

## **EMPLOYEE SURVEYS AS A STRATEGIC MANAGEMENT TOOL: THE CASE OF ARMY PHYSICIAN RETENTION**

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### **INTRODUCTION**

Public administration literature is rife with studies showing the utility of citizen surveys to the development of public policy (cf. Stipak, 1979; Fitzgerald and Durand, 1980; Jones, 1980; Brudney and England, 1982; Parks, 1984; Percy, 1986; Sharp, 1986; DeHoog, Lowery, and Lyons, 1990). There have been few comparable studies of the utility of public employee surveys. **The purpose of this study is to demonstrate how employee surveys can be extremely useful as strategic management tools, particularly in developing strategies to retain public sector professionals whose counterparts in the private sector earn considerably higher salaries (e.g., physicians, nurses, engineers, certified public accountants).**

Using a 1990 survey of Army physicians assigned to William Beaumont Army Medical Center in El Paso, Texas, the authors will show how analysis of opinions by a respondent's initial expectations for service to an organization (the Army) and by a respondent's actual longevity within the organization can aid in the development of successful employee retention strategies. The results suggest that cohort analysis and panel designs ought to be integral elements of employee-based strategic planning and management efforts.<sup>1</sup>

### **PHYSICIAN RETENTION PROBLEM**

A General Accounting Office study (1990) of military physicians reported that the percentage of military physicians leaving the service annually increased from 13.7 percent in 1985 to 15.6 percent in

1988. The GAO study, based on a survey conducted between November 1988 and January 1989, also found that almost one-half (47 percent)<sup>2</sup> of the active-duty physicians indicated at least a 70 percent probability of leaving the service once eligible.

A Congressional Budget Office study (1990:7) supported the conclusions of the GAO study and found that "the willingness of [military] physicians to stay past their initial period of obligation has been on the decline" since 1982. The CBO study reported that between 1982 and 1985 the retention rate among physicians at the end of their first obligation averaged about 53 percent. Rates of retention dropped to 47 percent in 1986, 39 percent in 1987, and 37 percent in 1988. However, the study concluded that "once physicians elected to stay, they tended to continue serving at steady rates." Still, rate of retention for those beyond their initial obligation dropped slightly from 88 percent in 1982 to 85 percent in 1988.

Both the CBO and GAO studies were based on surveys conducted before Operation Desert Shield began (August, 1990). Military physician recruitment and retention promise to be even bigger concerns in the post-Operation Desert Shield era, even among those beyond their initial obligation. And it is projected that, if the military is downsized after Desert Shield, retention problems will remain (Congressional Budget Office, 1990).

#### PREVIOUS RESEARCH

Virtually every study of military physician retention has asked physicians if they plan to leave and, if so, why.<sup>3</sup> The GAO (1990) study concluded that active-duty physicians' intentions to leave are most significantly influenced by three factors: (1) the time spent on nonphysician tasks (nursing, secretarial or administrative duties; (2) a gap between military and civilian physician compensation; and (3) the lack of opportunity to practice in their primary specialties. The study concluded that "the probability of physicians leaving military service can be most effectively reduced by increasing compensation, by decreasing the time physicians spend on nonphysician tasks, or both" (*Ibid.*, 3).

From a strategic planning perspective, the GAO study offers some insight as to the importance of contrasting the views of physicians based on the number of years they have served on active duty. Specifically, the GAO study contrasted the views of physicians who served under their initial obligation (paying back the military for

financing their medical education) with those of physicians beyond their initial obligation (physicians serving under some other type of obligation incurred as a result of participation in physician special pay programs, additional training or promotions).

Not surprisingly, the likelihood of physician departure from the military differed for the two groups as did the reasons offered, although there were some commonalities. The probability of leaving was found to be 88.5 percent among initial obligees and 52.7 percent among other obligees. (Those without obligations were included in the other obligees category.<sup>4</sup>) For both groups, the lower the pay, the more hours per week a physician spent doing nonphysician tasks, and physician difficulty maintaining proficiency due to case mix (a physician did not have enough cases in his specialty to keep him proficient), all increased the likelihood of a return to civilian practice.

For initial obligee physicians, three other factors were also found to be significantly related to their plans to leave the military: hours spent on readiness training (the more hours, the more likely to leave); civilian pay (the higher the civilian pay, the more likely to leave); and initial intention not to seek a military career. For other obligees (physicians with more years of service), another significant determinant of departure plans was the number of undesired changes in permanent station (the higher the number, the more likely to leave). This finding forms the basis of the authors' prediction that physician retention will become more difficult in the post-Operation Desert Shield era. During Desert Shield operations, physicians were given no choice about their deployment assignments.<sup>5</sup>

The GAO (1990) study also included a measure of the initial career plans of the physicians as a predictor of whether a physician was likely to leave the military within the next few years. Specifically, one of the variables included in the study was whether the physician planned on a military career when he or she entered the military.<sup>6</sup> Predictably, the initial career plan variable had the most impact on initial obligees. For initial obligees who entered the military with plans to make it a career, the probability that they would leave was marginally reduced. For careerists, it had no significant impact,

The GAO study only casually addressed the issue of why physicians stay in. It listed the five most important reasons for physicians **entering** the military but not for staying. (The five major reasons for entering were: financial support for medical education, 56 percent;

opportunity to serve the U.S., 6 percent; draft, 5 percent; post-graduate education pay, 5 percent; and residency opportunities, 4 percent.)

The final report identified only two factors serving as major "inducements to stay in the service" (GAO, 1990:20): the opportunity to practice their medical specialty and the control they had over their duty stations. "About 50 percent of the physicians said that the opportunity to pursue a medical specialty was an inducement to remain in the military. Almost 60 percent said that ability to maintain proficiency was also an inducement to stay" (*Ibid.*).

Two other inducements were mentioned but no percentage breakdowns were reported: "a desire to help assure that members of the Armed Services receive quality medical care" and "the fact that military physicians do not have to concern themselves with the patients' ability to pay for care" (*Ibid.*, 24-25). In summary, there was no empirical analysis of reasons for staying in or any evidence of the inclusion of questions designed to elicit this information from the military physicians through a standard closed-ended format.

Another major study of military physicians was completed by the Congressional Budget Office in July, 1990. It was designed to investigate alternatives to the current system of special pay incentives.<sup>7</sup> It assumed "that military physicians base their decisions to stay or leave on a comparison of their military earnings and their average civilian alternatives (defined by net mean incomes). As the relative value of military pay increases, physicians become more willing to stay on active duty and projected retention rates rise" (*Ibid.*, 32).

The CBO study found a statistical relationship between pay and retention among physicians just ending their first obligation. For this group, a 10 percent increase in the relative value of military pay generally leads to a six percent increase in the rate of retention. For physicians beyond their initial obligation, the study assumed that a 10 percent pay increase would increase retention by 1-2 percent, but acknowledged that it had no empirical basis for these estimates (*Ibid.*, 33).

The GAO study also reported that 61 percent of all military physicians "said that their probability of leaving would be somewhat or greatly decreased if pay were indexed to that of physicians in private practice"; 71 percent said that a bonus would provide at least **some** inducement to remain (*Ibid.*, 22). However, the regression model used by GAO to predict the probability of physician departure did not include either of these variables (a ratio of civilian to

military pay) or of the amount of special pay received by the respondent.

Actually, both the GAO and CBO studies acknowledge the rather weak relationship between pay and retention. The GAO study investigated whether years of service in the military affects the relationship between pay and retention. It found that "physicians with more than 12 years of service have a lower stated probabilities of leaving and are less responsive to pay than physicians with fewer years of service" (GAO, 1990:49).

The CBO (1990:33) study estimated the impact of various pay plans using elasticities based on the assumption that "a given change in pay will probably produce a much smaller percentage change in retention among the more experienced members of a force," although as previously noted, it has no empirical basis for the assumption. The study also acknowledges the possibility that other measures having little to do with pay "might greatly improve the retention of more senior physicians" and "Pay stands out because it is the device more easily controlled by the Congress, as well as the most directly linked to the retention of physicians" (*Ibid.*, 9).

The reason pay is most directly linked to physician retention is because other factors for staying in have not been investigated in the same systematic empirical fashion as factors affecting decisions to get out (except for Strunz, 1989).<sup>8</sup>

#### *Lessons for Design and Analysis of Public Employee Surveys*

The GAO study demonstrates the need for more rigorous empirical analysis of data, especially since such data are often the basis for major expenditure decisions by Congress and the source of data for analyses by other groups such as CBO. The flaws of the GAO study cast serious doubts on its conclusions and retention improvement recommendations. For example, the GAO study set the level of statistical significance at .10 instead of the more standard .05 level. The sixteen-variable regression model explained only 8 percent of the variance in initial obligees' likelihood of leaving the military; it explained only 13 percent of the variance among the other obligee group.

While the GAO study results are not very impressive by social science standards, it is clear that the technique of analyzing employee opinions by length of service and by initial plans for a public sector career (versus private) can yield significantly different results

than merely analyzing in the aggregate. It is this aspect that offers the most promise for use of employee surveys in strategic planning, particularly if the approach is to ask employees why they stay, not just why they might leave.

### THE STUDY

The purpose of this study is to determine the utility of employee surveys in developing retention strategies for hard-to-keep public sector professionals. To do this, the authors examine the reasons why physicians choose to stay in the military, specifically the U.S. Army. They basically use the same approach as the GAO study but ask the physicians why they stay. In July-August 1990, they sent a mail questionnaire to all physicians (except interns) assigned as of June 27, 1990 to the William Beaumont Army Medical Center, El Paso, Texas. After one follow-up mail out, they achieved a response rate of 77 percent, well above the norm for mail surveys (Nachmias and Nachmias, 1987).

#### *Profile of Respondents*

The profile of physicians who responded to the survey closely mirrors the profile of military physicians at large. According to the GAO (1990) study, the median age of all military physicians is 35; among these respondents, it is 36. Among all military physicians, 88 percent are males; among these respondents, 83 percent are males. Among military physicians at large, 21 percent planned on a military career at the time they entered the service; among these respondents, 22 percent said they entered the Army with plans to stay until retirement. In summary the respondent profile in this study (Table 1) is similar to that for military physicians as a whole.<sup>9</sup>

#### *Dependent Variables*

Respondents were asked two major questions designed to determine which factors keep them in the Army. The first asked, "Which of the following factors are reasons why you continue to practice as an Army physician instead of going into private practice?" (check if applicable). The factors they were asked to evaluate were: base pay; special pay; total compensation (base pay plus special pay); travel opportunities; family/personal reasons; working hours; overall job

TABLE 1  
 SURVEY RESPONDENT CHARACTERISTICS:  
 ARMY PHYSICIANS, WILLIAM BEAUMONT  
 ARMY MEDICAL CENTER

Characteristic	% of Respondents (n=118)
<b>Current Rank</b>	
O-3 Captain	33.9%
O-4 Major	33.1
O-5 Lt. Colonel	14.4
O-6 Colonel	18.6
<b>Current Status</b>	
Resident	28.8%
Physician	67.8
Fellow	3.4
<b>Years on Active Duty</b>	
Less than 1 year	2.5%
1-2 years	8.5
3-4 years	19.5
5-10 years	35.6
10-15 years	16.9
Over 15 years	16.9
<b>Specialty<sup>1</sup></b>	
Primary Care	21.1%
Surgery	17.4
Surgery-related	3.2
Obstetrics & Gynecology	7.1
Nonsurgical Specialties	31.6
Psychiatry	1.9
Emergency Medicine	1.3
Hospital-Based	10.3
<b>Special Pay Received (Multiple Responses)</b>	
Variable Special Pay	89.7%
Board Certified Pay	63.8
Medical Additional Special Pay	69.0
Incentive Special Pay	37.1
Medical Officers Retention Bonus	35.3
<b>Median Special Pay Received (\$)</b>	\$25,000
<b>Had Experience in Private Practice</b>	6.8%
<b>Previous Assignment Abroad</b>	43.2%
<b>Medical School Financing</b>	
Military	73.5%
Other sources	26.5

TABLE 1 (cont.)

Characteristic	% of Respondents (n=118)
<b>Initial Plans for Active Duty</b>	
Until initial obligation fulfilled	44.4%
4 years or less	12.0
5-10 years	21.4
Until retirement	22.2
<b>Race</b>	
Caucasian	75.2%
Asian	4.3
Hispanic	14.5
Black	6.0
<b>Gender</b>	
Male	83.1%
Female	16.9
<b>Marital Status</b>	
Single (never married)	11.0%
Divorced	4.2
Married	84.7
<b>Spouse in Military (if Married)</b>	
Yes	18.6%
<b>Median Age</b>	36.0

Note:<sup>1</sup> Specialty categories used by the Congressional Budget Office (1990:28).  
The percentages are based on the total number of specialties covered by all  
the physicians; 29.1 percent have more than one specialty.

Source: Physicians assigned to William Beaumont Army Medical Center, El Paso,  
Texas, July-August, 1990.



satisfaction; service to country; military organization and discipline; medical education benefits; retirement benefits; to avoid costs of liability insurance; to avoid costs of office equipment and personnel; obligation to medical school/training; obligation due to special pay; or other (specify). The average number of reasons cited was 3.<sup>10</sup>

A second question offered the same series of choices but asked respondents, "Which of the following is **the single most important** reason for you to remain in the Army?" (check only one).

#### *Independent Variables*

Data were collected from respondents on their initial career plans and actual length of service on active duty to determine the effect of these variables on each factor perceived to be a reason for remaining in the Army. (There was no statistically significant relationship between initial career plan and actual length of service on active duty thereby justifying the use of each variable as an independent variable.)

Respondents were asked, "When you first entered the Army as a physician, how long did you plan to remain on active duty?" (check only one): until initial obligation fulfilled; 4 years or less; 5-10 years; until retirement. They were also asked, "How long have you been an Army physician on active duty?: less than 1 year; 1-2 years; 3-4 years, 5-10 years; 10-15 years; over 15 years.

#### *Hypotheses*

Based on the GAO and CBO studies and a previous study of Army physicians assigned to the 18th Medical Command in Korea (Strunz, 1989), the authors hypothesized as follows:

Factors other than pay alone motivate physicians to practice medicine in the Army rather than the private sector.

The longer one stays in or plans to stay in, the less likely he/she is to cite any of the pay variables (base pay; special pay or total compensation), travel opportunities, obligation due to medical school/training or avoiding the costs of liability insurance or of office equipment and personnel as major reasons for staying in the Army.

The longer one stays in or plans to stay in, the more likely he/she is to cite obligations due to special pay programs, family/personal reasons, especially if the spouse is in the military, overall job satisfaction, service

TABLE 2  
REASONS PHYSICIANS GIVE FOR STAYING  
IN THE ARMY

Reason	% Citing as One Reason <sup>1</sup> (n=118)	Rank	% Citing as Most Impt. Reason (n=118)	Rank
<b>Obligation</b>				
Due to medical school training	61.0%	1	41.4%	1
Due to special pay	12.7	11	2.7	8
<b>Pay</b>				
Base pay	1.7	16	0	13
Special pay	4.2	15	0.9	9
Total compensation	18.6	7	5.4	5
<b>Personal Benefits</b>				
Overall job satisfaction	31.4	3	17.1	2
Retirement benefits	25.4	5	5.4	6
Family/personal reasons	27.1	4	10.8	3
Working hours	20.8	6	0.9	9
Medical education benefits	16.9	8	4.5	7
Travel opportunities	15.3	9	0	13
Avoid costs of liability insurance	13.6	10	0	13
Avoid costs of office equipment and personnel	10.2	13	0	13
Military organization and discipline	9.3	14	0.9	9
Service to country	34.7	2	0.9	9
Other <sup>2</sup>	11.9	12	9.0	4

Notes: <sup>1</sup>Figures in this column add to greater than 100% due to multiple responses.

<sup>2</sup>Other<sup>2</sup> reasons cited included good research opportunities and the opportunity to train medical students, interns and residents, among others.

Source: Survey of physicians assigned to William Beaumont Army Medical Center, El Paso, Texas, July-August, 1990.

to country, military organization and discipline, medical education benefits, working hours, and retirement benefits as major reasons for remaining an Army physician.

### THE RESULTS

The results support the initial hypothesis regarding the importance of factors other than just pay to Army physician retention. Total compensation is cited by fewer physicians (18.6 percent) than obligation due to medical school/training (61 percent), service to country (34.7 percent), overall job satisfaction (31.4 percent), family/personal reasons (27.1 percent), retirement benefits (25.4 percent) or working hours (20.3 percent) as major reasons for staying in (Table 2).

Special pay (bonus money) is cited by only 4.2 percent of the physicians as a reason for practicing in the Army rather than in the private sector.

Similar patterns are observable in physician responses to the question asking them to identify the **single** most important factor for staying in (Table 2). Total compensation ranks behind obligation due to medical school/training, overall job satisfaction, family/personal reasons, and other reasons (not identified) as the single most important reason for remaining in the Army. Just 5.4 percent identify total compensation as the single most important reason; 0.9 percent identify special pay and none identify base pay.

These results suggest that Congress should reexamine its approach of trying to improve Army physician retention by pay mechanisms alone. These findings clearly show that a variety of factors other than pay can motivate physicians to stay in the military. The results also show that the **relative** importance of pay as a retention factor can be determined only by offering survey respondents the opportunity to identify factors other than just pay.

Finally, the results clearly demonstrate that surveys which ask employees why they stay yield considerably different results than those asking why they might leave. (Only 1.7 percent of the respondents in this study failed to identify any factor keeping them in.) **The lesson to be learned here is that employee surveys designed to help policy-makers develop retention strategies for hard-to-keep employees should ask both sides of the question--why they might stay and why they might leave, followed by questions designed to ask them the odds that they might stay/leave due to each factor that is**

TABLE 3  
FACTORS IDENTIFIED BY PHYSICIANS FOR STAYING IN  
THE ARMY BY INITIAL PLANS FOR ARMY SERVICE

Factor	Initial Plans Upon Entering Army <sup>1</sup>			Level of Significance <sup>2</sup>
	Until Initial Obligation Fulfilled (n=52)	4 yrs. or less (n=14)	5-10 Yrs. (n=25)	
Obligation due to medical school/training	63.5	21.4	72.0	65.4
Service to country	26.9	42.9	28.0	50.0
Overall job satisfaction	28.8	35.7	20.0	42.3
Family/personal reasons	34.6	28.6	16.0	23.1
Retirement benefits	23.1	42.9	16.0	30.8
Working hours	21.2	21.4	24.0	15.4
Total compensation	15.4	28.6	16.0	23.1
Medical education benefits	17.3	14.3	12.0	23.1
Travel opportunities	11.5	14.3	12.0	23.1
Avoid costs of liability insurance	15.4	7.1	8.0	19.2
Obligation due to special pay	7.7	35.7	12.0	11.5
Avoid costs of office equipment & personnel	9.6	0.0	8.0	19.2
Military organization & discipline	9.6	0.0	0.0	23.1
Special pay	3.8	14.3	4.0	0.0
Base pay	1.9	7.1	0.0	0.0
Other	15.4	14.3	4.0	11.5

Notes: <sup>1</sup>Figures in columns add to greater than 100% due to multiple responses.

<sup>2</sup>The relationship tested is between each reason for staying in and the initial plans for service longevity upon entering the Army.

Source: Survey of physicians assigned to William Beaumont Army Medical Center, El Paso, Texas, July-August, 1990.

TABLE 4  
SINGLE MOST IMPORTANT REASON FOR STAYING  
IN THE ARMY BY PHYSICIAN'S INITIAL  
PLANS FOR ARMY SERVICE

Factor	Initial Plans for Service			
	Until Initial Obligation Fulfilled (n=52)	4 yrs. or less (n=14)	5-10 yrs. (n=25)	Until Retirement (n=26)
Obligation due to medical school/training	44.0	15.4	52.2	37.5
Overall job satisfaction	16.0	38.5	13.0	12.5
Family/personal reasons	14.0	7.7	8.7	8.3
Total compensation	8.0	0	4.3	4.2
Retirement benefits	0	15.4	0	16.7
Medical education benefits	2.0	0	8.7	8.3
Obligation due to special pay	0	7.7	4.3	4.2
Working hours	2.0	0	0	0
Service to country	0	0	0	4.2
Military organization & discipline	2.0	0	0	0
Special pay	0	0	4.3	0
Base pay	0	0	0	0
Travel opportunities	0	0	0	0
Avoid costs of liability insurance	0	0	0	0
Avoid costs of office equipment and personnel	0	0	0	0
Other	12.0	15.4	4.3	4.2

Source: Survey of physicians assigned to William Beaumont Army Medical Center, El Paso, Texas, July-August, 1990.

evaluated.

We turn now to a closer look at whether physician responses and rankings differ according to their initial career plans and their actual length of service on active duty.

#### *Impact of Initial Career Plans*

The results reported in Table 3 show that the factors identified by physicians as reasons for staying in the Army differ according to their initial plans. Among those who entered the Army **anticipating that they would stay only until their initial obligation was fulfilled** (44 percent of respondents), the six most commonly cited reasons why they stay in the Army are: obligation due to medical school (63.5 percent); family/personal reasons (34.6 percent); overall job satisfaction (18.8 percent); service to country (16.9 percent); retirement benefits (23.1 percent); and working hours (21.2 percent).

When asked the **single** most important reason for staying in, the rank ordering of these "non-careerists" was: obligation due to medical school/training (44.0 percent); overall job satisfaction (16.0 percent); family/personal reasons (14.0 percent); or other (12 percent) (Table 4). Only 8 percent cited total compensation. Ninety-six and two tenths (96.2%) percent believe that the total monetary compensation for an Army physician is "less than that for a physician in private practice with the same specialty and years of experience."

Of those entering with no plans to make the Army a career, 36.5 percent have been in the military less than 5 years; 30.8 percent have been in the military over 10 years; 76.5 percent went through medical school with military financing; 94.2 percent are married; 3.8 percent had been in private practice before entering the military.

The rank orderings of reasons for staying in were somewhat different for physicians who entered the Army **planning to stay until retirement** ("careerists") (Table 3). While the highest percentage listed obligation due to medical school/training (65.4 percent) just like those entering with no Army career plan, more of them identified service to country (50 percent), overall job satisfaction (42.3 percent), retirement benefits (30.8 percent), total compensation (23.1 percent), medical education benefits (23.1 percent), travel opportunities (23.1 percent), and military organization and discipline (23.1 percent) among their top reasons for staying. The percentage citing family/personal reasons (23.1 percent) was somewhat lower than for the "non-careerists."

Among the careerists (those entering planning to stay until retirement), the rank ordering of the **single** most important reason for staying was: obligation due to medical school/training (37.5 percent); retirement benefits (16.7 percent); overall job satisfaction (12.5 percent); family/personal reasons and medical education benefits (8.3 percent each). Total compensation was listed by only 4.2 percent.

Of those initially planning to stay until retirement, 34.6 percent have been in the military less than 5 years, 42.3 percent have been in over 10 years, 76.9 percent went through medical school with military financing; 76.9 percent are married; 11.5 percent have been in private practice at some time; 92.3 percent believe that the total compensation for military physicians is "less than that for a physician in private practice with the same specialty and years of experience."

The same exercise shows that rank orderings differ for physicians who initially entered the military **with intentions to practice a limited number of years**. Most striking are the opinions of those who initially planned to stay 5-10 years (21 percent of respondents). Of these, 24 percent have been in less than five years and 20 percent have been in over 10 years. In other words, over half (56 percent) have been in between 5-10 years. The responses of this group are particularly interesting because they, in effect, represent the pool for whom retention strategies can be the most effective. They represent the "undecideds" from the perspective of a decision to make the military a career.

These "undecideds" rank obligation due to medical school/training also as the major reason they stay in. Like the "careerists" and "noncareerists," almost three-fourths (72 percent) went through medical school with military financing. The "undecideds" more closely resemble those planning to stay until retirement in that service to country is ranked second, although the percentage citing it as a factor is certainly lower (28 percent compared to 50 percent). The "undecideds" rank favorable working hours (24 percent) third--higher than either the "careerists" or "noncareerists."

In general, however, the "undecideds" are less likely to cite any factor other than obligation as a reason for staying than "careerists" or "noncareerists." The proportion citing overall job satisfaction (20 percent), family/personal reasons, retirement benefits, and total compensation (16 percent each) are, for the most part, smaller than for the other two groups.

Over half of these "intermediate careerist" physicians identify

obligation due to medical school/training as the **single** most important reason they stay in, followed by overall job satisfaction (13 percent), family/personal reasons (8,7 percent), and medical education benefits (8.7 percent). Only 4.3 percent identify total compensation because, like the other groups, 92 percent feel military physician pay lags behind that of civilian physicians.

In general, this analysis shows that the rank orderings of physicians' reasons for staying in the Army differ by initial career plans. However, a chi square test of significance shows that the initial career plan variable is most significantly related to obligation due to medical school/training, obligation due to special pay, and the attractiveness of military organization and discipline. Those with more permanent career plans are more likely to identify each of these as reasons for staying.

There is also a significant relationship between initial career plans and specialty. Those not planning a military career are more likely to be in obstetrics and gynecology, psychiatry, and hospital-based specialties (radiology, anesthesiology, pathology) than careerists. Larger proportions of careerists are in primary care, surgery-related specialties (ophthalmology, otolaryngology, urology) and nonsurgical specialties, such as internal medicine, neurology, and dermatology. (Similar proportions of each group are in surgery and emergency medicine.)

There was no significant relationship between initial career plans and gender, race, marital status, private practice experience or actual length of service.

#### *Impact of Length of Service on Active Duty*

Comparing and contrasting the opinions of physicians by length of service on active duty produces a much clearer test of the hypotheses than the analysis by initial career plans (Table 5).

The percentages reported in Table 5 confirm many, but not all, of the initial hypotheses. The longer one stays in, the more likely he/she is to cite obligations due to special pay, family/personal reasons, retirement benefits, and, to a lesser degree, medical education benefits and service to country as major reasons for staying in. Similarly, as predicted, the longer one stays in, the less likely he/she is to cite obligations due to medical school/training.

On the other hand, the data show that the longer one serves, the more likely he/she is to cite total compensation (pay) as a reason for



**TABLE 5**  
**FACTORS IDENTIFIED BY PHYSICIANS FOR STAYING IN**  
**THE ARMY BY LENGTH OF SERVICE ON ACTIVE DUTY**

Factor	Length of Service <sup>1</sup>				Level of Significance <sup>2</sup> $\chi^2$
	Less than 5 yrs. (n=36)	5-10 yrs. (n=42)	10-15 yrs. (n=20)	Over 15 yrs. (n=20)	
Obligation due to medical school/training	83.3	78.6	40.0	5.0	.00
Service to country	33.3	28.6	45.0	40.0	NS
Overall job satisfaction	33.3	14.3	55.0	75.0	.00
Family/personal reasons	22.7	21.4	40.0	35.0	NS
Retirement benefits	13.9	7.1	35.0	75.0	.00
Working hours	8.3	19.0	30.0	35.0	NS
Total compensation	11.1	11.9	20.0	45.0	.01
Medical education benefits	13.9	14.3	10.0	25.0	NS
Travel opportunities	13.9	16.7	10.0	20.0	NS
Avoid costs of liability insurance	16.7	7.1	10.0	25.0	NS
Obligation due to special pay	2.8	4.8	35.0	25.0	.00
Avoid costs of office equipment & personnel	11.1	9.5	5.0	15.0	NS
Military organization & discipline	13.9	7.1	15.0	0	NS
Special pay	2.8	2.4	10.0	5.0	NS
Base pay	2.8	2.4	0	0	NS
Other	11.1	7.1	30.0	5.0	.04

Notes: <sup>1</sup>Figures in columns add to greater than 100% due to multiple responses.  
<sup>2</sup>The relationship tested is between each reason for staying in and the length of time on active duty.

Source: Survey of physicians assigned to William Beaumont Army Medical Center, El Paso, Texas, July-August, 1990.

TABLE 6  
SINGLE MOST IMPORTANT REASON FOR STAYING  
IN THE ARMY BY PHYSICIANS LENGTH  
OF SERVICE ON ACTIVE DUTY

Factor	Length of Service			
	Less than 5 yrs. (n=36)	5-10 yrs. (n=42)	10-15 yrs. (n=20)	Over 15 yrs. (n=20)
Obligation due to medical school/training	50.0	61.5	26.3	0
Overall job satisfaction	8.8	2.6	15.8	63.2
Family/personal reasons	5.9	12.8	5.3	21.1
Total compensation	8.8	5.1	5.3	0
Retirement benefits	2.9	0	10.5	15.8
Medical education benefits	8.8	5.1	0	0
Obligation due to special pay	0	2.6	10.5	0
Working hours	0	0	5.3	0
Service to country	2.9	0	0	0
Military organization & discipline	2.9	0	0	0
Special pay	0	2.6	0	0
Base pay	0	0	0	0
Travel opportunities	0	0	0	0
Avoid costs of liability insurance	0	0	0	0
Avoid costs of office equipment and personnel	0	0	0	0
Other	8.8	7.7	21.1	0

Note: The relationship between length of service and the most important reason for staying in the Army is significant at the .001 level.

Source: Survey of physicians assigned to William Beaumont Army Medical Center, El Paso, Texas, July-August, 1990.

staying. Actually, this is not inconsistent with what previous research has found, namely that military-civilian pay differentials become less significant the longer one stays in. The results of this study show that the longer one serves, the more content he/she is with the total compensations received while in the military.

Unexpectedly the data show that travel opportunities become a more significant retention factor the longer one serves. Also surprising is the fact that the longer one serves, the less significant is military organization and discipline as a retention factor. Finally, the results somewhat challenge "conventional wisdom" which holds that costs related to private practice (liability, office equipment, and personnel) are most likely to be cited by physicians just entering the military. The data show that those closest to retirement (over 15 years on active duty) are also likely to cite these factors as reasons for staying in.

From a purely statistical perspective, length of service on active duty is most significantly related to these reasons for staying: obligation due to medical school/training; obligation due to special pay; overall job satisfaction; retirement benefits; total compensation; and other reasons, usually teaching and research.

An analysis of the **single** most important reason for staying in the Army by length of service on active duty (Table 6) shows that, for **those in less than five years**, medical school/training obligation, medical education benefits, overall job satisfaction, total compensation, and other factors such as training in one's specialty are the most important reasons cited for staying, the preeminent one being obligation due to medical school (50 percent). Over eighty (83.3) percent went through medical school with military financing; 66.7 percent are residents; 86.1 percent are married; and of these 19 percent have spouses in the Army.

Among those who have been in **5-10 years** (frequently the "undecideds" in terms of staying in), the single most important reason for staying for 61.5 percent of these physicians is obligation due to medical/school training. For 12.8 percent, family/personal reasons, most likely education and health benefits for their school-age dependents, are most effective in keeping them in. For 7.7 percent, it is "other" factors such as opportunities to teach, conduct research or practice in their specialty. For another 5.1 percent, it is medical education benefits (opportunities to attend special training programs). Total compensation is the major reason for just 5.1 percent. Minimal percentages cite obligation due to special pay and

overall job satisfaction as the most important reason for staying in (2.6 percent for each).

Three-fourths of those who have been on active duty between 5 and 10 years went through medical school with military financing (75.6 percent). Most (85.7 percent) are married and, of those, 17 percent have spouses in the military. None have had experience in private practice.

A look at those with **over 15 years of service** reveals a significantly different pattern. Among this group, only three reasons appear as the **single** most important reason. Nearly two-thirds (63.2 percent) stay in primarily due to overall job satisfaction; 21.1 percent stay for family/personal reasons; and 15.8 percent for medical education benefits. Only 45 percent of these physicians went through medical school with military financing; 90 percent are married and, of these, 11 percent have spouses in the military; and 10 percent have had experience in private practice.

From a statistical perspective, there were no statistically significant relationships between length of time on active duty and race, gender, marital status, spouse-in-military or specialty. There were, however, statistically significant relationships between a physician's length of service and his/her private practice experience, military financing of medical school, and physician status (resident, staff physician, fellow). Those who have served longest are less likely to have gone through medical school at the military's expense, less likely to be residents, and more likely to have had experience in private practice. Clearly, breaking down physician responses by length of service is a useful technique for gaining a better understanding of how time in public service affects one's evaluation of why they stay.

## CONCLUSIONS

This study has shown that professionals in the public sector (in this case Army physicians) remain in public service for a variety of factors other than monetary compensation. Most go into the public service knowing they could make more in the private sector but choose to do so for a number of different reasons, the most common being to pay back the government for financing their graduate-level education.

The study has also shown that the reasons why professionals stay in differ, depending on whether they initially entered the public

service intending to make it a career or merely to pay back an obligation. Likewise, this study shows that the reasons for staying change the longer one stays within a public sector organization. From a strategic management perspective, this study has shown that employee surveys which take into account both career plans and longevity of service can be extremely useful tools in developing and implementing employee retention strategies if the surveys are designed and analyzed properly. Cohort or panel studies have the greatest potential to test the effects of maturation on opinions.

This study of Army physicians assigned to William Beaumont Army Medical Center shows that pay is not one of the primary reasons physicians give for staying in; virtually all of the respondents agree that private sector compensation is greater than Army physician compensation. The most common reason given for staying in is obligation due to medical school/training, except for those who have been in over 15 years. This is because over 70 percent of all military physicians have had at least some of their medical schooling or training paid for by the military and still have some service obligation as a consequence.

The study suggests that retention strategies that are the most likely to cause the "undecideds" to stay should emphasize the following: family/personal benefits (most likely education, medical, and dental benefits for their dependents; opportunities to do research, teach, and/or practice in their specialty; medical education benefits; and opportunities related to time-in-service (promotions, working hours, total compensation, and travel opportunities).

The study somewhat confirms the conventional wisdom which holds that satisfaction with or perhaps "resignation to" public service pay increases the longer one serves. More importantly, the longer one serves, the more reasons other than pay an individual finds for doing so. In summary, over time relatively poor pay (in comparison with the private sector) diminishes as a reason for not serving.

Relatedly, the study shows that those who enter public service with the intent of staying there throughout their career are more likely to be satisfied with their total compensation than those who enter with short-term service goals. This is true in spite of the fact that there is no statistically significant difference in the two groups with respect to their perceptions of public vs. private pay scales. Both groups perceive private sector pay to be higher than public sector pay.

In summary, employee surveys designed to elicit the opinions of

hard-to-keep public sector professionals to develop retention strategies can be extremely useful to governments if designed and analyzed properly. This study has shown that results are dramatically different if one asks why employees stay rather than why they leave or might leave. The authors **suggest that such surveys should ask both why they stay and why they might leave and the odds of each.**

Effective retention strategies, often tied to effective and honest recruitment strategies, can greatly reduce the costs associated with high turnover and improve the morale and productivity of public sector professionals. They also can save the taxpayers money by recognizing that pay frequently is not among the **major** reasons for professionals to enter or stay in the public service. By offering other less-costly and often more effective inducements to stay, government agencies can better serve the individual professional AND the taxpayers.

## NOTES

The views expressed in this article are those of the authors and are not official views of the U.S. Army.

1. Cohort analysis frequently focuses on differences of opinions among various age groups. It has "great potential for providing insight into the effects of human aging and into the nature of social, cultural, and political change" (Glenn, 1977:7). Panel designs survey the opinions of the same sample of individuals at two or more points in time. Of the two, panel designs are the more difficult and expensive but are the most effective at tracking the maturation of opinions.
2. The percentage was lower for the Army (41 percent) than for the Navy (50 percent) or Air Force (52 percent) (GAO, 1990:34).
3. The GAO (1990:48) study acknowledges the limitations of analyzing PLANNED departures rather than actual departures of the respondents. "We have not established a direct line between the probabilities stated in the survey results and the actual decision of military physicians to stay in the service or not." But GAO justifies the approach by stating, "The overall picture provided by their responses is reasonably consistent with actual experience ..."
4. The CBO study (1990:5-6) reported that the vast majority (70 percent in 1988) of military physicians recruited for active duty each year enter the military through the Armed Forces Health Professionals Scholarship Program (HPSP). About 60 percent of HPSPs come on active duty right out of medical school and receive their graduate medical education in a military training program. The other 40 percent receive residency training in civilian institutions (deferred HPSPs) then

come on active duty as fully-trained specialists. Volunteers (fully qualified physicians who leave civilian practice to join the military, many hoping to get advanced training) make up 20 percent of the recruits. The other 10 percent come from the Uniformed Services University of the Health Sciences, the Reserve Officer Training Corps and the service academies. Of the respondents to the GAO survey, 50 percent were in the initial obligation stage of paying back the military for financing their medical education; 39 percent were paying back other service obligations due to special pay, promotions or additional training given them by the military; and 11 percent had no service obligation to the military.

5. The fact that wartime or combat readiness missions prevail over peacetime missions was one reason why the GAO study (1990:32) did not make any retention recommendations related to this variable. It also accounts for GAO's failure to make recommendations related to readiness training and the ability to maintain proficiency in one's specialty.
6. The 16-variable regression model used by the GAO (1990:43) to estimate the probability of a physician leaving the military included these variables: gender; marital residency status (married and living together); number of dependents; military career plans upon entering the military; military pay (estimated by the Department of Defense by specialty and active duty grade); civilian pay (estimated by DOD by specialty and academic rank); hours spent per week on nursing, clerical, and administrative tasks; mix (physician evaluation of whether it was difficult for him/her to maintain proficiency with his/her current career mix); respondent's ability to practice in his/her specialty; hours per month spent in readiness or combat training; average number of months deployed per year; number of unwanted permanent changes of station; internal medicine specialty (yes;no); primary care specialty (yes;no); surgery specialty (yes;no); obstetrics/gynecology (yes;no). The model was used to predict the probability of departure for two groups of physicians: initial obligees and those with other obligations. There was no analysis of those with no obligations.
7. There are five types of medical special pays, making up \$370 million of the \$1 billion (1990) spent by the Department of Defense to pay the military's 13,000 active duty physicians (CBO, 1990:ix). These pays are: variable special pay; medical additional special pay; board-certified pay; incentive special pay; and the medical officer retention bonus. The purpose of these special pays is "to compensate for the lucrative civilian opportunities [military physicians] forego (CBO, 1990:1). For a complete description and history of the medical special pay system, see the CBO study (1990:2-5).
8. The Strunz study (1989) administered a questionnaire to physicians assigned to the 18th Medical Command in the Republic of Korea asking them why they stayed in the Army. This was the first study to ask physicians explicitly why they stay in, rather than get out or plan to get out.

9. William Beaumont Army Medical Center is among the largest Army treatment facilities. It has extensive capabilities and medical teaching programs in comparison with smaller clinics and field hospitals (GAO, 1990). Its staff serve the active-duty force and provide medical care to eligible dependents and retirees.
10. Among the respondents in this study, 26.7 percent identified only one reason for staying in the Army; 8.6 percent identified two reasons; 19.8 percent three reasons; and 31.0 percent five reasons.
11. In general, the number of years of active service required matches the number of years of medical training financed by the military for physicians who went through medical school under the Armed Forces Health Professions Scholarship Program. The minimum obligation is two years. For physicians who went through medical school under the Uniformed Services University of the Health Sciences, the active duty obligation is 21 months for each year or portion thereof spent in medical training. In no case is the minimum obligation less than 27 months (GAO, 1990:10-22). Physicians' pay-back periods do not begin until completions of their internship. Physicians accepting residency programs (1-2 years) will have to make their initial decision to remain or leave the military after serving on active duty for 5-6 years.

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