ns	ns	
Minimum	ns		ns	ns	
10th percentile	ns		ns	ns	
30th percentile	ns		ns	ns	
Median	ns		ns	ns	
70th percentile	ns		ns	ns	
90th percentile	ns		ns	ns	
Maximum	ns		ns	ns	
RMC percent of mean	ns		ns	ns	

Overall mean 85,100
Median 87,600

ns: Not shown due to small number of personnel in cell.

Table A-3. Summary data for pediatric neonatology

Paygrade	03	04	05	06	07
Inventory		2	3	3	
Number MORB takers			2	3	
Avg. age		34	37	43	
LOS		ns	14	17	
Marital status					
Percent married		ns	ns	ns	
Percent mil. sp.		ns	ns	ns	
Mean annual income		ns	ns	ns	
Minimum		ns	ns	ns	
10th percentile		ns	ns	ns	
30th percentile		ns	ns	ns	
Median		ns	ns	ns	
70th percentile		ns	ns	ns	
90th percentile		ns	ns	ns	
Maximum		ns	ns	ns	
RMC percent of mean		ns	ns	ns	

Overall mean 90,300
Median 95,500

ns: Not shown due to small number of personnel in cell.

Table A-4. Summary data for other pediatrics

Paygrade	03	04	05	06	07
Inventory	20	67	46	52	1
Number MORB takers		7	36	42	
Avg. age	30	35	43	47	ns
LOS	4	6	12	17	ns
Marital status					
Percent married	70	75	80	87	ns
Percent mil. sp.	25	10	13	02	ns
Mean annual income	53,400	65,400	88,100	101,500	ns
Minimum	34,800	47,100	47,500	73,200	ns
10th percentile	42,400	57,100	79,300	92,400	ns
30th percentile	51,200	61,600	84,200	97,800	ns
Median	54,500	65,200	88,900	100,500	ns
70th percentile	57,300	68,700	94,600	105,100	ns
90th percentile	61,100	76,200	97,700	113,100	ns
Maximum	62,600	84,700	101,500	129,100	ns
RMC percent of mean	73	72	67	70	ns

Overall mean 80,100
Median 81,800

ns: Not shown due to small number of personnel in cell.

Table A-5. Summary data for cardiology

Paygrade	03	04	05	06	07
Inventory		7	9	6	1
Number MORB takers			3	3	
Avg. age		34	38	47	ns
LOS		8	12	20	ns
Marital Status					
Percent married		100	100	83	ns
Percent mil. sp.		0	0	0	ns
Mean annual income		78,200	90,100	105,400	ns
Minimum		68,800	74,800	98,300	ns
10th percentile		ns	ns	ns	ns
30th percentile		ns	ns	ns	ns
Median		80,500	89,200	105,500	ns
70th percentile		ns	ns	ns	ns
90th percentile		ns	ns	ns	ns
Maximum		81,900	103,300	113,200	ns
RMC percent of mean		67	66	70	ns

Overall mean 91,100
Median 89,200

ns: Not shown due to small number of personnel in cell.

Table A-6. Summary data for gastroenterology

Paygrade	03	04	05	06	07
Inventory		9	6	2	
Number MORB takers			2	2	
Avg. age		34	39	44	
LOS		6	11	ns	
Marital status					
Percent married		100	83	ns	
Percent mil. sp.		11	17	ns	
Mean annual income		75,300	90,100	ns	
Minimum		62,300	83,700	ns	
10th percentile		ns	ns	ns	
30th percentile		ns	ns	ns	
Median		78,300	87,800	ns	
70th percentile		ns	ns	ns	
90th percentile		ns	ns	ns	
Maximum		82,800	101,800	ns	
RMC percent of mean		65	65	ns	

Overall mean 83,700
Median 82,800

ns: Not shown due to small number of personnel in cell.

Table A-7. Summary data for other internal medicine

Paygrade	03	04	05	06	07
Inventory	29	91	57	51	1
Number MORB takers		4	45	40	
Avg. age	32	34	41	47	ns
LOS	2	6	12	17	ns
Marital status					
Percent married	72	86	89	90	ns
Percent mil. sp.	03	08	11	06	ns
Mean annual income	54,800	67,300	91,500	103,500	ns
Minimum	39,600	40,200	58,400	77,800	ns
10th percentile	46,900	58,000	79,700	88,900	ns
30th percentile	52,700	62,700	87,700	99,100	ns
Median	54,900	67,300	92,700	105,800	ns
70th percentile	58,500	72,000	96,800	109,500	ns
90th percentile	62,600	74,700	102,200	116,000	ns
Maximum	64,100	93,300	114,000	121,800	ns
RMC percent of mean	74	73	66	69	ns
Overall mean 80,000					
Median 75,600					

ns: Not shown due to small number of personnel in cell.

Table A-8. Summary data for pathology

Paygrade	03	04	05	06	07
Inventory	2	38	23	22	
Number MORB takers		3	15	19	
Avg. age	33	36	44	48	
LOS	ns	6	12	19	
Marital status					
Percent married	ns	84	83	95	
Percent mil. sp.	ns	08	09	05	
Mean annual income	ns	65,500	83,600	101,300	
Minimum	ns	32,700	67,900	74,200	
10th percentile	ns	50,300	72,800	86,800	
30th percentile	ns	61,300	80,700	96,300	
Median	ns	68,000	82,800	104,400	
70th percentile	ns	71,800	88,600	107,900	
90th percentile	ns	76,800	93,400	115,100	
Maximum	ns	82,600	96,200	117,600	
RMC percent of mean	ns	72	70	69	
Overall mean 79,500					
Median 78,800					

ns: Not shown due to small number of personnel in cell.

Table A-9. Summary data for psychiatry

Paygrade	03	04	05	06	07
Inventory	5	36	29	30	
Number MORB takers		2	19	20	
Avg. age	33	35	44	49	
LOS	2	6	13	16	
Marital status					
Percent married	ns	81	83	83	
Percent mil. sp.	ns	14	03	0	
Mean annual income	58,600	72,000	92,800	102,800	
Minimum	ns	57,100	66,800	83,700	
10th percentile	ns	60,500	78,000	88,000	
30th percentile	ns	66,600	90,700	98,500	
Median	56,200	73,000	94,100	105,500	
70th percentile	ns	77,000	97,300	109,100	
90th percentile	ns	79,200	102,000	111,200	
Maximum	ns	95,200	106,800	119,700	
RMC percent of mean	71	66	66	70	
Overall mean 86,600					
Median 89,700					

ns: Not shown due to small number of personnel in cell.

Table A-10. Summary data for radiology

Paygrade	03	04	05	06	07
Inventory	2	42	28	14	
Number MORB takers		6	21	11	
Avg. age	32	35	45	51	
LOS	ns	6	14	17	
Marital status					
Percent married	ns	81	89	93	
Percent mil. sp.	ns	12	0	0	
Mean annual income	ns	78,900	103,300	110,700	
Minimum	ns	60,200	87,100	89,000	
10th percentile	ns	69,000	87,800	95,500	
30th percentile	ns	73,800	98,000	100,700	
Median	ns	77,700	104,400	110,700	
70th percentile	ns	81,000	109,900	120,800	
90th percentile	ns	93,900	115,800	125,600	
Maximum	ns	107,700	118,500	130,700	
RMC percent of mean	ns	64	60	64	
Overall mean 91,700					
median 88,800					

ns: Not shown due to small number of personnel in cell.

Table A-11. Summary data for Obstetrics and Gynecology

Paygrade	O3	O4	O5	O6	O9
Inventory	4	64	17	16	1
Number MORB takers		4	11	12	ns
Avg. age	32	34	41	51	ns
LOS	3	6	14	20	ns
Marital status					
Percent married	75	94	82	8.	ns
Percent mil. sp.	25	9	0	0	ns
Mean annual income	68;500	75,400	94,900	110,500	ns
Minimum	ns	57,900	47,100	71,900	ns
10th percentile	ns	66,400	65,000	78,400	ns
30th percentile	ns	71,800	94,200	108,500	ns
Median	ns	74,800	101,800	113,900	ns
70th percentile	ns	79,200	105,000	121,300	ns
90th percentile	ns	83,100	109,200	124,700	ns
Maximum	ns	98,300	115,900	129,200	ns
RMC percent of mean	66	64	62	66	ns
Overall mean 84,200					
Median 78,700					

ns: Not shown due to small number of personnel in cell.

Table A-12. Summary data for anesthesiology

Paygrade	O3	O4	O5	O6	O8
Inventory	20	79	25	10	1
Number MORB takers		2	16	8	
Avg. age	32	35	44	50	ns
LOS	2	6	12	18	ns
Marital status					
Percent married	70	87	88	100	ns
Percent mil. sp.	0	8	4	10	ns
Mean annual income	62,800	76,200	100,100	113,300	ns
Minimum	47,600	57,600	52,400	78,100	ns
10th percentile	52,900	68,600	82,700	ns	ns
30th percentile	58,600	72,000	97,700	ns	ns
Median	65,200	75,300	102,200	112,700	ns
70th percentile	67,600	80,000	110,400	ns	ns
90th percentile	69,700	84,800	115,000	ns	ns
Maximum	71,100	101,000	116,100	136,500	ns
RMC percent of income	67	65	59	63	ns
Overall mean 81,500					
Median 78,100					

ns: Not shown due to small number of personnel in cell.

Table A-13. Summary data for general surgery

Paygrade	03	04	05	06	07+
Inventory	2	80	38	34	2
Number MORB takers		7	22	28	
Avg. age	32	35	47	51	51
LOS	ns	4	8	14	ns
Marital status					
Percent married	ns	86	82	100	ns
Percent mil. sp.	ns	06	3	6	ns
Mean annual income	ns	76,100	95,400	119,400	ns
Minimum	ns	35,600	47,700	99,100	ns
10th percentile	ns	62,800	66,500	104,500	ns
30th percentile	ns	71,900	84,800	113,400	ns
Median	ns	76,500	99,600	119,700	ns
70th percentile	ns	80,000	109,300	128,100	ns
90th percentile	ns	87,500	119,700	133,000	ns
Maximum	ns	109,000	125,500	136,600	ns
RMC percent of mean	ns	62	58	59	
Overall mean 90,400					
Median 83,500					

ns: Not shown due to small number of personnel in cell.

Table A-14. Summary data for neurological surgery

Paygrade	03	04	05	06	07
Inventory		6	4	1	
Number MORB takers			3	1	
Avg. age		35	43	ns	
LOS		5	7	ns	
Marital status					
Percent married		83	75	ns	
Percent mil. sp.		0	0	ns	
Mean annual income		76,900	100,500	ns	
Minimum		62,400	89,900	ns	
10th percentile		ns	ns	ns	
30th percentile		ns	ns	ns	
Median		80,600	98,800	ns	
70th percentile		ns	ns	ns	
90th percentile		ns	ns	ns	
Maximum		86,100	114,500	ns	
RMC percent of mean		69	53	ns	

Overall mean 90,100
Median 86,100

ns: Not shown due to small number of personnel in cell.

Table A-15. Summary data for orthopedic surgery

Paygrade	03	04	05	06	07
Inventory	2	64	16	19	1
Number MORB takers		1	5	17	
Avg. age	30	34	40	50	ns
LOS	ns	5	12	18	ns
Marital status					
Percent married	ns	86	94	79	ns
Percent mil. sp.	ns	08	25	11	ns
Mean annual income	ns	74,500	93,600	122,600	ns
Minimum	ns	50,100	74,300	96,500	ns
10th percentile	ns	64,800	76,300	106,000	ns
30th percentile	ns	70,900	83,800	117,200	ns
Median	ns	75,900	86,600	127,000	ns
70th percentile	ns	78,400	104,400	130,300	ns
90th percentile	ns	84,600	118,300	133,600	ns
Maximum	ns	105,000	121,200	137,700	ns
RMC percent of mean	ns	66	62	59	ns

Overall mean 86,500
Median 78,900

ns: Not shown due to small number of personnel in cell.

Table A-16. Summary data for urology

Paygrade	03	04	05	06	07
Inventory		21	6	7	
Number MORB takers			5	5	
Avg. age		34	42	47	
LOS		6	14	19	
Marital status					
Percent married		95	100	100	
Percent mil. sp.		10	17	0	
Mean annual income		75,900	103,600	114,600	
Minimum		64,800	91,300	10o,400	
10th percentile		ns	ns	ns	
30th percentile		ns	ns	ns	
Median		77,000	101,700	110,300	
70th percentile		ns	ns	ns	
90th percentile		ns	ns	ns	
Maximum		83,500	115,600	127,300	
RMC percent of mean		65	58	64	

Overall mean 88,700
Median 80,400

ns: Not shown due to small number of personnel in cell.

Table A-17. Summary data for otolaryngology

Paygrade	O3	O4	O5	O6	O7
Inventory		33	11	14	
Number MORB takers		6	6	10	
Avg. age		34	43	51	
LOS		7	11	20	
Marital status					
Percent married		85	64	93	
Percent mil. sp.		0	9	0	
Mean annual income		80,000	93,400	118,800	
Minimum		34,800	63,700	84,500	
10th percentile		61,100	69,100	94,200	
30th percentile		76,300	82,400	116,600	
Median		80,500	102,600	123,100	
70th percentile		83,800	109,700	125,700	
90th percentile		97,900	110,000	132,100	
Maximum		102,100	113,600	134,100	
RMC percent of mean		63	63	63	
Overall Mean 91,900					
Median 84,500					

Table A-18. Summary data for ophthalmology

Paygrade	O3	O4	O5	O6	O7
Inventory	2	27	14	12	1
Number MORB takers		6	8	12	
Avg. age	35	36	42	46	ns
LOS	ns	8	13	20	ns
Marital status					
Percent married	ns	85	93	67	ns
Percent mil. sp.		15	0	8	ns
Mean annual income	ns	81,200	98,400	122,400	ns
Minimum	ns	60,500	67,100	111,500	ns
10th percentile	ns	69,200	68,900	115,800	ns
30th percentile	ns	77,000	90,100	121,000	ns
Median	ns	80,200	103,000	123,100	ns
70th percentile	ns	83,400	110,300	126,600	ns
90th percentile	ns	100,900	117,300	127,200	ns
Maximum	ns	110,500	126,300	128,200	ns
RMC percent of mean		61	61	58	ns

Overall mean 94,200
Median 85,800

ns: Not shown due to small number of personnel in cell.

Table A-19. Summary data for thoracic-cardiovascular surgery

Paygrade	03	04	05	06	07
Inventory		2	2	1	
Number MORB takers			1	1	
Avg. age		33	42	ns	
LOS		ns	ns	ns	
Marital status					
Percent married		ns	ns	ns	
Percent mil. sp.		ns	ns	ns	
Mean annual income		ns	ns	ns	
Minimum		ns	ns	ns	
10th percentile		ns	ns	ns	
30th percentile		ns	ns	ns	
Median		ns	ns	ns	
70th percentile		ns	ns	ns	
90th percentile		ns	ns	ns	
Maximum		ns	ns	ns	
RMC percent of mean		ns	ns	ns	

Overall mean 96,200
Median 85,400

ns: Not shown due to small number of personnel in cell.

Table A-20. Summary data for dermatology

Paygrade	03	04	05	06	08
Inventory		13	10	12	1
Number MORB takers		1	7	8	
Avg. age		34	41	47	ns
LOS		9	13	19	ns
Marital status					
Percent married		92	100	83	ns
Percent mil. sp.		23	10	0	ns
Mean annual income		70,000	93,300	101,300	ns
Minimum		64,900	74,800	74,900	ns
10th percentile		65,600	ns	78,000	ns
30th percentile		66,900	ns	94,200	ns
Median		67,700	96,200	106,300	ns
70th percentile		69,700	ns	112,100	ns
90th percentile		73,400	ns	113,400	ns
Maximum		93,700	112,100	123,600	ns
RMC percent of mean		71	63	68	ns

Overall mean 88,100
Median 91,000

ns: Not shown due to small number of personnel in cell.

Table A-21. Summary data for neurology

Paygrade	03	04	05	06	07
Inventory	1	16	10	5	
Number MORB takers			4	3	
Avg. age	ns	35	42	48	
LOS	ns	4	15	13	
Marital status					
Percent married	ns	69	60	80	
Percent mil. sp.		0	0	0	
Mean annual income	ns	64,200	87,300	99,900	
Minimum	ns	52,800	78,400	92,800	
10th percentile	ns	57,900	ns	ns	
30th percentile	ns	59,800	ns	ns	
Median	ns	64,100	83,100	97,600	
70th percentile	ns	69,700	ns	ns	
90th percentile	ns	73,400	ns	ns	
Maximum	ns	73,400	114,200	110,800	
RMC percent of mean	ns	75	70	72	
Overall mean 76,000					
Median 73,400					

ns: Not shown due to small number of personnel in cell.

Table A-22. Summary data for plastic surgery

Paygrade	03	04	05	06	07
Inventory		3	7	4	
Number MORB takers			1	4	
Avg. age		35	39	48	
LOS		3	12	20	
Marital status					
Percent married		ns	100	75	
Percent mil. sp.		ns	0	0	
Mean annual income		ns	85,300	119,200	
Minimum		ns	65,600	ns	
10th percentile		ns	ns	ns	
30th percentile		ns	ns	ns	
Median		ns	78,600	120,500	
70th percentile		ns	ns	ns	
90th percentile		ns	ns	ns	
Maximum		ns	114,600	ns	
RMC percent of mean		ns	70	68	

Overall mean 93,500
Median 89,900

ns: Not shown due to small number of personnel in cell.

APPENDIX B

PAY DISTRIBUTION FOR AAMC PHYSICIANS BY SPECIALTY

Appendix B

PAY DISTRIBUTIONS FOR AAMC PHYSICIANS BY SPECIALTY

Distributions of income for civilian physicians surveyed by the American Association of Medical Colleges are not as complete as the distributions shown for Navy physicians. Data for AAMC physicians are taken from the AAMC's *Report on Medical School Faculty Salaries 1988-1989*, table 27. These data represent income for the academic year of September 1988 through August 1989. Data for assistant professors match the O4 paygrade, data for associate professors match the O5 paygrade, and data for professors match the O6 paygrade.

Table B-1. Pay distributions for AAMC physicians by specialty, 1989

Specialty	Assistant professor	Associate professor	Professor
Family practice			
Sample size	359	162	53
Mean income	72,400	90,400	104,700
20th percentile	61,000	75,000	89,000
50th percentile	71,000	89,000	104,000
80th percentile	83,000	105,000	123,000
Pediatric cardiology			
Sample size	39	47	38
Mean income	71,800	90,000	121,900
20th percentile	66,000	72,000	103,000
50th percentile	70,000	88,000	118,000
80th percentile	78,000	109,000	144,000
Neonatology			
Sample size	94	63	52
Mean income	81,300	116,000	120,100
20th percentile	65,000	85,000	90,000
50th percentile	75,000	101,000	119,000
80th percentile	90,000	126,000	134,000
Other pediatrics			
Sample size	362	273	238
Mean income	70,000	83,300	102,400
20th percentile	59,000	70,000	88,000
50th percentile	67,000	83,000	100,000
80th percentile	79,000	94,000	116,000
Cardiology			
Sample size	229	157	169
Mean income	89,700	121,000	132,800
20th percentile	70,000	93,000	102,000
50th percentile	82,000	108,000	128,000
80th percentile	104,000	143,000	157,000
Gastroenterology			
Sample size	98	75	93
Mean income	80,400	105,100	119,700
20th percentile	70,000	88,000	99,000
50th percentile	79,000	101,000	118,000
80th percentile	89,000	120,000	135,000

Table B-1. (Continued)

Other internal medicine			
Sample size	834	559	691
Mean income	72,300	92,000	114,900
20th percentile	62,000	80,000	96,000
50th percentile	70,000	90,000	112,000
80th percentile	82,000	103,000	132,000
Pathology			
Sample size	341	322	435
Mean income	75,000	94,200	117,400
20th percentile	63,000	80,000	96,000
50th percentile	75,000	94,000	116,000
80th percentile	87,000	107,000	138,000
Psychiatry			
Sample size	578	362	364
Mean income	77,900	94,500	117,800
20th percentile	65,000	79,000	95,000
50th percentile	76,000	92,000	114,000
80th percentile	90,000	109,000	140,000
Radiology			
Sample size	642	363	398
Mean income	108,400	134,800	162,400
20th percentile	87,000	109,000	135,000
50th percentile	105,000	131,000	159,000
80th percentile	125,000	161,000	189,000
Obstetrics and gynecology			
Sample size	427	260	229
Mean income	105,400	134,500	148,900
20th percentile	78,000	102,000	116,000
50th percentile	97,000	123,000	141,000
80th percentile	126,000	156,000	173,000
Anesthesiology			
Sample size	843	279	178
Mean income	118,900	145,400	160,600
20th percentile	100,000	122,000	140,000
50th percentile	115,000	140,000	156,000
80th percentile	135,000	164,000	182,000
General surgery			
Sample size	425	293	354
Mean income	121,600	156,100	189,600
20th percentile	90,000	113,000	137,000
50th percentile	109,000	145,000	175,000
80th percentile	145,000	201,000	225,000

Table B-1. (Continued)

Neurological surgery			
Sample size	83	57	68
Mean income	123,600	181,200	218,600
20th percentile	102,000	129,000	158,000
50th percentile	118,000	167,000	204,000
80th percentile	141,000	221,000	260,000
Orthopedic surgery			
Sample size	197	99	111
Mean income	152,800	185,600	201,400
20th percentile	105,000	134,000	148,000
50th percentile	136,000	160,000	174,000
80th percentile	186,000	238,000	243,000
Urology			
Sample size	78	47	73
Mean income	119,200	149,100	177,000
20th percentile	85,000	113,000	134,000
50th percentile	113,000	154,000	171,000
80th percentile	145,000	184,000	213,000
Otolaryngology			
Sample size	83	59	47
Mean income	113,700	143,000	172,200
20th percentile	90,000	111,000	130,000
50th percentile	108,000	142,000	167,000
80th percentile	133,000	175,000	212,000
Ophthalmology			
Sample size	154	95	105
Mean income	112,500	161,000	175,800
20th percentile	90,000	110,000	123,000
50th percentile	107,000	146,000	163,000
80th percentile	139,000	200,000	201,000
Thoracic-cardiovascular surgery			
Sample size	72	44	54
Mean income	179,100	288,600	263,900
20th percentile	117,000	166,000	137,000
50th percentile	150,000	220,000	232,000
80th percentile	205,000	368,000	334,000
Dermatology			
Sample size	80	52	47
Mean income	87,300	127,300	134,900
20th percentile	60,000	84,000	100,000
50th percentile	80,000	108,000	127,000
80th percentile	105,000	158,000	162,000

Table B-1. (Continued)

Neurology			
Sample size	259	165	175
Mean income	75,200	97,800	116,500
20th percentile	61,000	80,000	98,000
50th percentile	73,000	94,000	113,000
80th percentile	87,000	111,000	134,000
Plastic surgery			
Sample size	55	30	32
Mean income	147,100	184,100	222,700
20th percentile	98,000	126,000	156,000
50th percentile	123,000	187,000	213,000
80th percentile	176,000	253,000	286,000