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AIR COMMAND AND STAFF COLLEGE

AIR UNIVERSITY

## **Should I Stay or Should I Go?**

**Air Force Pharmacist Retention at the First Decision Point:**

**Factors and Fixes**

by

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A Research Report Submitted to the Faculty

In Partial Fulfillment of the Graduation Requirements

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## Report Documentation Page

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## **Abstract**

### **BACKGROUND**

The Air Force has a critical shortage of pharmacists, largely due to inadequate pharmacist retention at the first decision point (FDP). The factors influencing a pharmacist's decision to stay in or separate from the Air Force at the FDP must be discovered and applied to retention programs.

### **METHODS**

A customized interview was designed to assess the influence of various factors on retention decisions. This interview was conducted via telephone in December 2008 and January 2009 with pharmacists within 18 months of their FDP. Existing pharmacist retention programs were then analyzed for their ability to impact the identified decision factors.

### **STUDY RESULTS**

Thirty of 33 eligible pharmacists were interviewed, a 90% response rate. Patriotism, retirement benefits, and the level of pharmacy technician competence were the strongest influences for pharmacists at the FDP to stay in the Air Force. The availability of comparable civilian jobs, base pay, family issues, and mentorship were the strongest influences for pharmacists to leave.

### **CONCLUSIONS**

Based on these findings, the Air Force should continue the following retention programs: pharmacist special pay, board certification pay, and Air Force Institute of Technology (AFIT) short courses. Loan repayment and AFIT degree programs must be modified. New pharmacist transition and mentorship programs should be created. Finally, options to deal with family issues and the possibility of a pharmacy practice career path also require investigation.

## **INTRODUCTION**

The factors influencing a pharmacist's decision to remain in or separate from the Air Force at the end of their initial active duty service commitment (ADSC) are unclear. Identification of the most influential of these personal and professional factors is essential to increasing pharmacist retention beyond this point, the first decision point (FDP). This paper first identifies the factors affecting pharmacist retention at the FDP and then recommends strategies to increase retention at this crucial point. The factors affecting Air Force pharmacist retention at the FDP were identified through a series of telephone interviews. Analysis of this data and review of current pharmacist retention strategies led to the development of proposed solutions to the problem of insufficient pharmacist retention at the FDP. The specific research questions answered by this study are:

- 1) What are the factors affecting Air Force pharmacist retention at the first decision point?
- 2) How can the Air Force increase pharmacist retention at this crucial decision point?

## **BACKGROUND**

The Air Force Medical Service (AFMS) needs more pharmacists. As of June 2008, just 81% of authorized Air Force pharmacist positions were filled. This falls well below the 90% threshold established by the Air Force Personnel Center (AFPC) to identify "critically-staffed" career fields.<sup>1</sup> More importantly, insufficient pharmacist manning can result in substantial direct and indirect costs to the organization and to its customers. These potential costs include failure to meet legal and regulatory requirements, increased medical errors, and reduced patient safety.<sup>2</sup>

An estimated 1.5 million medication errors occur in the United States every year.<sup>3</sup> One study estimates these errors lead to 7,000 deaths and cost the healthcare system \$2 billion. Others estimate the annual deaths associated with medication errors as high as 98,000 and annual

costs as high as \$136 billion. Studies have shown that pharmacists reduce medication errors and their associated costs. A 1999 study demonstrated pharmacist participation on medical rounds in intensive care units reduced medication errors by 66%.<sup>4</sup> The landmark Institute of Medicine report, “To Err is Human: Building a Safer Health System,” also cited the importance of pharmacists in reducing medication errors and recommended increased involvement of pharmacists in the pharmacy and patient care units.<sup>5</sup> The report also emphasized the need for reasonable pharmacist work schedules, workloads, and staffing levels to minimize errors.<sup>6</sup> The bottom line is that a pharmacist shortage translates into higher medication error rates.

In addition to the healthcare costs, medication errors may affect the retention of military personnel. Of the eight quality of life issues assessed in the Air Force’s 2002 *Quality of Life Survey*, health care ranked fourth in importance among enlisted personnel and fifth among officers.<sup>7</sup> Respondent satisfaction was 59 – 72% with their own health care and just 50 – 59% with their family’s health care.<sup>8</sup> Quality of life and satisfaction, in general, are known to be associated with career intention and Air Force retention.<sup>9</sup> Therefore, poorly delivered health care has the potential to influence the career decisions of Air Force members. Two-thirds of separating pilots surveyed in 2000 perceived civilian health care to be better than the health care provided in the Air Force.<sup>10</sup> Twenty-five percent of the surveyed group reported medical care availability as a very strong or strong influence for them to leave the Air Force. More than one-third said the same of the availability of dependent medical care.<sup>11</sup> The end result for the Air Force is that the many direct and indirect costs of a pharmacist shortage can ultimately detract from mission accomplishment in a variety of ways.

It is beyond the scope of this paper to detail the means of establishing pharmacist manpower requirements or the proper mix of civilian and active duty pharmacists within the

AFMS. For the purposes of this research, the author assumes the established Air Force pharmacist manpower requirements are appropriate and necessary.

Alleviating Air Force pharmacist manpower shortfalls can be approached through two broad strategies: increased recruitment and increased retention. Both strategies, in varying forms and degrees, are necessary to improve the current situation. While recruiting remains important to the health of the Air Force pharmacist work force, the ongoing national pharmacist shortage poses an immense challenge to recruiting efforts. Civilian pharmacist vacancy rates have been between six and seven percent for the past three years.<sup>12</sup> The inadequate pharmacist supply has likely contributed to the Air Force's inability to meet pharmacist recruiting goals each of the same three years.<sup>13</sup> Low retention of pharmacists further compounds recruiting difficulties, primarily by increasing recruitment goals to meet manpower requirements. Despite the importance of recruitment, retention of current Air Force pharmacists provides greater benefits in terms of quality and cost savings. Retained personnel typically possess more experience, corporate knowledge, efficiency, and leadership than new employees. They also reduce or eliminate the costs associated with employee turnover, such as those related to recruitment, training, and lost productivity.<sup>14</sup> This research focuses on retention strategies due to potential impacts on both the quantity and the quality of Air Force pharmacists.

Air Force pharmacist manning is at a critical level due, in part, to the loss of pharmacists upon completion of their initial active duty service commitment (ADSC). The problem of significantly diminished pharmacist retention rates at this first decision point is apparent upon glancing at a basic retention line (figure B-1). Pharmacists enter the Air Force with a three or four-year ADSC, depending on their commissioning source and whether or not they receive an accession bonus.<sup>15</sup> Excluding the twentieth year of service, at which time most military officers

are eligible for retirement, the largest declines in pharmacist retention rates occur upon completion of the third and fourth years of service. In 2007, pharmacist retention rates at three and four years were 66% and 52%, respectively. Stated differently, one-third of pharmacists separate by the third year of service and nearly half leave the Air Force by the end of their fourth year. Of the pharmacists remaining in the Air Force at the four-year point, more than half (52%) will stay in for at least 20 years.<sup>16</sup> In essence, it takes just four years to lose half of the original pool of pharmacists and another 16 years to lose half of those remaining beyond their initial ADSC. Assuming this trend continues, programs and strategies increasing pharmacist retention at the FDP should significantly improve overall Air Force pharmacist manning levels.

In order for pharmacist retention strategies to be effective and efficient, they must target the factors most influencing a pharmacist's decision to stay in or separate from the Air Force. Previous studies have addressed some of the motivators of pharmacist retention in the civilian sector,<sup>17</sup> in the military,<sup>18</sup> and even in the Air Force.<sup>19</sup> A 2006 survey of Biomedical Sciences Corps (BSC) officers revealed that the top three factors influencing a pharmacist to remain in the Air Force were retirement benefits, professional satisfaction, and incentive specialty pays. The same survey showed family issues, additional duties, and current duty assignment as the top three factors influencing a pharmacist to separate.<sup>20</sup> Research completed in 2008 cited the strength of mentorship and training programs as important variables in Air Force pharmacist retention.<sup>21</sup> A detailed review and discussion of the literature is provided in appendix A. This review provides information on the factors affecting the retention of populations with varying degrees of similarity to Air Force pharmacists at the first decision point. These groups can be broadly classified as Air Force officers, military healthcare officers, civilian pharmacists, and military pharmacists. The review also provides points of comparison for relating the current

study population to those of other studies. Lastly, it provides knowledge of previous studies and insight into the retention factors evaluated in this study.

It is important to note, however, that none of the studies conducted to date have sought to identify or examine the factors affecting Air Force pharmacist retention at the time when continuation rates fall most dramatically: the first decision point. This research hypothesizes the factors influencing Air Force pharmacist retention at the first decision point are different from those influencing retention decisions across a career, in terms of content and/or priority. First of all, factors preferentially influencing retention at the first decision point may include a host of issues related to the officer's first duty assignment. The first duty assignment is often a member's first exposure to Air Force life and may be thought to be representative of the rest of the Air Force. For better or worse, the experiences gained during this assignment form a lasting impression. Therefore, the first duty assignment has the potential to influence Air Force pharmacist retention more than any other assignment.

In addition to having few assignments, pharmacists at the first decision point tend to be younger and are more likely to be female than the overall Air Force pharmacist population. In October 2008, 87% of Air Force pharmacists with less than four years of service were younger than 35 years of age and 57% of those pharmacists were female. For the same time period, just 40% of all Air Force pharmacists were younger than 35 and only 44% were female.<sup>22</sup> Age and stage in life are variables known to influence employee work preferences and retention motivators.<sup>23</sup> For example, females pharmacists tend to prefer part-time employment due to family considerations.<sup>24</sup> The National Pharmacist Workforce Survey found that 24% of female pharmacists work part-time, compared to 13% of male pharmacists.<sup>25</sup> Family considerations, particularly raising children, are more likely to affect the career decisions of those at the first

decision point, younger females, than the Air Force pharmacist population as a whole.

Finally, pharmacists at the first decision point are less likely to be married and tend to have fewer dependents than those further along in their careers. In October 2008, 43% of pharmacists with less than four years of service were single and 48% had zero dependents. For the same time period, just 23% of all Air Force pharmacists were single and only 30% were without dependents.<sup>26</sup> Marriage and multiple dependents were factors shown to positively influence the retention of Navy Medical Service Corps officers, a group including pharmacists.<sup>27</sup>

Recognizing these pharmacists as a unique population, this paper first identifies the factors affecting pharmacist retention at the first decision point and then recommends strategies to increase retention at this crucial point.

## **RESEARCH METHODOLOGY**

### **Study Design**

A customized interview was designed to assess the personal and professional factors most likely to affect Air Force pharmacist retention decisions. The 42 factors identified (figure B-4) were derived from a focus group of three pharmacists, data provided by the Personnel and Manpower divisions at the Air Force staff (A1) and the Air Force Medical Service staff (SG1), and an extensive literature review. The foremost literature sources used to develop interview questions were the Report on Career Decisions in the Air Force,<sup>28</sup> the Biomedical Sciences Officer Exit Interview,<sup>29</sup> the Air Force Medical Service (AFMS) Development Team Assessment Tool,<sup>30</sup> and the ASHP Guidelines on the Recruitment, Selection, and Retention of Pharmacy Personnel.<sup>31</sup>

After indicating their retention decision (stay, leave, or undecided), participants were asked “How do/did the following factors influence your decision to remain in or separate from

the Air Force?” and were instructed to select, for each of the 42 factors, one of six possible responses: 1) strong influence to stay in the Air Force, 2) some influence to stay in the Air Force, 3) no influence to stay in or separate from the Air Force, 4) some influence to separate from the Air Force, 5) strong influence to separate from the Air Force, or 6) not applicable.

The interview was pilot tested using a small sample ( $n = 5$ ) of pharmacy officers who recently made career decisions, but who were not eligible for participation in this study because they were not at the first decision point. To further ensure the comprehensiveness of the interview, each study participant ( $n = 30$ ) was asked to identify factors that may have affected their decision but were not included in the interview. No subject from the pilot test or study population identified retention factors they believed to be missing from the interview.

In addition to the decision factors, data was collected to assess the potential impact of demographics and other variables on interview responses. Demographic data collected included gender, rank, marital status, and number of children. Participants were also asked to provide their accession source, base of first assignment, initial assignment preferences, and deployment history. Further, the interview included questions regarding educational debt and participation in the Health Professions Scholarship Program (HPSP), pharmacist accession bonus program, and Health Professions Loan Repayment Program (HPLRP). At the conclusion of the interview, respondents were asked what they believed would increase pharmacist retention.

As with the Air Force Careers and New Directions Surveys,<sup>32</sup> this study attempted to assess “push vs. pull” influences on retention decisions (see “Military Officer Retention Studies” section of appendix A). Study participants were asked to identify the one area (personal, Air Force, family, unit, base, or other) that was most influential to their retention decision. Six questions regarding participant perceptions of the private sector (figure B-5) were included in the



interview to further assess the current “pull” strength of civilian jobs.

### **Study Population**

The target population of this study was active-duty Air Force pharmacists within 18 months (pre or post) of their first decision point. Eighteen months on either side of the FDP was selected to maximize the size of the study population while minimizing the potential introduction of a recall bias. It was also based on the understanding that retention decisions are often made a year or more in advance. The most current Air Force “Pharmacist Master Listing”, dated 15 Nov 08, was used to identify all pharmacists with a rank of lieutenant, captain, or major.<sup>33</sup> Based on the constructive service credit regulations detailed in Air Force Instruction (AFI) 36-2005, all pharmacists within 18 months of their initial ADSC must fall within these three ranks.<sup>34</sup> The list was further narrowed by removing all pharmacists with a date of rank (DOR) or a date arrived on station (DAS) prior to November 2002, as either would indicate study ineligibility. This conservative process provided a preliminary eligibility list of 156 pharmacists and enabled interviews to begin in early December 2008.

Just after beginning interviews, detailed personnel data for all pharmacists was received from the Air Staff (AF/A1PF).<sup>35</sup> This data, in addition to the items contained within the Pharmacist Master Listing, included ADSC history, total active federal military service date (TAFMSD), date entered active duty, commissioned years of service, time in grade, and assignment information. Pharmacists with an initial ADSC expiring between June 2007 and June 2010 were included. Several pharmacists had multiple ADSCs falling both inside and outside of the desired date range. All of these pharmacists were considered eligible for study participation until proven otherwise. Information from this data set was compared to the data obtained from the Pharmacist Master Listing to further narrow the preliminary list of eligible

pharmacists to just those within 18 months of their first decision point. As a result, the number of pharmacists potentially eligible for this study decreased from 156 to 47. Of these 47 pharmacists, eight had already separated from the Air Force and six were later identified as ineligible due to first decision points occurring outside of 18 months. Therefore, 33 Air Force pharmacists met the inclusion criteria for this study.

### **Interview Administration**

All eligible pharmacists were contacted directly via telephone for personal interviews between December 2008 and January 2009. They were informed of the study purpose, study design, and estimated time to complete the interview. They were also notified their participation was voluntary and their responses would remain anonymous. Eligibility for study participation was confirmed and interviews were conducted in a consistent manner using the interview questions developed. Participants were encouraged to ask questions to clarify any requested information, if necessary, and to expand their responses, as desired.

### **Data Analysis**

As interviews were conducted, baseline characteristics provided were compared to data provided by the Air Staff (AF/A1PF) for accuracy. All interview data was arranged in a Microsoft Office Excel 2007® spreadsheet and numerically coded for analysis. Percentages were calculated using basic spreadsheet functions. Descriptive statistics were calculated using the “MEDIAN” and “MODE” functions of Excel®. A Chi-square ( $X^2$ ) test (“CHITEST” function of Excel®) was used to determine the homogeneity of nominal-level demographic and baseline data. The actual distribution of this data was compared to the expected equal distribution of data to determine statistically-significant differences in examined characteristics.

### **STUDY RESULTS (FACTORS)**

Of the 33 eligible pharmacists, 30 completed interviews, for a response rate of 90.1%. The remaining three eligible pharmacists were deployed during the study timeframe and unable to be reached for interview. Interviews averaged 30 minutes (range: 15 – 60 min.) in duration.

Characteristics of the study participants are shown in table 1. Study participants were mostly female, had not deployed, and had not participated in the HPLRP. These statistically-significant differences are consistent with pre-study expectations. The percentage of females in the study group (70%) is similar to that in the entire FDP population (67%). It also corresponds with the percentage of pharmacy degrees earned by females between 2004 and 2007 (68% each year).<sup>36</sup> The percentage of interviewees that had deployed (13.3%) is similar to the percentage of all pharmacists who deployed in FY08 (13.8%).<sup>37</sup> Including the pharmacists deployed at the time of this study, the percentage of study-eligible pharmacists with deployment experience increases to 21.2%. Finally, the lack of HPLRP participation was expected due to program eligibility restrictions. Prior to FY09, Air Force pharmacists had to be on active duty for at least three years to participate in the HPLRP. Because most of the pharmacists in this study had a three-year ADSC and were interviewed prior to this FDP, they didn't have three years of service and simply didn't qualify for the HPLRP.

A summary of responses to the question "How do/did the following factors influence your decision to remain in or separate from the Air Force?" for all respondents and all 42 factors is presented in figure B-6. The median and mode are presented for each factor as measures of central tendency. These measures of central tendency are graphically depicted in figure 1. Three factors had both a median and a mode of "strong influence to stay in the Air Force": retirement benefits, technician competence, and patriotism. Nineteen other factors showed tendencies

**TABLE 1. Characteristics of Study Participants (n = 30)**

	Number (%)	P value
<b>Gender</b>		0.028*
Male	9 (30)	
Female	21 (70)	
<b>Marital Status</b>		0.465
Single	13 (43.3)	
Married	17 (56.7)	
<b>Children</b>		0.273
No	18 (60)	
Yes	12 (40)	
1	8 (26.7)	
2	2 (6.7)	
3	2 (6.7)	
<b>Rank</b>		n/a
Captain (O-3)	30 (100)	
<b>Commissioning Source</b>		0.144
Direct Accession	11 (36.7)	
HPSP	19 (63.3)	
<b>Initial ADSC</b>		0.144
3 Years	19 (63.3)	
4 Years	11 (36.7)	
<b>First Assignment in Top 3 of Initial Preferences?</b>		0.465
No	17 (56.7)	
Yes	13 (43.3)	
<b>Number of Deployments</b>		<0.001*
0	26 (86.7)	
1	4 (13.3)	
<b>Interview Timing Relative to FDP (Pre / Post)</b>		0.465
Pre-FDP	17 (56.7)	
Post-FDP	13 (43.3)	
<b>Interview Timing Relative to FDP (Months)</b>		Mean = 12.1
1 - 6	8 (27.6)	
7 - 12	5 (17.2)	
13 - 18	17 (55.2)	
<b>Remaining Educational Debt</b>		0.273
More than \$50,000	12 (40)	
Less than \$50,000	18 (60)	
None	1 (3.3)	

\*Statistically-significant difference (significance level = 0.05). P values calculated using X<sup>2</sup> test. HPSP: Health Professions Scholarship Program; ADSC: active duty service commitment; FDP: first decision point.

**TABLE 1 (cont'd). Characteristics of Study Participants (n = 30)**

	Number (%)	P value
<b>Participation in HPLRP</b>		0.011*
No	22 (73.3)	
Yes	8 (26.7)	
1 year	6 (20)	
2 years	2 (6.7)	
<b>Participation in HPSP</b>		0.144
No	11 (36.7)	
Yes	19 (63.3)	
1 year	5 (16.7)	
2 years	14 (46.7)	
<b>Participation in Pharmacist Accession Bonus Program</b>		0.144
No	19 (63.3)	
Yes	11 (36.7)	

\*Statistically significant difference (significance level = 0.05). *P* values calculated using  $\chi^2$  test.

HPLRP: Health Professions Loan Repayment Program; HPSP: Health Professions Scholarship Program

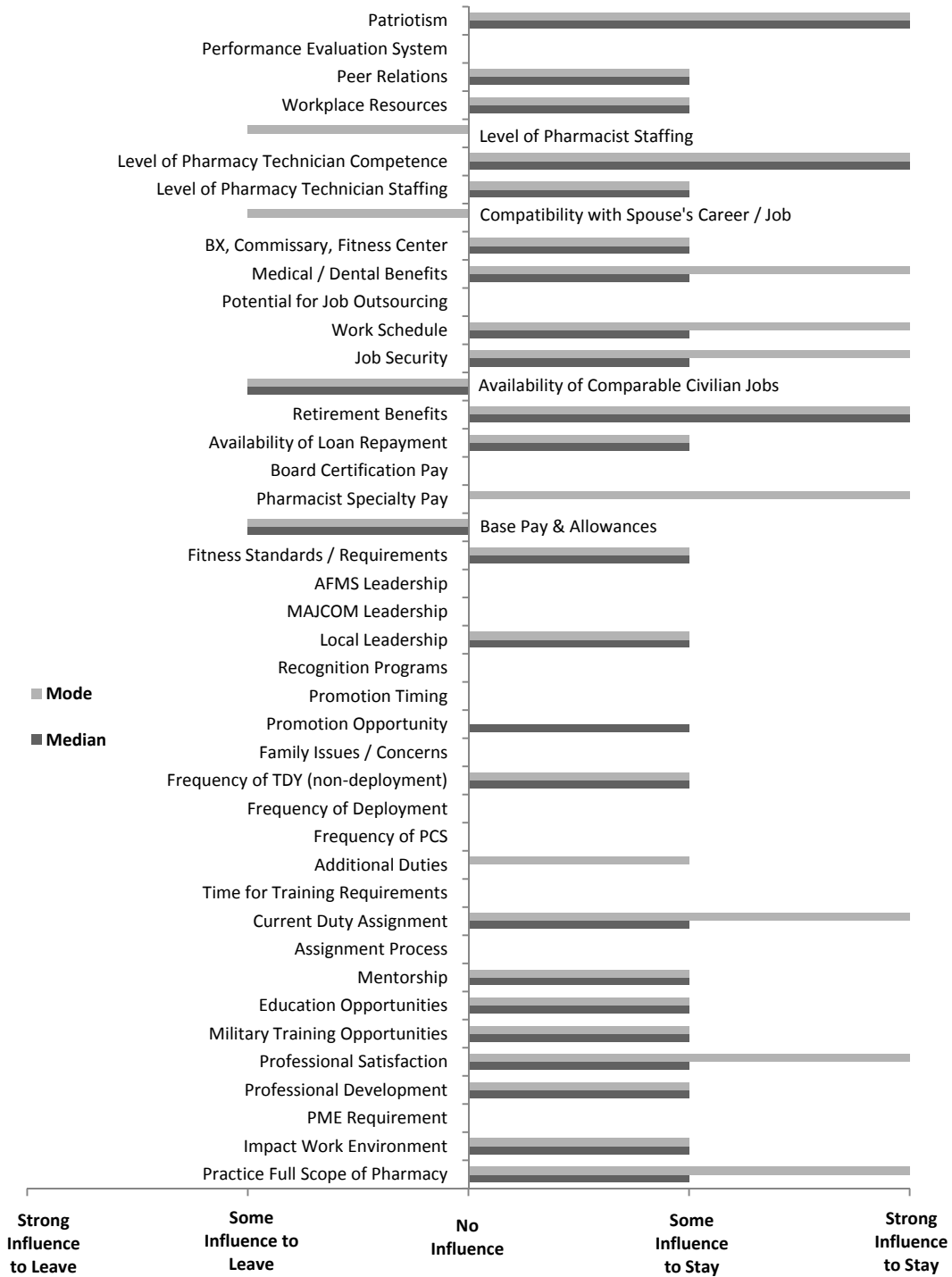
toward positive influence (some or strong) on pharmacist retention in both median and mode.

Three factors showed positive influence in either median or mode and neutral influence in the other. The “availability of comparable civilian jobs” and “base pay and allowances” had both a median and mode of “some influence to leave the Air Force.” Two additional factors showed negative influence on pharmacist retention in either median or mode: level of pharmacist staffing and compatibility with spouse’s career or job.

Although this data is useful, its utility could be limited by potential bias. There are more pharmacists in the study group who have decided to stay in the Air Force than pharmacists who have decided to leave. Pharmacists staying in the Air Force, like other career-oriented officers, are likely to view factors differently than those separating or undecided.<sup>38</sup> One might expect the responses of career-oriented pharmacists to be more positive than those of others and, thus, bias the consolidated results toward the positive.

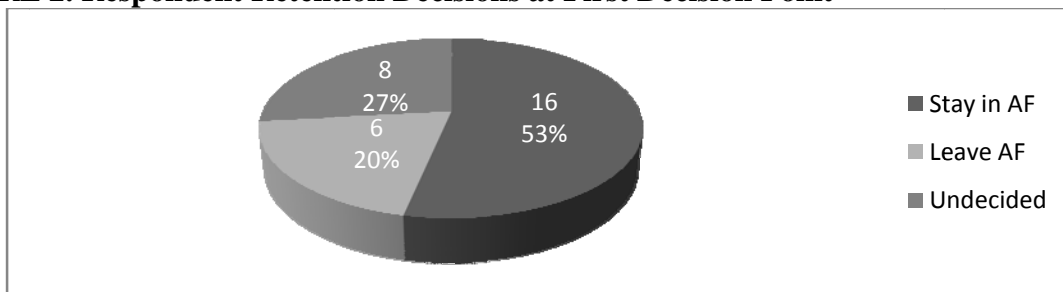
**FIGURE 1. Central Tendency of Interview Responses for Study Participants (n = 30)**

How do/did the following factors influence your decision to remain in or separate from the Air Force?



In order to reduce the potential bias described above, the following interview results are stratified by retention decision. As depicted in figure 2, sixteen pharmacists indicated a decision to stay in the Air Force beyond their initial ADSC, six pharmacists made a decision to separate, and the remaining eight pharmacists were undecided at the time of interview. At first glance, this distribution of decisions does not appear to reflect the aforementioned loss of one-third to one-half of pharmacists at the first decision point. The 2002 *Quality of Life Survey* showed that 52% of CGOs who were undecided about whether or not they would stay in the Air Force actually decided to leave.<sup>39</sup> If undecided pharmacists make similar decisions, four of them will stay in the Air Force and the other four will separate, increasing the percentage of separating pharmacists to 33%. When considering the eight pharmacists excluded from this study because they had already separated, the percentage of pharmacists separating at the FDP increases to 47%. Thus, the decision distribution of this study is consistent with the retention line presented.

**FIGURE 2. Respondent Retention Decisions at First Decision Point**



**Push-Pull Influences**

The strength of “push” and “pull” influences is demonstrated in table 2. Over 93% of respondents, including all undecided and separating pharmacists, cited “push” reasons as most influential to their career decision. These results suggest the level of satisfaction with Air Force programs and policies has the greatest impact on pharmacist career decisions at the FDP. Pharmacists leaving the Air Force at the FDP appear to be most influenced by dissatisfaction with Air Force programs and policies, not by the attraction of opportunities in the private sector.

**TABLE 2. Most Influential Issues on Career Decision (Push - Pull)**

Which of the following do you think is/was the MOST influential to your career decision?				
Issue		No. (%) of those...		
		Staying (n = 16)	Undecided (n = 8)	Leaving (n = 6)
<b>Push</b>	<b>Air Force</b>	<b>11 (68.8)</b>	<b>5 (62.5)</b>	<b>5 (83.3)</b>
	<b>Family</b>	<b>3 (18.8)</b>	<b>3 (37.5)</b>	<b>1 (16.7)</b>
	<b>Unit</b>	--	--	--
	<b>Base</b>	--	--	--
	<b>Other</b>	--	--	--
<b>Pull</b>	<b>Personal</b>	<b>2 (12.5)</b>	--	--

*Air Force* – assignments, pay and benefits, policies

*Base* – location, recreational activities, schools, housing

*Family* – family compatibility with AF, family time

*Personal* – job opportunities, education, lifestyle change

*Unit* – peer relations, work schedule, resources

### Perceptions of the Private Sector

#### Job Availability

Despite not being mentioned as the “most influential” issue in the career decisions for any undecided or separating pharmacists, the “pull” of private sector job opportunities appears to be strong. Private sector jobs are perceived as plentiful by most and available by all respondents (table 3). The fact that a higher percentage of pharmacists staying in the Air Force perceive civilian jobs to be plentiful may be an indication of a difference between perception and reality. Pharmacists leaving the Air Force and those who are undecided are more likely to be actively looking for a civilian job and, therefore, may have a better understanding of the current market.

**TABLE 3. Pharmacist Perceptions of Job Availability in the Private Sector**

What is your perception regarding the availability of pharmacist jobs in the private sector?				
		No. (%) of those...		
		Staying (n = 16)	Undecided (n = 8)	Leaving (n = 6)
<b>Plentiful</b>		<b>11 (68.8)</b>	<b>5 (62.5)</b>	<b>3 (50)</b>
<b>Available</b>		<b>5 (31.3)</b>	<b>3 (37.5)</b>	<b>3 (50)</b>
<b>Few</b>		--	--	--
<b>Don't know</b>		--	--	--



Pay Gap

Clearly, there is a perceived pay gap between civilian pharmacists and Air Force pharmacists at the first decision point. Table 4 shows all respondents believe private sector pharmacist salaries to be at least \$20,000 more per year than their current pay. Undecided pharmacists and those leaving the Air Force perceive the pay gap to be the greatest. The actual pay gap varies for individual pharmacists based on several factors, including job location, employer, and credentials. Civilian pharmacists in San Antonio, home of the Air Force’s largest medical facility and highest number of pharmacists, earn approximately \$15,000 - \$30,000 more per year than their military counterparts at the FDP. This translates into a pay gap of 15% - 27%.

**TABLE 4. Pharmacist Perceptions of Annual Pay in the Private Sector**

<b>About how much MORE money would you expect to earn annually in a private sector job?</b>			
	<b>No. (%) of those...</b>		
	<b>Staying (n = 16)</b>	<b>Undecided (n = 8)</b>	<b>Leaving (n = 6)</b>
<b>\$50K+</b>	<b>1 (6.3)</b>	<b>3 (37.5)</b>	<b>2 (33.3)</b>
<b>\$30K - \$50K</b>	<b>6 (37.5)</b>	<b>2 (25)</b>	<b>2 (33.3)</b>
<b>\$20K - \$30K</b>	<b>9 (56.3)</b>	<b>3 (37.5)</b>	<b>2 (33.3)</b>
<b>\$10K - \$20K</b>	<b>--</b>	<b>--</b>	<b>--</b>
<b>\$0 - \$10K</b>	<b>--</b>	<b>--</b>	<b>--</b>
<b>&lt; AF Annual Pay</b>	<b>--</b>	<b>--</b>	<b>--</b>
<b>Don't Know</b>	<b>--</b>	<b>--</b>	<b>--</b>

Retirement and Medical/Dental Benefits

The retirement benefits (table 5) and medical/dental benefits (table 6) provided by the Air Force were perceived to be better than those provided in the private sector by 93% of study respondents. The pharmacists staying in the Air Force are more likely than the others to perceive civilian retirement benefits as “much worse” than Air Force retirement benefits. This perception may be the result of a slight bias toward the positive by those staying compared to the others.

**TABLE 5. Pharmacist Perceptions of Retirement Benefits in the Private Sector**

<b>How do you think retirement benefits in the private sector compare those in the Air Force?</b>			
	<b>No. (%) of those...</b>		
	<b>Staying (n = 16)</b>	<b>Undecided (n = 8)</b>	<b>Leaving (n = 6)</b>
<b>Much Better</b>	--	--	--
<b>Slightly Better</b>	--	--	--
<b>About the Same</b>	2 (12.5)	--	--
<b>Slightly Worse</b>	6 (37.5)	5 (62.5)	5 (83.3)
<b>Much Worse</b>	8 (50)	3 (37.5)	1 (16.7)

**TABLE 6. Pharmacist Perceptions of Medical / Dental Benefits in the Private Sector**

<b>How do you think medical/dental benefits in the private sector compare those in the AF?</b>			
	<b>No. (%) of those...</b>		
	<b>Staying (n = 16)</b>	<b>Undecided (n = 8)</b>	<b>Leaving (n = 6)</b>
<b>Much Better</b>	--	--	--
<b>Slightly Better</b>	--	--	--
<b>About the Same</b>	1 (6.3)	1 (12.5)	--
<b>Slightly Worse</b>	9 (56.3)	3 (37.5)	4 (66.7)
<b>Much Worse</b>	6 (37.5)	4 (50)	2 (33.3)

### Work Hours

Pharmacist perceptions of differences in weekly work hours varied, but responses were similar between groups (table 7). Roughly half of each group believed private sector work hours to be “about the same” as those in the Air Force.

**TABLE 7. Pharmacist Perceptions of Work Hours in the Private Sector**

<b>About how many hours per week would you expect to work in the private sector compared to those you work in the Air Force?</b>			
	<b>No. (%) of those...</b>		
	<b>Staying (n = 16)</b>	<b>Undecided (n = 8)</b>	<b>Leaving (n = 6)</b>
<b>Many More</b>	1 (6.3)	--	--
<b>Slightly More</b>	2 (12.5)	1 (12.5)	--
<b>About the Same</b>	7 (43.8)	4 (50)	3 (50)
<b>Slightly Less</b>	6 (37.5)	3 (37.5)	2 (33.3)
<b>Many Less</b>	--	--	1 (16.7)

### Vacation Time

Most respondents (93%) perceive the amount of private sector vacation time to be less than that received in the Air Force (table 8). The pharmacists staying in the Air Force perceive this difference to be greatest. This, again, may represent a slight bias toward positive responses.

**TABLE 8. Pharmacist Perceptions of Vacation Time in the Private Sector**

<b>How much vacation time do you think the private sector offers compared to the Air Force, assuming the same number of years worked?</b>			
	No. (%) of those...		
	Staying ( <i>n</i> = 16)	Undecided ( <i>n</i> = 8)	Leaving ( <i>n</i> = 6)
<b>Much More</b>	--	--	--
<b>Slightly More</b>	--	--	--
<b>About the Same</b>	--	<b>2 (25)</b>	--
<b>Slightly Less</b>	<b>7 (43.8)</b>	<b>3 (37.5)</b>	<b>4 (66.7)</b>
<b>Much Less</b>	<b>9 (56.3)</b>	<b>3 (37.5)</b>	<b>2 (33.3)</b>

### **Reasons to Stay in the Air Force**

The top five factors pharmacists staying in the Air Force rated as “strong” or “some” influence on that decision are listed in table 9. A listing of ratings for all 42 factors evaluated can be found in figure B-7.

**TABLE 9. “Strong” or “Some” Influence to Stay for *Pharmacists Staying in the Air Force***

Factor	Rank / % ( <i>n</i> = 16)
<b>Patriotism</b>	<b>#1 / 100%</b>
<b>Retirement benefits</b>	<b>#2 / 93.8%</b>
<b>Capability to impact work environment</b>	<b>#3 / 93.8%</b>
<b>Peer relations</b>	<b>#4 / 93.8%</b>
<b>Level of technician competence</b>	<b>#5 / 87.5%</b>

In addition to providing the degree of influence for each of the 42 factors presented, respondents who decided to stay in the Air Force were also asked to provide the three strongest influences to stay. The “capability to practice the full scope / spectrum of pharmacy” was mentioned most often as a top three influence, being cited by nine (56.3%) of the sixteen

respondents. Retirement benefits (50%), level of technician competence (25%), and patriotism (25%) were the other factors most often cited as a top three influence to stay in the Air Force.

The top five factors undecided pharmacists rated as “strong” or “some” influence to stay in the Air Force are listed in Table 10. A listing of ratings given by undecided pharmacists for all 42 factors evaluated can be found in figure B-7.

**TABLE 10. “Strong” or “Some” Influence to Stay for *Undecided Pharmacists***

<b>Factor</b>	<b>Rank / % (n = 8)</b>
<b>Retirement benefits</b>	<b>#1 / 100%</b>
<b>Patriotism</b>	<b>#2 / 100%</b>
<b>Education opportunities</b>	<b>#3 / 100%</b>
<b>Job security</b>	<b>#4 / 87.5%</b>
<b>Level of technician competence</b>	<b>#5 / 87.5%</b>

In addition to providing the degree of influence for each of the 42 factors presented, undecided respondents were also asked to provide the three strongest influences to stay. Retirement benefits, medical and dental benefits, and patriotism were the factors most often cited as a top three influence to remain in the Air Force. Each of these factors was mentioned by three (37.5%) of the eight undecided pharmacists as one of their top three influences to stay.

**Reasons to Leave the Air Force**

The top five factors pharmacists leaving the Air Force rated as “strong” or “some” influence to separate are listed in table 11. A listing of ratings for all 42 factors evaluated can be found in figure B-8.

**TABLE 11. “Strong” or “Some” Influence to Leave for *Pharmacists Leaving the Air Force***

<b>Factor</b>	<b>Rank / % (n = 6)</b>
<b>Family issues / concerns</b>	<b>#1 / 83.3%</b>
<b>Base pay and allowances</b>	<b>#2 / 83.3%</b>
<b>Availability of comparable civilian jobs</b>	<b>#3 / 66.7%</b>
<b>Pharmacist specialty pay</b>	<b>#4 / 66.7%</b>
<b>Performance evaluation system</b>	<b>#5 / 50%</b>

In addition to providing the degree of influence for each of the 42 factors presented, respondents who decided to leave the Air Force were also asked to provide the three strongest influences to leave. Family issues or concerns were mentioned most often as a top three influence, being cited by three (50%) of the six separating pharmacists. Mentorship (33.3%), base pay and allowances (33.3%), and additional duties (33.3%) were the other factors most often cited as a top three influence to leave the Air Force.

The top five factors undecided pharmacists rated as “strong” or “some” influence to separate are listed in table 12. A listing of ratings given by undecided pharmacists for all 42 factors evaluated can be found in figure B-8.

**TABLE 12. “Strong” or “Some” Influence to Leave for *Undecided Pharmacists***

<b>Factor</b>	<b>Rank / % (n = 8)</b>
<b>Availability of comparable civilian jobs</b>	<b>#1 / 75%</b>
<b>Base pay and allowances</b>	<b>#2 / 75%</b>
<b>Family issues / concerns</b>	<b>#3 / 62.5%</b>
<b>Mentorship</b>	<b>#4 / 50%</b>
<b>Additional duties</b>	<b>#5 / 50%</b>

In addition to providing the degree of influence for each of the 42 factors presented, undecided respondents were also asked to provide the three strongest influences to leave. Family issues and base pay and allowances were mentioned most often as a top three influence, each being cited by four (50%) of the eight separating pharmacists. Mentorship (37.5%) and the availability of comparable civilian jobs (37.5%) were the other factors most often cited as a top three influence for undecided pharmacists to leave the Air Force.

**Respondent Comments on Improving Air Force Pharmacist Retention**

The final question asked of respondents at the end of their interview was “What do you think would increase Air Force pharmacist retention?” This open-ended question was included

as a way of further gauging the importance of various factors on pharmacist retention decisions, understanding what the pharmacists making those decisions view as a solution to the retention problem, and identifying issues not addressed by other interview questions. Responses to this question were grouped by topic and retention decision (see figure B-9).

The two areas targeted by current Air Force retention programs received the most attention by those interviewed: money and education. Narrowing the military-civilian pay gap was mentioned most often as a way to improve pharmacist retention, being cited by 57% of all respondents. Expanding clinical AFIT programs, combined with increasing clinical pharmacy job opportunities, was recommended by 47% of interviewees. Changes to the HPLRP were suggested by nearly one-quarter of the participating pharmacists.

In addition to money and education, several other topics received considerable attention. Improvements in pharmacist mentoring were recommended by seven respondents. Related to mentorship, better training for new pharmacists was mentioned by six respondents. When these factors are grouped together, nearly half of pharmacists at the FDP consider them to be important to improving retention. This is not surprising considering the importance of mentorship noted in this study. A final issue appearing in these comments, but not directly addressed by the interview questions, is the desire to practice pharmacy throughout an Air Force career. Air Force pharmacists generally have three potential career tracks: 1) specialty expert, 2) science & technology/research, and 3) leadership/command.<sup>40</sup> Of the three, the specialty expert track is closest to practicing pharmacy throughout a career. However, this track invariably forces a pharmacist to take on more managerial and administrative duties and to reduce pharmacy practice responsibilities.

Overall, respondents expressed a variety of opinions about how the Air Force can improve pharmacist retention. Those most commonly cited involved money, education, mentorship, training, and pharmacy practice.

### **Results Summary / Discussion**

The results of this study highlight the importance of several key factors influencing pharmacists at their FDP to stay in the Air Force, as well as several key factors influencing these pharmacists to separate. Factors on both sides of the decision must be considered in order to increase pharmacist retention at this crucial point.

Patriotism, retirement benefits, and the level of Air Force pharmacy technician competence were undoubtedly the strongest influences for pharmacists at the FDP to stay in the Air Force. These factors were consistently recognized by pharmacists who had already decided to stay as well as those who remained undecided. Each factor had a median and mode of “strong influence to stay” for the overall study population and ranked in the top five reasons to stay by percentage for both staying and undecided pharmacists. The three factors were also most often cited as a “top 3 influences to stay” for staying pharmacists, while all but technician competence made the top-three list for undecided pharmacists. Furthermore, 93% of all interviewed pharmacists perceived Air Force retirement benefits to be better than those in the private sector. These results are consistent with the 2000 *Report on Career Decisions in the Air Force*, where patriotism and retirement benefits also topped the list of influences to stay in the Air Force.<sup>41</sup> This suggests that pharmacists at the FDP are most motivated to stay in the Air Force by the same factors as those of other officers. Retirement benefits also ranked as the most influential reason to stay among all BSC officers and the pharmacist subgroup participating in the 2006 BSC retention survey. The influences of patriotism and technician competence were not assessed by the BSC survey.<sup>42</sup>

Pharmacists staying in the Air Force placed more emphasis than undecided pharmacists on the ability to practice the full scope of pharmacy, the ability to impact the work environment, and peer relations as factors influencing their decision to stay. According to Frederick Herzberg's "motivation-hygiene theory," these factors would primarily be considered "motivation factors" and, thus, contribute to job satisfaction.<sup>43</sup> These factors are similar to those classified as "professional practice" and "work environment" factors in the *ASHP Pharmacy Staffing Survey 2002*, where both groups had statistically-significant correlation with higher civilian pharmacist retention rates. Undecided pharmacists placed more emphasis than staying pharmacists on medical/dental benefits, education opportunities, and job security as factors influencing them to stay in the Air Force. Herzberg's theory would classify these factors as "hygiene factors." Hygiene factors do not lead to job satisfaction, but they must exist to prevent job dissatisfaction. Job security was also one of the top five influences to stay in the Air Force for officers participating in the AFMA's 2000 study. None of these factors were specifically noted in any of the other studies reviewed, suggesting undecided pharmacists at the FDP may be influenced to stay in the Air Force by factors that are less influential to the decisions of others.

The availability of comparable civilian jobs, base pay and allowances, general family issues/concerns, and mentorship appear to be the strongest influences for pharmacists at the FDP to leave the Air Force. These factors were consistently recognized by pharmacists who had already decided to leave as well as those who remained undecided. All four factors ranked in the top five reasons to leave by percentage for both leaving and undecided pharmacists. The availability of civilian jobs and base pay factors both had a median and mode of "some influence to leave" for the overall study population, despite the decision distribution skewed in favor of those staying in the Air Force. As found in this study, the availability of civilian jobs topped the influences to leave for separating and undecided officers reported by AFMA in 2000.<sup>44</sup> Pay and allowances also made



AFMA's top-five list of influences to leave for undecided officers.<sup>45</sup> The influences of civilian jobs and base pay were not assessed by the 2006 BSC survey. The interview responses regarding perceptions of the private sector highlight the availability of higher-paying pharmacist jobs outside the Air Force. The combination of ample civilian job opportunities and dissatisfaction with compensation appears to be particularly bad for pharmacist retention, with 66.7% and 83.3% of separating pharmacists, respectively, listing these factors as some or strong influence to leave.

"Family issues/concerns" was the most influential reason to separate among all BSC officers and the pharmacist subgroup of the 2006 BSC retention survey.<sup>46</sup> This observation was repeated with the current study, as family issues ranked as the top influence for separating pharmacists and the third most influential factor for undecided pharmacists to leave. Furthermore, family issues were most often cited in the "top 3 influences to leave" by both separating and undecided pharmacists. Along with family and pay factors, mentorship was most often cited as a "top 3 influences to leave" for separating and undecided pharmacists alike. Mentorship was ranked, by percentage, in the top five reasons to leave for both staying and undecided pharmacists. These findings highlight one of the conclusions made in Walmsley's study: mentorship is one of two factors considered most important to Air Force pharmacist retention.<sup>47</sup>

"Amount of additional duties" ranked in the top five reasons to leave for undecided pharmacists and was also a top three influence to leave for separating pharmacists. Dissatisfaction with additional duties is not new to Air Force officers in general or pharmacists in particular. This factor ranked as a top five influence to leave for separating and undecided officers in the 2000 AFMA study,<sup>48</sup> for officers in the 2006 BSC survey, and for pharmacists in the 2006 BSC survey.<sup>49</sup> Finally, pharmacists leaving the Air Force placed more emphasis on pharmacist specialty pay than did undecided pharmacists as an influence to separate. This factor was a top five influence to leave for separating pharmacists and ranked tenth, by percentage, for undecided pharmacists.

## **AIR FORCE PHARMACIST RETENTION PROGRAMS (FIXES)**

Now that the factors influencing pharmacist retention at the first decision point have been identified, this information must be applied to the development of pharmacist retention programs (i.e., “fixes”) for it to be useful. The following section does this. First, the current Air Force pharmacist retention programs are described. Then they are examined for their ability to target the factors influencing pharmacist retention. Finally, recommendations are made for stopping, continuing, or modifying existing retention programs and for developing new programs.

### **Current Retention Programs**

The DoD and the VA offer a variety of benefits and programs considered to be military retention programs. These programs are available to all active duty military personnel and include things like retirement benefits, medical/dental benefits, tuition assistance, and the GI Bill. The results of this study suggest many of these benefits are important considerations for pharmacists making a decision to stay in or separate from the Air Force at the first decision point. Despite the importance of these general retention programs, the following analysis focuses on programs specifically targeting pharmacists. It suffices to say that these general programs, especially the retirement benefits, must continue for pharmacist retention to improve.

Retention programs targeting pharmacists directly include Pharmacy Officer Special Pay (POSP), Board Certification Pay (BCP), the Health Professions Loan Repayment Program (HPLRP), Air Force Institute of Technology (AFIT) degree, fellowship, and residency programs, and AFIT short-course programs.

The FY08 Pharmacy Officer Special Pay (POSP) Plan authorized Air Force pharmacists to receive annual special pay between \$3,000 and \$12,000, depending on years of active service as a pharmacist. The pharmacist received a lump-sum payment yearly for two years in exchange

for a two-year ADSC from the date of the POSP agreement. There were two primary problems with the FY08 POSP in regards to retention of pharmacists at the FDP: pharmacists must have had at least one year of service to be eligible and pharmacists at the FDP received the smallest amounts (\$3,000 for those at the three-year point and \$7,000 per year for those at the four-year point).<sup>50</sup> Since most pharmacists at the FDP in this study were HPSP recipients and, therefore, incurred a three-year ADSC, most Air Force pharmacists at the FDP received just \$2,250 per year after taxes for participating. As junior Air Force pharmacists, this meant the military-civilian pay gap was particularly large for this group. In December 2008, after most interviews for this study were completed, the FY09 POSP Plan was released and several of these problems were addressed. The new plan offers active duty Air Force pharmacists an annual special pay of \$15,000, regardless of years of service. The FY09 POSP eliminates the need to serve at least one year before being eligible and maintains the two-year ADSC.<sup>51</sup> Interview responses regarding POSP are reflective of the plan prior to FY09, which remained the same from FY01 to FY08.

In addition to POSP, the Air Force offers qualified pharmacists an annual Board Certification Pay (BCP) between \$2,000 and \$5,000, again depending on years of active service as a pharmacist. Board certification in pharmacy is an optional qualification above and beyond state licensure. This certification requires additional training, several years of experience, and passing a board examination. To qualify for BCP, the pharmacist must be certified by a recognized professional board (e.g., Board of Pharmaceutical Specialties) and have at least one year of active service. Unlike POSP, receipt of BCP does not require an ADSC and the annual amount is divided and paid in monthly increments. Board certified pharmacists at or near their FDP receive \$2,000 annually (before taxes), along with all other board certified pharmacists with less than ten years of creditable service.<sup>52</sup> An additional benefit included in this retention

program is reimbursement for board certification and recertification examination fees.<sup>53</sup> The exams administered by the Board of Pharmaceutical Specialties currently cost \$600 for a seven-year certification or recertification.<sup>54</sup>

In addition to pay-related retention programs, the Air Force offers education loan repayment to pharmacists based on an annual determination of quotas, eligibility, payment amounts, and number of payment years. The FY08 Health Professions Loan Repayment Program (HPLRP) paid up to \$38,300 (before taxes) toward qualifying education loans for 20 Air Force pharmacists. Pharmacists were required to have between three and eight years of service and agree to a two-year ADSC to be eligible.<sup>55</sup> This program was designed to increase retention starting at the three-year point, the FDP for most pharmacists, and it may have had some success. Nearly 70% of staying pharmacists and over 60% of undecided pharmacists in this study rated the availability of loan repayment as strong or some influence to stay in the Air Force. However, this study also shows one-third of pharmacists leaving the Air Force and one-quarter of undecided pharmacists view the availability of loan repayment as an influence to separate. Dissatisfaction with this program is further exemplified by the number of respondents citing an improved and expanded HPLRP as a means to increase pharmacist retention. Based on comments received, the negative views of HPLRP appear to be related to the minimum years of service requirement, the payment amounts, and the number of slots available.

As with POSP, the recently-released FY09 version of the HPLRP has addressed some of these issues. For this FY, program availability dropped from 20 pharmacists to 16, but five of the FY09 slots are designated for new accessions. These slots allow pharmacists with less than one year of service to apply for loan repayment. As with the FY08 HPLRP, the remaining 11 FY09 slots require three to eight years of service for eligibility. The maximum payment amount

has increased to \$40,000. Again this amount is before taxes, so a maximum of \$28,800 (72%) would be paid to the loan and the remaining \$11,200 (28%) would be withheld for taxes and remains on the loan. By law, this program will not pay more than the member's remaining loan amount. For example, a pharmacist with \$10,000 of outstanding debt cannot receive \$13,889 to cover the debt plus taxes. All slots remain single-year payments for a two-year ADSC.<sup>56</sup>

AFIT post-graduate degree, fellowship, and residency programs collectively represent a substantial education opportunity and retention program available to pharmacists. These advanced academic programs are one to three years long and completed at military or civilian institutions. The program costs, including tuition, books, and fees, are funded through AFIT. Members are considered full-time students and they continue to draw full pay and benefits while in school. The time in student status also counts toward years of active service for pay and retirement purposes. Eligibility requirements vary by program. Residencies require the applicant to have at least two years of active service and to agree to a two-year ADSC upon completion of the program. The two-year Masters Degree programs require three years of experience and a four-year ADSC. Three-year Ph.D. programs require five years of experience and a five-year ADSC.<sup>57</sup> In FY08, AFIT funding was provided for two pharmacist education programs: a post-graduate year one (PGY1) pharmacy residency and an M.S. in Pharmacy Practice.<sup>58</sup> PGY1 pharmacy residencies, unlike most PGY1 medical residencies, are a valuable stand-alone credential. The FY09 AFIT Board again approved funding for two pharmacist education programs: a one-year PGY1 residency and a three-year Ph.D. in Pharmacoeconomics. Ten additional pharmacist education programs were unfunded for FY09: a PGY1 residency, three specialty PGY2 residencies, four pharmacy fellowships, an M.S. in Pharmacy Practice, and an M.S. in Pharmacy Systems Management.<sup>59</sup> If there are qualified applicants, pharmacists are

matched to unfunded programs in the event funding becomes available. Many programs remain unfunded due to budget constraints and applicants are allowed to reapply the next FY.

Finally, the Air Force also funds a number of pharmacist “short courses” through AFIT each year. A short course is a two to ten day TDY providing continuing education (CE) credits toward pharmacist license renewal. Funding covers conference registration fees, travel, and per diem. The number of funded short courses each year is based on BSC end strength and these course allocations are distributed through the various BSC Associate Corps Chiefs. Any pharmacist who did not attend an AFIT-sponsored short course in the previous FY is eligible for this program, including pharmacists at or before their FDP.<sup>60</sup> During years of ineligibility for AFIT short-course funding, the local military treatment facility (MTF) typically funds at least one TDY for CE for each pharmacist.<sup>61</sup> The fact that Air Force pharmacists averaged just over 1.5 non-deployment TDYs in FY08 is evidence of the availability and use of these programs.<sup>62</sup>

In summary, several Air Force retention programs directly target pharmacists. These programs include specialty and board certification pays, loan repayment, AFIT advanced education, and AFIT short-courses. Each of these programs benefits Air Force pharmacists in some manner. The key to the successful retention of pharmacists at the FDP lies in the ability of these programs to target the factors most influencing career decisions at this crucial point.

### **Assessment of Current Retention Programs**

The current Air Force pharmacist retention programs focus on two primary areas: money (POSP, BCP, and HPLRP) and education (AFIT). As previously discussed, pay-related issues are one of the strongest influences for pharmacists to separate. This is largely a result of the availability of higher-paying jobs in the private sector. The Air Force can’t do anything about the availability of civilian pharmacist jobs or the relative stability that comes along with them, so

the focus has been on narrowing the military-civilian pay gap to increase pharmacist retention. Higher pay does not necessarily influence people to stay, but perceived inadequate pay does influence people to leave. This is the essence of Herzberg's hygiene factors. All pharmacists interviewed for this study believe private sector pharmacist salaries are higher than those in the military. Undecided and separating pharmacists perceive this pay disparity to be greatest, so pay receives heavier weight in their retention decision. The FY09 changes to POSP are a step in the right direction, toward closing or eliminating the pay gap.

AFIT programs focusing on retention via education opportunities target one of the primary influences for undecided pharmacists to stay in the Air Force. These programs tend to be oriented toward clinical pharmacy training and practice. As such, they reinforce the ability of a pharmacist to "practice the full scope of pharmacy," a factor cited as one of the strongest influences for pharmacists to stay in the Air Force. AFIT education opportunities are a "motivation" factor for Air Force pharmacists at the FDP. Based on Herzberg's theory and supported by this study, a lack of AFIT opportunities doesn't cause pharmacists to separate at the FDP, but their availability can potentially influence them to stay. In addition to increased retention and an ADSC, the Air Force further benefits from these programs through a better educated workforce. Boosting the number of AFIT degree, fellowship, and residency programs in FY09 is also step in the right direction.

Current retention programs, however, fail to address the following areas of influence on pharmacist retention at the FDP: mentorship, additional duties, and family issues. These factors are some of the strongest influences to leave for separating and undecided pharmacists. Initial training and available career paths, although not directly assessed by interviews, may also influence Air Force pharmacist retention at the FDP. Changes must be made to boost retention.

### **Recommendations for Future Retention Programs**

As discussed, some of the factors influencing pharmacist retention at the FDP are being addressed by current retention programs and others are not. To increase pharmacist retention, several existing retention programs should continue unchanged, a handful should be modified, and a few new programs should be implemented.

Pharmacy Officer Special Pay should continue under the current (FY09) plan. By law, the annual \$15,000 payment is the maximum amount military pharmacists can currently receive. More importantly, this increased rate and its availability to junior pharmacists narrows the military-civilian pay gap for pharmacists at the FDP. Under the new agreement, a military pharmacist in San Antonio with three or four years of service (captain) will earn between \$87,000 and \$93,500 each year.<sup>63</sup> This shrinks the pay gap (in San Antonio) from 15% - 27% to a more sensible 6% - 12%. When retirement and medical benefits are considered, Air Force pharmacists may now come out slightly ahead of their civilian counterparts in terms of total compensation. Air Force leaders should assess the effect of the increased POSP on pharmacist retention and also continue to monitor private sector pharmacist salaries to determine if further changes are necessary. If the pay gap needed to be further narrowed or completely closed, Congressional authority to increase POSP would be required. An alternative option might be to implement an Early Career Incentive Special Pay or other retention bonus similar to that offered to physicians and pilots.<sup>64</sup> This option has the added benefit of targeting pharmacists at the FDP.

Pharmacist Board Certification Pay should also continue to be offered as it is under the current program. Many private sector employers do not offer this benefit, so BCP provides an edge over civilian competition for scarce pharmacists. It also further narrows the pay gap for board certified pharmacists and encourages professional growth, a “motivation” factor. Even



though just 10% of Air Force pharmacists are board certified,<sup>65</sup> BCP was noted as “some” or “strong” influence to stay by 50% of staying and undecided pharmacists at the FDP.

In addition to the pay-related programs, AFIT short-course funding should continue as it’s currently structured. The frequency of non-deployment TDYs, which includes AFIT short courses, was mentioned as “some” or “strong” influence to stay by 75% of pharmacists deciding to stay and 50% of undecided pharmacists. As noted, pharmacists averaged 1.5 non-deployment TDYs in FY08. Further, this factor was not rated “some” or “strong” influence to leave the Air Force by any of the separating or undecided pharmacists. AFIT short courses aid the retention of pharmacists at the FDP without adversely affecting it and, therefore, must be continued.

Although not technically a retention program, the Air Force Smart Operations 21 (AFSO 21) program should continue as an indirect means of reducing additional duties. Many of the additional duties assigned to military personnel stem from a combination of manpower shortages and organizational inefficiencies. AFSO 21 has the potential to decrease Air Force inefficiencies and overall workload and, thereby, decrease additional duties. Furthermore, AFSO 21 has already shown benefit in reducing the time needed to meet training requirements. The Air Force recently cut computer-based training requirements drastically. Nine training courses were combined and reduced to three 30-minute courses, saving six million Air Force man-hours each year.<sup>66</sup> Much of this ancillary training is regarded as an additional duty to many, as it takes people away from their primary jobs. More than one-third of separating and undecided pharmacists cited time to complete training as “some” or “strong” influence to leave the Air Force. In sum, AFSO 21 could indirectly improve the retention of Air Force pharmacists at the FDP by reducing additional duties and training time.

Programs that should be modified in order to improve pharmacist retention at the FDP include the AFIT degree, fellowship, and residency programs. For one, the number of available AFIT PGY1 pharmacy residencies should be increased. A PharmD was once considered the credential required to practice clinical pharmacy. Since the profession changed the entry-level degree from a BS to a PharmD, the PGY1 residency has become the de facto clinical credential. As a result of this change and the general trend toward clinical pharmacy, the demand for residency programs has skyrocketed. According to ASHP, demand for pharmacy residency training has exceeded the supply of accredited programs for the last nine years.<sup>67</sup> It was already noted that education opportunities such as these can greatly influence pharmacists at the FDP to stay in the Air Force. This point is reinforced by the fact that nearly half of those interviewed for this study suggested increases in residencies and clinical programs as a means of improving pharmacist retention. The addition of PGY2 residencies to the AFIT programs was wise and should pay dividends. These programs are in demand for the same reasons mentioned above. They have the added benefit of providing pharmacists with the type of advanced clinical training increasingly required during deployments (e.g., infectious diseases and critical care).

Alas, the PGY2 programs were not funded for FY09. This leads to the second change that must be made to AFIT programs--they need to be funded. With just two of twelve programs funded for FY09, the increased number of AFIT programs will not likely have the desired effect on retention. In fact, the opposite effect is quite possible. Pharmacists completing the cumbersome application and being matched against an unfunded slot may become frustrated when selected for a program they can't complete. Thus, unfunded AFIT programs risk becoming a "dissatisfier." Funding for these educational programs must be aggressively pursued.

The other retention program requiring modification is the HPLRP. The military-civilian pay gap, especially when viewed in light of the increasing cost of pharmacist education, places increased importance on other money-related retention programs such as loan repayment. The FY09 HPLRP improved over the previous program because it expanded eligibility to include new accessions and it also increased the payment amount. However, the HPLRP requires further changes in order to increase pharmacist retention at the FDP.

First, payment amounts must be increased and/or multi-year options must be approved. Forty percent of pharmacists in this study had remaining educational debt in excess of \$50,000 and this will continue to grow as pharmacy schools become more and more expensive. After taxes are withheld, the maximum HPLRP payment toward loan reduction is \$28,800. Without increasing the maximum payment or offering a multi-year program similar to that offered to the Air Force Medical and Dental Corps, many pharmacists will remain saddled with a significant amount of educational debt even after using HPLRP. When paired with the pay gap, pharmacists may be influenced to separate rather than accept the ADSC associated with using the HPLRP. Second, the number of available HPLRP slots also needs to be increased. The sixteen HPLRP allocations are enough to provide benefit to just 55% of the pharmacists with educational debt in this study. That, of course, doesn't take into consideration the needs of and competition from the other 254 pharmacists in the Air Force. In the current study, roughly one-third of undecided pharmacists and those leaving the Air Force viewed the limited availability of loan repayment as an influence to separate. Moreover, 25% of respondents suggested changes to the HPLRP as a means to increase pharmacist retention. Based on this data, Air Force investments in bolstering loan repayment options for pharmacists will pay retention dividends at the first decision point.

Finally, several new programs should be implemented to improve pharmacist retention at

the FDP. These programs must address the decision-influencing factors not considered by existing retention programs: initial training, mentorship, career path, and family issues.

Air Force pharmacy leaders should create an initial training or transition program for new pharmacists. Although initial training was not a factor this study was designed to assess, it became apparent during interviews that this was a significant issue for many of the respondents. The topic often came up in association with discussions on mentorship. Several pharmacists assigned to smaller pharmacies (i.e., one or two pharmacists assigned) felt they were not ready to assume the leadership and management roles they filled immediately out of pharmacy school. These pharmacists cited poor mentorship and/or inadequate initial training as sources of anxiety and poor performance. Currently, pharmacists enter the Air Force through Commissioned Officer Training (COT), a five-week military entry training program for Air Force lawyers, chaplains, and medical officers. After graduation from COT, pharmacists are sent directly to their first duty assignment with the expectation they will receive on-the-job training under an experienced pharmacist. Unfortunately, this training is not consistent and sometimes not even available at smaller pharmacies. Biomedical Officer Management Orientation (BOMO), a three-week basic management course, is available to pharmacists and other BSC officers with six months to two years of service. This is a great introduction to topics such as training reports, resource management, and other medical management issues. It's simply not designed to be a comprehensive initial training program for pharmacists. Pharmacy leaders should create a pharmacist transition program modeled after the Air Force's Nurse Transition Program (NTP). The NTP is a 10-week clinical program attended after COT designed to "facilitate the transition from student to professional nurse."<sup>68</sup> A similar pharmacy program has the potential to improve pharmacist retention at the first decision point.

Related to training, the Air Force also needs to improve the mentoring of junior pharmacists. Mentorship is recognized as a significant retention factor in numerous studies, including this one. The Air Force expects experienced pharmacists to provide mentoring to new pharmacists at the first duty assignment. Again, there is no formal training or assignment of mentors. This, like training, appears to be a bigger problem for pharmacists assigned to smaller pharmacies than those at larger MTFs. Pharmacies with just two pharmacists, like the majority of Air Force pharmacies,<sup>69</sup> do not give a new pharmacist many options for a mentor. Workload, personality differences, experience, and many other factors could hamper the senior pharmacist's ability to be an effective mentor. All MTFs have a BSC Executive (SGB) serving a mentor role for BSC officers within the facility. This officer is a great resource for young pharmacists, but, unless the SGB is a pharmacist, the mentoring is not the career-field specific assistance often needed. Each MAJCOM also has a senior pharmacist assigned as an intermediate consultant between the MTF pharmacist and the Associate Corps Chief for Pharmacy. These MAJCOM consultants are an effective means of disseminating information, but they are inadequate in terms of mentoring. Effective mentoring depends on personal relationships. It is difficult to form these relationships via telephone or e-mail. The Air Force can improve mentoring by creating opportunities for new pharmacists to interact with more experienced pharmacists. One such opportunity would be the pharmacist transition program mentioned above. Another opportunity for pharmacist interaction can be added to existing educational programs, such as BOMO and the Joint Forces Pharmacy Seminar. Events designed with mentoring in mind (i.e., those promoting interaction between junior and senior pharmacists) should be developed and included at these venues. The final piece of the mentoring puzzle is ensuring senior pharmacists receive training on effective mentorship. Not only will this provide mentoring "best practices," but it will also

create program consistency. The end results should be increased job satisfaction and retention of pharmacists at the FDP.

In addition to creating transition and mentoring programs, Air Force pharmacy leaders should consider creation of a pharmacy practice career track. Dissatisfaction with additional duties combined with numerous comments on increasing clinical pharmacy opportunities and allowing pharmacists to practice pharmacy for an entire career suggest many pharmacists just want to be pharmacists. They want to serve as technical experts and avoid being forced to progress through leadership and command positions. Career pharmacy practice roles exist in Air Force pharmacies, but they are filled by civilian contractors or government civilians. Due to rank and force structure considerations, this would be a challenging program to implement for the active-duty force. Allowing an active-duty pharmacist to progress through the ranks without increasing levels of responsibility would not be acceptable to others within the Air Force, especially those competing with that person for promotion. Rank restriction or limitation is a potential way around this issue. If legal, this could be a written contract between the member and the Air Force to maintain the rank of major. If this isn't feasible, rank can be informally controlled via instructions to promotion boards, assignment officers, and affected members. Maintaining the rank of major should not impact the lure of military retirement benefits. Under current selective continuation policies, pharmacists are allowed to continue active duty service as a major until eligible for retirement.<sup>70</sup> These policies are likely to continue given the difficulties in getting and keeping pharmacists in Air Force blue. Even if the pharmacist shortage is resolved, the Air Force can opt to maintain selective continuation policies.

Finally, the Air Force should identify specific family issues related to pharmacist retention at the FDP and seek creative ways to address these issues. This study did not delve into the details of specific family issues. It merely recognized general family issues or concerns as a major factor influencing separating and undecided pharmacists to leave the Air Force. During

the interview process, several study participants indicated a desire to separate to have or raise children so this family concern will be used as an example. With nearly 70% of pharmacists being female and the percentage continuing to climb, the Air Force must give serious consideration to programs designed to meet their needs. This is imperative because it also appears female pharmacists at the FDP are more likely to separate from the Air Force than males. Five (83%) of the six separating pharmacists and six (75%) of the eight undecided pharmacists interviewed were female, compared to just ten (63%) of the sixteen staying pharmacists. As previously mentioned, a larger percentage of female pharmacists choose to work part-time than their male counterparts. Due to relatively high salaries and the ongoing pharmacist shortage, pharmacy careers are particularly conducive to part-time employment. Part-time employment as an active duty pharmacist is not feasible, but other creative scheduling options may be. Flex-scheduling is one such option. A temporary leave of absence or liberal leave policies (above and beyond maternity leave) for a period after childbirth should also be pondered. The Air Force might also consider policies preventing deployment for a reasonable period after returning from maternity leave. This and other family issues, particularly those of female pharmacists, must be addressed to improved Air Force pharmacist retention at the FDP.

#### **LIMITATIONS AND AREAS FOR FURTHER STUDY**

There are several notable limitations of this study. This research represents a snapshot in time and reflects the social, political, economic and other contextual elements of today. The factors influencing Air Force pharmacist retention today may not be the same as those of the future. A further limitation of this study is that it does not include input from Air Force pharmacists who have recently separated. Inclusion of this group would have added eight pharmacists to those separating, thereby bolstering the study strength. The interview questions

used in this study were not formally validated. Further, the exclusion of three deployed pharmacists may have introduced a selection bias to this study. Finally, the small size of the population and study groups makes it difficult to use statistics to analyze study data.

Based on the findings of this study and the shortcomings of others, further research is warranted in several areas. Firstly, future studies should examine the impact of new retention programs or changes to existing retention programs. These studies will provide the feedback needed to fine-tune retention strategies and operate such programs efficiently. Secondly, due to the ever-changing context surrounding Air Force pharmacy practice, a retention study such as this should be conducted at regular intervals and the data trends analyzed. Finally, future pharmacist retention studies should investigate the specific family issues most influencing a pharmacist's career decision at the FDP.

Despite the noted limitations and areas for further investigation, this study is a valuable tool for Air Force decision-makers. It is the only research conducted with a focus on identifying the factors influencing pharmacist retention decisions at the FDP. Although several pharmacists were not available for inclusion, a robust 91% of the total population was interviewed. While the relative weight or rank of decision-influencing factors may change over time, the factors themselves will likely remain relatively constant. Seven of the top ten reasons Air Force officers stayed in the military in 1989 remained in the top ten in 2000. Seven of the top ten reasons officers separated in 1989 also stayed in the top ten in 2000.<sup>71</sup> The data derived from this study can be employed at once to improve the effectiveness of retention programs targeting Air Force pharmacists. With the decision-influential factors themselves holding steady, these programs will be effective for many years to come.



## **CONCLUSION**

The critical shortage of Air Force pharmacists must be addressed by retention programs targeting pharmacists at the FDP. These programs must be based on knowledge of the factors most influential to the career decisions of these pharmacists. This study shows patriotism, retirement benefits, and level of pharmacy technician competence to be the strongest influences for pharmacists at the FDP to stay in the Air Force. The availability of comparable civilian jobs, base pay & allowances, family issues, and mentorship are the strongest influences for Air Force pharmacists to separate. Initial training and the ability to practice pharmacy throughout a career are additional areas for improvement identified during interviews.

Retention programs dealing with each of these factors must be continued or created to increase pharmacist retention at the FDP. The Air Force should continue the current pharmacist special pay, board certification pay, and Air Force Institute of Technology (AFIT) short course programs. Further, loan repayment and AFIT degree programs must be modified to better meet the needs of junior Air Force pharmacists. Moreover, new pharmacist transition and mentorship programs should be created. Finally, options to deal with family issues and the possibility of a pharmacy practice career path also require investigation.

Given the national shortage of pharmacists and the high salaries of the private sector, the Air Force must get these programs right to retain pharmacists and alleviate the current manpower shortfall. In short, the Air Force must understand and effectively target the factors influencing a pharmacist's answer to the vital, first-decision-point question: "Should I stay or should I go?"

## **APPENDIX A: Literature Review and Discussion**

Air Force pharmacists, like most military members, serve dual professional roles. They are both an officer and a pharmacist. As such, a retention study must consider the influences of factors known to affect the retention of officers as well as those known to affect the retention of pharmacists.

### **Air Force Officer Retention Studies**

Numerous studies examining the factors affecting Air Force officer retention have been conducted. The Air Force Manpower Agency (AFMA) conducts recruiting and retention research on a periodic basis as part of their normal operations.<sup>72</sup> However, many of these reports are not made available for public use outside of AFMA until several years after completion. The most recent *Report on Career Decisions in the Air Force* was published in the year 2000.<sup>73</sup> This report combined and analyzed data collected from the Careers Survey, targeting personnel who are “undecided” or intend to stay in the Air Force, and the New Directions Survey, targeting Air Force personnel with established separation dates. Combined, the report assessed the factors influencing the retention decisions of over 2,600 Air Force officers, regardless of career timing.<sup>74</sup> The top five factors influencing career officers’ decisions to stay in the Air Force were patriotism, retirement benefits, job satisfaction, job security, and choice of job assignment.<sup>75</sup> The top five influences on the decisions of separating officers were the availability of comparable civilian jobs, choice of job assignment, say in base of assignment, amount of additional duties, and job satisfaction.<sup>76</sup> Finally, the factors influencing “undecided” officers to leave the Air Force were similar to those influencing officers with an established date of separation. The top five factors for the “undecided” group were availability of comparable civilian jobs, amount of additional duties, number and duration of TDYs, work schedule, and pay and allowances.<sup>77</sup>

In addition, this report assessed push versus pull influences on retention decisions. In essence, this assessment examined whether personnel were being pushed out of the Air Force by internal factors or pulled out by external forces. “Push” issues included those involving Air Force programs or policies, family, unit or base. “Pull” influence was based on personal issues such as job and advanced education opportunities. These influences were assessed for various groups, with non-pilot company grade officers (CGOs) being most similar to the current study population. Non-pilot CGOs with career intentions most often cited personal “pull” (34%) as most influential to their career decisions, followed by the “push” of the Air Force (31%) and family (23%). Those leaving the Air Force noted the same three areas, but with more emphasis on personal issues (42%) and less on family issues (11%).<sup>78</sup>

The 2002 *Quality of Life Survey* conducted by the Air Force provides further insight into the career decisions of Air Force officers. This survey assessed the job satisfaction, quality of life, and career intent of nearly 11,000 randomly selected officers from all career fields at all career points.<sup>79</sup> The study found 89% of CGOs were satisfied with the Air Force quality of life and 78% were satisfied with their current job. The top two quality of life issues for non-pilot CGOs were manpower and compensation.<sup>80</sup> Survey questions about manpower covered staff competency, staffing levels, and additional duties, while those on compensation addressed base and special pays, travel pay, and retirement benefits.<sup>81</sup> These findings are relevant to the current study because job satisfaction and quality of life issues are strongly linked to career intent and career decisions.<sup>82</sup> When asked whether total compensation in the Air Force was “fair and equitable”, 70% of CGOs with career intentions agreed. Just 59% percent of those who were undecided and 54% of those leaving the Air Force had the same response.<sup>83</sup>

It’s important to note that the politico-military, social, and economic context has

significantly changed since these studies were conducted in 2000 and 2002. While the results of similar surveys may be different today, the data provided is a useful starting point for assessing Air Force pharmacist retention. The two AFMA studies identified many important factors for consideration and inclusion in this study. They also highlighted several key ideas about Air Force officers: they consider many factors when making a career decision, they often make those decisions a year or more before their eligibility for separation, survey responses from career officers and those leaving or undecided must be interpreted differently, and their stated career intentions match well with actual career decisions.<sup>84</sup> Of the CGOs in 1989 who reported they would stay in the Air Force, 70% were still in the Air Force in 1999. Of those who said they would leave, 73% left. Of the CGOs who were undecided in 1989, 52% left the Air Force by 1999.<sup>85</sup>

In summary, Air Force officer retention studies show a variety of influencing factors on career decisions. Patriotism, retirement benefits, job satisfaction, and “pull” issues topped the influences to stay in the Air Force. Civilian job availability, assignment-related factors, and “push” issues were most influential to separate. Further, most CGOs are satisfied with their Air Force jobs and quality of life. All of these factors influence officer retention.

### **Military Healthcare Officer Retention Studies**

Each of the DoD medical departments forming the Military Health System (Air Force, Army, and Navy) experience varying degrees of difficulty in retaining various types of military healthcare officers. At the 2008 Military Health System Conference, recruitment and retention of medical personnel was billed as the “top priority” because of an inability to meet manpower requirements and the potential consequences of manning shortfalls.<sup>86</sup> This is not a new issue and a number of military healthcare officer retention studies have been conducted.

The Air Force Biomedical Sciences Corps (BSC) distributed a retention survey to BSC officers in 2006 and received nearly 1,500 responses. The BSC is a heterogeneous group composed of 19 diverse medical specialties (figure B-2), including pharmacists. All BSC officers were eligible for this study, regardless of career timing. The 2006 survey found the top five factors rated a “strong influence to remain [in the Air Force]” were: retirement benefits (66%), professional satisfaction (49%), promotion opportunity (40%), capability to practice the full scope or spectrum of the respondent’s specialty (39%), and capability to impact the work environment (39%). The top five factors noted to be “strong influence[s] to separate [from the Air Force]” were: family issues or concerns (15%), additional duties (14%), frequency of PCS moves (14%), the assignment process (12%), and local leadership (11%). This survey also assessed the level of educational debt held by respondents. Of note, 19% of the survey group had remaining educational debt over \$50,000, 37% had less than \$50,000, and the remaining 44% had zero educational debt. The impact of debt on retention decisions was not evaluated.<sup>87</sup>

A 2003 study of a different population, Army junior (i.e., Captain) dentists, did investigate the impact of remaining educational debt on retention decisions. This study found 92% of queried dentists had remaining educational debt and 43% had loans totaling more than \$50,000. Moreover, 65% of respondents indicated an improved loan repayment program could positively influence their decision to remain in the Army. These factors are relevant not only because of the population similarities, but also because pharmacy school tuitions are similar to the dental school tuitions reported. The average annual dental school tuition was \$12,260 for state residents at state schools, \$26,803 for non-residents at state schools, and \$32,809 for private schools.<sup>88</sup> For the 2008-2009 academic year, the average annual pharmacy school tuition is \$13,255 for state residents at state schools, \$25,634 for non-residents at state schools, and

\$28,341 for private schools.<sup>89</sup> Pharmacy school, like dental school, is generally a six-year program. This makes the average cost of the entry-level Doctor of Pharmacy (PharmD) degree between \$80,000 and \$170,000 before books, fees, and other expenses. Based on this data, junior Air Force pharmacists are likely to have outstanding educational debt and this may have an influence on their career decisions.

Perceived or actual pay gaps between healthcare providers in the military and those in the private sector are often studied to determine their effect on recruiting and retention of these officers. A study conducted by the Center for Naval Analysis in 2000 sought to compare compensation for Navy physicians with civilian physicians, while also examining Navy provider satisfaction levels. This study showed compensation, including healthcare and retirement benefits, ranged from 12% - 48% lower for Navy physicians than their civilian counterparts. Furthermore, the top six job “dissatisfiers” for these Navy physicians were: insufficient compensation, devalued clinical excellence, decreasing professional growth opportunities, inadequate support personnel, poor business practices, and decreasing recognition or value of workplace contributions.<sup>90</sup>

Based on fiscal year 2008 (FY08) data, there is a similar pay gap between Air Force pharmacists near their first decision point and civilian pharmacists. The actual pay gap will vary by location due to factors such as the local job market and the basic allowance for housing (BAH). For illustrative purposes, salaries in San Antonio, Texas can be used as an example. San Antonio is home to Wilford Hall Medical Center, the Air Force medical facility with the highest number of Air Force pharmacists. The median annual salary for a staff pharmacist in San Antonio’s private sector is approximately \$99,500.<sup>91</sup> An Air Force pharmacist with three years of service in 2008 would have earned an annual salary of roughly \$73,000 without

dependents or \$76,000 with dependents. With four years of service, the same pharmacist would have earned about \$81,000 without dependents or \$84,500 with dependents.<sup>92</sup> These estimates include FY08 Pharmacy Officer Special Pay (POSP) and the estimated tax advantage associated with tax-free BAH and basic allowance for subsistence (BAS). The calculations do not include medical and retirement benefits. Based on the above data, Air Force pharmacists at their first decision point (in San Antonio) earn 15% to 27% less than their civilian counterparts, deficits similar to those seen in the Navy physician study. The pay gap caused significant job dissatisfaction for Navy physicians and may do the same for Air Force pharmacists. As mentioned earlier, job satisfaction and retention are closely linked.

Finally, a study of over 600 Navy Medical Service Corps (MSC) officers sought to identify the effect of the Global War on Terror (GWOT) on retention. The Navy MSC consists of 32 specialties, including pharmacists.<sup>93</sup> The author found that deployments, hostile and non-hostile, of first-term MSC officers correlated with increased retention.<sup>94</sup> It was also discovered that being male, being older, being married, and having two or more dependents had positive effects on retention beyond the initial ADSC, the first decision point.<sup>95</sup> Interestingly, members of the subgroup of MSCs that includes pharmacists, known as Clinical Care Providers, were noted to be more likely to separate from the Navy than the Healthcare Administration subgroup. The author proposed the availability of comparable civilian jobs and a “military-civilian pay gap” as likely explanations.<sup>96</sup>

Retention studies looking at military healthcare officers, like those involving Air Force officers, demonstrated a positive retention influence for retirement benefits and job satisfaction and a negative influence for assignment-related issues. Additionally, BSC officers cited promotion opportunity as an influence to stay in the Air Force. Family issues and additional

duties influenced this group to separate. These military healthcare officer retention studies also reveal a correlation between educational debt and the potential of loan repayment programs to increase retention, as well as a correlation between military-civilian pay gaps and job dissatisfaction. These lessons can be applied to pharmacist retention studies and programs, as pharmacists have similar educational debt and pay gaps to the populations evaluated. Finally, the Navy MSC study suggests deployment, male gender, and increasing family size as factors increasing retention.

### **Civilian Pharmacist Retention Studies**

The shortage of pharmacists in the United States has been the impetus behind numerous studies examining the recruitment and retention of this scarce resource. While there are many differences between the practice of pharmacy in the military and the private sector (e.g. processes and procedures, patient population, organizational structure, deployments, etc.), there are also many similarities. Military and civilian pharmacists receive the same education at civilian institutions, they have the same licensure requirements, and they maintain the same professional standards. The pharmacy practice sites in the military are largely ambulatory care, or outpatient, facilities. In many ways these sites are similar to retail and other community pharmacies in the private sector, where the majority of pharmacists are employed.<sup>97</sup> Due to these similarities and the plethora of available data, a review of civilian pharmacist retention studies is relevant to the current study.

A 2008 study of over 2,200 US pharmacists sought to determine the effects of job stress, organizational environment, and individual factors on job satisfaction, organizational commitment, and job turnover intention. This study showed interpersonal interaction (i.e., peer relationships) amongst staff members was one of the strongest determinants of job satisfaction



and organizational commitment. Further, job satisfaction and organizational commitment were directly related to job turnover intention.<sup>98</sup> As mentioned earlier, military career intentions correlate well with actual career decisions and retention.

The same primary author conducted a study to determine the effects of practicing pharmaceutical care on several factors including job turnover intention. *Pharmaceutical care* is part of, and often considered synonymous with, the practice of *clinical pharmacy*. Clinical pharmacy goes beyond the prescription processing and dispensing roles of a pharmacist. According to the American College of Clinical Pharmacy, it involves “managing medication therapy in direct patient care settings.”<sup>99</sup> Participating in medical rounds and providing direct care to patients in a disease-state management clinic are two examples of clinical pharmacy activities or pharmaceutical care. This study of US civilian pharmacists ( $n = 252$ ) hypothesized that the practice of pharmaceutical care improves pharmacist perceptions of “construed external image” (i.e., how they are viewed by outsiders), thereby increasing pharmacist identification with the organization and decreasing job turnover intention. External image was found to be closely tied to organizational identity, organizational identity was related to turnover intention, and external image was also directly related to turnover intention. However, this study failed to show a link between pharmaceutical care and external image. The authors concluded “the effects of the practice of pharmaceutical care were mediated through organizational identification.”<sup>100</sup> In other words, the practice of pharmaceutical care decreased pharmacist turnover intention by increasing the pharmacist’s identification with the organization. The limited availability of pharmaceutical care opportunities in the Air Force may have the opposite effect on pharmacist identification with the organization and on retention.

Full-time clinical pharmacy positions have historically been filled by pharmacists with a

six- or seven-year PharmD, as this degree program provides more clinical training than the five-year Bachelor of Science (BS) in Pharmacy. US colleges of pharmacy, in accordance with Accreditation Council for Pharmacy Education (ACPE) standards, stopped offering a BS in Pharmacy degree starting with the freshman class of 2000-2001. This change made the PharmD the entry-level degree for pharmacists.<sup>101</sup> In addition to the likely effects on the nationwide pharmacist shortage, this change may have also had an effect on pharmacist demands for clinical pharmacy positions. Although pharmaceutical care opportunities exist within the Air Force, full-time clinical pharmacy positions remain extremely limited in number. The 59th Pharmacy Squadron at Lackland AFB is home to the only clinical pharmacy flight in the Air Force. As of July 2008, this flight was authorized just four pharmacists, two of whom were civilians.

The American Society of Health-System Pharmacists (ASHP) conducted a survey of 567 pharmacy directors in 2002 to assess their pharmacist staffing needs.<sup>102</sup> Among other things, the survey examined pharmacist vacancy rates and 20 retention factors divided among five general categories: salary and benefits, staff development, lifestyle considerations, professional practice, and work environment. Lifestyle considerations (shifts and scheduling), practice issues (staffing levels, resources, and patient contact), and work environment (communication with management, peer relations, and technician competence) were all associated with vacancy rates. Pharmacies reporting positively on the use of these factors had lower pharmacist vacancy rates. Of equal interest to the current study, adoption of the salary and staff development factors (training, mentoring, and growth) did not correlate with lower vacancy rates.<sup>103</sup>

Finally, a 2005 survey of just under 1,500 civilian pharmacists sought to identify job retention factors as one of its four study objectives. Respondents were asked to report their future work plans, including the likelihood they would leave their current job within the next

year, and to rate the factors deemed most important to that decision.<sup>104</sup> Overall, 23% of pharmacists reported they intended to leave their job within a year. The factors most commonly rated as “very important” to the decision to leave were: work schedule (55%), salary (43%), and benefits (42%). Amount of patient contact, relationships with patients, and advancement opportunities were the factors least often cited as “very important” to the decision to leave. For the pharmacists intending to stay in their current jobs, work schedule (52%), benefits (41%), and spouse/family relocation (37%) were most frequently reported as “very important.” Further, 31% of those staying noted salary as “very important” to the decision. Amount of patient contact, desire for change, and intellectual challenge received the lowest numbers of “very important” ratings among those remaining in their current job.<sup>105</sup>

Like Air Force officer and military healthcare officer retention studies, civilian pharmacist retention studies show an influence of salary and benefits on employee career decisions. Civilian retention studies also highlight several other factors influencing pharmacist career decisions. Peer relationships, clinical pharmacy practice, scheduling, staffing, and work environment all appear to be linked to retention. The question is whether these factors also influence retention of Air Force pharmacists at the first decision point.

### **Military Pharmacist Retention Studies**

Just a few studies have been conducted to specifically examine pharmacist retention in the military. None of these studies addressed factors affecting military pharmacist retention at the first decision point. Despite the difference in career timing, the following studies involved population groups most closely resembling that of the current study.

A 1998 study conducted by a student at the Army Command and General Staff College examined the overall job satisfaction of 107 Army pharmacists and the factors affecting this

satisfaction.<sup>106</sup> The researcher hypothesized, based on trends noted in the literature on civilian pharmacists, increasing levels of clinical pharmacy training and clinical pharmacy activities would be associated with higher levels of job satisfaction.<sup>107</sup> Indeed, the study results proved this hypothesis to be true. Clinical pharmacy training sponsored or provided by the Army resulted in increased job satisfaction, while simply having the clinical training associated with a PharmD did not. Increasing involvement in clinical pharmacy activities was also associated with higher levels of job satisfaction.<sup>108</sup> In addition to clinical activities, the factors most strongly linked to job satisfaction were the uniformity of Army policies and job role (opportunity to use skills and challenging work).<sup>109</sup> Compensation was associated with job satisfaction, but had the weakest correlation amongst the eight statistically significant variables identified.<sup>110</sup> This Army study illuminates the potentially negative effects of limited clinical pharmacy opportunities on the job satisfaction of Air Force pharmacists. As discussed previously, lower job satisfaction results in higher job turnover.

The 2006 BSC retention survey, as previously discussed, included responses from 169 Air Force pharmacists. Although the survey was not designed to focus on individual specialties within the BSC, the pharmacist-specific data was made available for review. As with the rest of the study group, pharmacists were eligible for this study, regardless of career timing, and detailed analysis was not available. The survey found the top five factors rated by pharmacists as a “strong influence to remain [in the Air Force]” were: retirement benefits (74%), professional satisfaction (49%), incentive specialty pays (46%), promotion opportunity (43%), and capability to practice the full scope or spectrum of pharmacy (39%). Compared to the total BSC population, a higher percentage of pharmacists were influenced by retirement benefits and specialty pay (note: specialty pay is not available to all BSC career fields). The top five factors

noted to be “strong influence[s] to separate [from the Air Force]” were: family issues or concerns (16%), additional duties (15%), current duty assignment (14%), promotion timing (14%), and frequency of PCS moves (14%). Based on these results, it appears as if pharmacists are influenced more to leave the Air Force by their current assignment and promotion timing than the overall BSC. In terms of the educational debt held by pharmacists, 30% of the survey group had remaining educational debt over \$50,000, 46% had less than \$50,000, and the remaining 24% had zero educational debt. Pharmacists appear to have higher educational debt than BSC officers as a whole, as the debt levels reported by that group were 19%, 37%, and 44%, respectively.<sup>111</sup> The breakout of pharmacist data, in addition to providing information more closely related to the current study population, demonstrates the need for the Air Force to continue to address retention problems and programs based on the pharmacy career field, not based on the BSC as a whole.

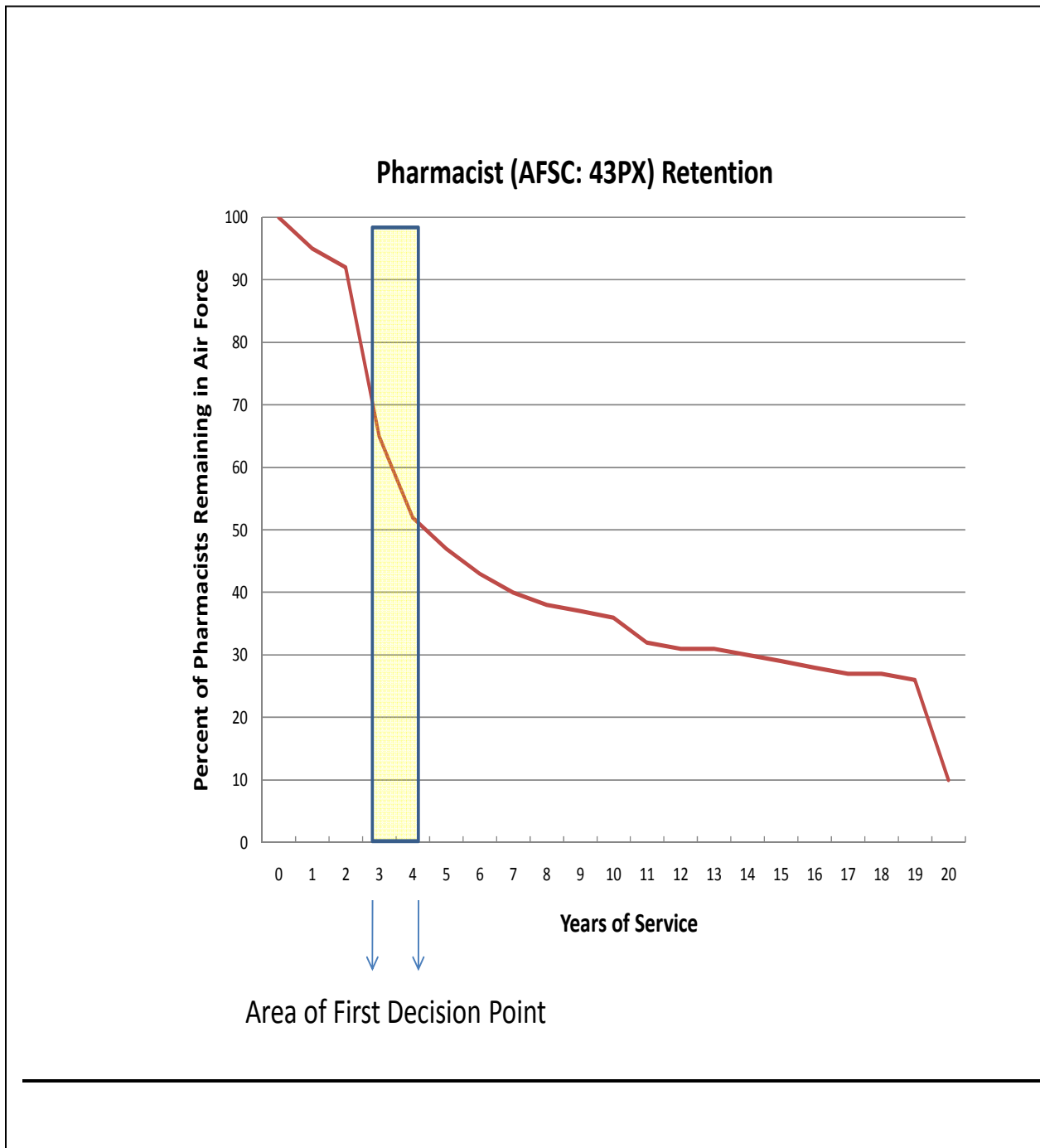
In addition to periodic surveys like that above, the BSC has developed a “Biomedical Sciences Officer Exit Interview.” This survey tool (figure B-3) is designed to be completed by BSC officers separating from the Air Force in an effort to collect data on the factors influencing this decision.<sup>112</sup> The BSC Executive, typically the senior-ranking BSC officer, at each military treatment facility (MTF) is responsible for conducting an exit interview and forwarding the collected data to BSC headquarters. Although this process is intended to generate useful retention data, results have fallen short of expectations. An interview conducted with a senior BSC officer at the Air Force Surgeon General’s office revealed that just six BSC exit interviews were submitted in 2008, despite more than 100 BSC officer separations. One of the six exit interviews was for a pharmacist.<sup>113</sup> This shows BSC retention factors are being examined, but also that available pharmacist interview data is of limited utility for this study.

The final military pharmacist retention study to review was conducted by an Air Force pharmacist at Air Command and Staff College in AY08. This study used a problem-solution methodology based strictly on literature review. It explored the causes of Air Force pharmacist recruitment and retention problems, analyzed the motives to join and stay in the Air Force, and recommended potential methods to address the problems.<sup>114</sup> Two factors were determined to be most important to Air Force pharmacist retention: 1) mentorship, and 2) job training. The researcher recommended several strategies to improve mentorship and training programs and, thus, improve pharmacist retention.<sup>115</sup>

The few military pharmacist retention studies conducted reveal several similarities to studies involving other populations. Like other Air Force officers and military healthcare officers, military pharmacists are influenced to stay in the military by retirement benefits, job satisfaction, and pay. Their career decisions are also negatively influenced by family issues, additional duties, and assignment-related factors. As with civilian pharmacists, clinical pharmacy practice leads to job satisfaction amongst military pharmacists. The influences of mentoring and training on retention are also clear in several military and civilian studies. Despite the similarities of these groups to this study's population, none of the studies have examined the factors affecting Air Force pharmacist retention at the first decision point.

**APPENDIX B: Figures**

**FIGURE B-1.** Pharmacist Retention Line



*Adapted from* Garton, Tony M., operations research analyst, Air Force Personnel Center, Randolph AFB, TX. To the author, E-mail, 16 October 2008.

**FIGURE B-2.** Biomedical Sciences Corps (BSC) Air Force Specialty Codes (AFSCs)

<b><u>AFSC</u></b>	<b><u>Description</u></b>
42B	Physical Therapist
42E	Optometrist
42F	Podiatrist
42G	Physician Assistant
42NxA	Audiologist
42NxB	Speech Pathologist
42P	Psychologist
42S	Social Worker
42T	Occupational Therapist
43A	Aerospace Physiologist
43B	Biomedical Scientist/Staff
43D	Dietitian
43E	Bioenvironmental Engineer
43ExC/E	Health Facilities Officer
43H	Public Health Officer
43M	Medical Entomologist
43P	Pharmacist
43T	Biomedical Laboratory Officer
43Y	Health/Medical Physicist

*Reprinted from* United States Air Force Biomedical Sciences Corps. “Talking Paper on Biomedical Sciences Corps (BSC) Career Progression.” BSC Corps Director Approved, 12 January 2007.



**FIGURE B-3. Biomedical Sciences Officer Exit Interview**

**BIOMEDICAL SCIENCES OFFICER  
EXIT INTERVIEW**

**Please use this questionnaire for BSC officers who are separating prior to retirement eligibility.**

Gender: Male <input type="checkbox"/>	Date: YYYY-MM-DD	AFSC	Major Command	Base	Grade	Total Years Service	Marital Status	Age
Female <input type="checkbox"/>								
<b>How did the following areas influence your decision to separate from the U.S. Air Force Biomedical Sciences Corps?</b> (Check only one box per line)			Strong Influence to Remain in USAF	Some Influence to Remain in USAF	No Influence to Remain or Separate	Some Influence to Separate	Strong Influence to Separate	Don't Know N/A
1. Quality of life	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Practice of specialty	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Adequacy of staffing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Ancillary support	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Professional development (Military)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Professional development (Specialty)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Professional satisfaction (Military)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Professional satisfaction (Specialty)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Sense of duty (civic responsibility/patriotism)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Military training (short courses/leadership)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Opportunities for advanced academic training (residency, specialty, administrative)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Mentorship (awareness, quality, satisfaction)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Duty Assignments (process, overall satisfaction)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Frequency of moves (PCS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Number and length of deployments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Promotion opportunities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Esprit de Corps	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Travel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Personal recognition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Pay	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Retention Pay (If Applicable)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. Board Certification Pay (If Applicable)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. Local leadership	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. MAJCOM/ HQ USAF Leadership	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. Employment opportunities for spouse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. Degree to which original expectations were met	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ADDITIONAL COMMENTS:

BSC EXECUTIVE COMMENTS:

COMMANDER COMMENTS:

Send or fax a copy of this document to: HAF/SGCB, 110 Luke Ave, Rm 400, Bolling AFB DC 20032  
Phone: DSN 297-4498, COM 202-767-4498

*Reprinted from United States Air Force Biomedical Sciences Corps. "Biomedical Sciences Officer Exit Interview." [https://kx.afms.mil/kxweb/dotmil/file/web/ctb\\_104345.pdf](https://kx.afms.mil/kxweb/dotmil/file/web/ctb_104345.pdf) (accessed 27 October 2008).*

**FIGURE B-4.** Decision Factors Evaluated

1. Capability to practice full spectrum / scope of pharmacy	15. Frequency of TDYs (non-deployment)	29. Availability of comparable civilian jobs
2. Capability to impact work environment	16. Family issues / concerns	30. Job security
3. PME requirement(s)	17. Promotion opportunity	31. Work schedule
4. Professional development	18. Promotion timing	32. Potential for outsourcing of Air Force job
5. Professional satisfaction	19. Recognition programs	33. Medical / dental benefits
6. Military training opportunities	20. Local leadership	34. BX, commissary, fitness centers, and recreation programs
7. Education opportunities	21. MAJCOM leadership	35. Compatibility with spouse's career / job
8. Mentorship	22. AFMS leadership	36. Level of pharmacy technician staffing
9. Assignment process	23. Fitness standards / requirements	37. Level of pharmacy technician competence
10. Current duty assignment	24. Base pay & allowances	38. Level of pharmacist staffing
11. Time needed to meet training requirements	25. Pharmacist specialty pay	39. Workplace resources
12. Amount of additional duties	26. Board certification pay	40. Peer relations
13. Frequency of PCS moves	27. Availability of loan repayment (HPLRP)	41. Performance evaluation system
14. Frequency of deployments	28. Retirement benefits	42. Patriotism

AFMS: Air Force Medical Service

BX: Base Exchange

HPLRP: Health Professions Loan Repayment Program

MAJCOM: Major Command

PME: Professional Military Education

PCS: Permanent Change of Station

TDY: Temporary Duty

**FIGURE B-5.** Interview Questions on Perceptions of the Private Sector

1. What is your perception regarding the availability of pharmacist jobs in the private sector?

PLENTIFUL                      AVAILABLE                      FEW                      UNSURE

2. About how much MORE money would you expect to earn annually in a private sector job?

\$50K+    \$30K-\$50K    \$20K-\$30K    \$10K-\$20K    \$0-\$10K    <AF Pay    UNSURE

3. How do you think the retirement benefits in the private sector compare with the Air Force retirement benefits?

MUCH BETTER    SLIGHTLY BETTER    ABOUT EQUAL    SLIGHTLY WORSE    MUCH WORSE

4. How do you think the healthcare benefits in the private sector compare with those in the Air Force?

MUCH BETTER    SLIGHTLY BETTER    ABOUT EQUAL    SLIGHTLY WORSE    MUCH WORSE

5. About how many hours per week would you expect to work in the private sector compared to the Air Force?

MANY MORE    SLIGHTLY MORE    ABOUT EQUAL    SLIGHTLY LESS    MANY LESS

6. How much vacation time do you think the private sector offers compared to the Air Force, assuming the same number of years worked?

MUCH MORE    SLIGHTLY MORE    ABOUT EQUAL    SLIGHTLY LESS    MUCH LESS

**FIGURE B-6.** Interview Responses of Study Participants (*n* = 30)

How do/did the following factors influence your decision to remain in or separate from the AF?						
	<b>Strong Influence to Stay</b>	<b>Some Influence to Stay</b>	<b>No Influence</b>	<b>Some Influence to Leave</b>	<b>Strong Influence to Leave</b>	<b>N/A</b>
<b>1. Capability to practice full spectrum / scope of pharmacy</b>						
No.	14	5	6	4	1	
%	46.7	16.7	20	13.3	3.3	
	Median: Some Influence to Stay			Mode: Strong Influence to Stay		
<b>2. Capability to impact your work environment</b>						
No.	10	11	6	2	1	
%	33.3	36.6	20	6.7	3.3	
	Median: Some Influence to Stay			Mode: Some Influence to Stay		
<b>3. PME requirement(s)</b>						
No.	0	4	18	7	1	
%	0	13.3	60	23.3	3.3	
	Median: No Influence			Mode: No Influence		
<b>4. Professional development</b>						
No.	6	12	6	4	2	
%	20	40	20	13.3	6.7	
	Median: Some Influence to Stay			Mode: Some Influence to Stay		
<b>5. Professional satisfaction</b>						
No.	10	8	5	5	2	
%	33.3	26.7	16.7	16.7	6.7	
	Median: Some Influence to Stay			Mode: Strong Influence to Stay		
<b>6. Military training opportunities</b>						
No.	4	12	10	2	2	
%	13.3	40	33.3	6.7	6.7	
	Median: Some Influence to Stay			Mode: Some Influence to Stay		
<b>7. Education opportunities</b>						
No.	10	14	3	2	1	
%	33.3	46.7	10	6.7	3.3	
	Median: Some Influence to Stay			Mode: Some Influence to Stay		
<b>8. Mentorship</b>						
No.	8	9	3	4	6	
%	26.7	30	10	13.3	20	
	Median: Some Influence to Stay			Mode: Some Influence to Stay		
<b>9. Assignment process</b>						
No.	2	5	9	9	5	
%	6.7	16.7	30	30	16.7	
	Median: No Influence			Mode: No Influence		
<b>10. Current duty assignment</b>						
No.	9	8	5	2	6	
%	30	26.7	16.7	6.7	20	
	Median: Some Influence to Stay			Mode: Strong Influence to Stay		

**FIGURE B-6 (cont'd).** Interview Responses of Study Participants ( $n = 30$ )

How do/did the following factors influence your decision to remain in or separate from the AF?						
	<b>Strong Influence to Stay</b>	<b>Some Influence to Stay</b>	<b>No Influence</b>	<b>Some Influence to Leave</b>	<b>Strong Influence to Leave</b>	<b>N/A</b>
<b>11. Time needed to meet training requirements</b>						
No.	0	1	16	10	3	
%	0	3.3	53.3	33.3	10	
	Median: No Influence			Mode: No Influence		
<b>12. Additional duties</b>						
No.	1	12	5	7	5	
%	3.3	40	16.7	23.3	16.7	
	Median: No Influence			Mode: Some Influence to Stay		
<b>13. Frequency of PCS moves</b>						
No.	2	9	13	5	1	
%	6.7	30	43.3	16.7	3.3	
	Median: No Influence			Mode: No Influence		
<b>14. Frequency of deployments</b>						
No.	2	3	17	6	2	
%	6.7	10	56.7	20	6.7	
	Median: No Influence			Mode: No Influence		
<b>15. Frequency of TDYs (non-deployment)</b>						
No.	10	12	7	1	0	
%	33.3	40	23.3	3.3	0	
	Median: Some Influence to Stay			Mode: Some Influence to Stay		
<b>16. Family issues / concerns</b>						
No.	3	4	10	4	9	
%	10	13.3	33.3	13.3	30	
	Median: No Influence			Mode: No Influence		
<b>17. Promotion opportunity</b>						
No.	8	8	8	3	3	
%	26.7	26.7	26.7	10	10	
	Median: Some Influence to Stay			Mode: No Influence		
<b>18. Promotion timing</b>						
No.	1	7	17	4	1	
%	3.3	23.3	56.7	13.3	3.3	
	Median: No Influence			Mode: No Influence		
<b>19. Recognition programs</b>						
No.	4	6	15	2	3	
%	13.3	20	50	6.7	10	
	Median: No Influence			Mode: No Influence		
<b>20. Local leadership</b>						
No.	2	15	4	5	4	
%	6.7	50	13.3	16.7	13.3	
	Median: Some Influence to Stay			Mode: Some Influence to Stay		

**FIGURE B-6 (cont'd).** Interview Responses of Study Participants (*n* = 30)

How do/did the following factors influence your decision to remain in or separate from the AF?						
	<b>Strong Influence to Stay</b>	<b>Some Influence to Stay</b>	<b>No Influence</b>	<b>Some Influence to Leave</b>	<b>Strong Influence to Leave</b>	<b>N/A</b>
<b>21. MAJCOM leadership</b>						
No.	0	6	21	2	1	
%	0	20	70	6.7	3.3	
	Median: No Influence			Mode: No Influence		
<b>22. AFMS leadership</b>						
No.	0	6	21	3	0	
%	0	20	70	10	0	
	Median: No Influence			Mode: No Influence		
<b>23. Fitness standards / requirements</b>						
No.	4	12	10	4	0	
%	13.3	40	33.3	13.3	0	
	Median: Some Influence to Stay			Mode: Some Influence to Stay		
<b>24. Base pay &amp; allowances</b>						
No.	2	2	4	15	7	
%	6.7	6.7	13.3	50	23.3	
	Median: Some Influence to Leave			Mode: Some Influence to Leave		
<b>25. Pharmacist specialty pay</b>						
No.	9	5	5	7	4	
%	30	16.7	16.7	23.3	13.3	
	Median: No Influence			Mode: Strong Influence to Stay		
<b>26. Board certification pay</b>						
No.	5	9	16	0	0	
%	16.7	30	53.3	0	0	
	Median: No Influence			Mode: No Influence		
<b>27. Availability of loan repayment (HPLRP)</b>						
No.	7	10	7	4	2	
%	23.3	33.3	23.3	13.3	6.7	
	Median: Some Influence to Stay			Mode: Some Influence to Stay		
<b>28. Retirement benefits</b>						
No.	22	5	3	0	0	
%	73.3	16.7	10	0	0	
	Median: Strong Influence to Stay			Mode: Strong Influence to Stay		
<b>29. Availability of comparable civilian jobs</b>						
No.	5	0	7	10	8	
%	16.7	0	23.3	33.3	26.7	
	Median: Some Influence to Leave			Mode: Some Influence to Leave		
<b>30. Job security</b>						
No.	14	10	6	0	0	
%	46.7	33.3	20	0	0	
	Median: Some Influence to Stay			Mode: Strong Influence to Stay		

**FIGURE B-6 (cont'd).** Interview Responses of Study Participants (*n* = 30)

How do/did the following factors influence your decision to remain in or separate from the AF?						
	<b>Strong Influence to Stay</b>	<b>Some Influence to Stay</b>	<b>No Influence</b>	<b>Some Influence to Leave</b>	<b>Strong Influence to Leave</b>	<b>N/A</b>
<b>31. Work schedule</b>						
No.	14	9	2	4	1	
%	46.7	30	6.7	13.3	3.3	
	Median: Some Influence to Stay			Mode: Strong Influence to Stay		
<b>32. Potential for outsourcing of AF job</b>						
No.	1	1	21	6	1	
%	3.3	3.3	70	20	3.3	
	Median: No Influence			Mode: No Influence		
<b>33. Medical / dental benefits</b>						
No.	12	5	10	3	0	
%	40	16.7	33.3	10	0	
	Median: Some Influence to Stay			Mode: Strong Influence to Stay		
<b>34. BX, commissary, fitness centers, and recreation programs</b>						
No.	6	14	9	0	1	
%	20	46.7	30	0	3.3	
	Median: Some Influence to Stay			Mode: Some Influence to Stay		
<b>35. Compatibility with spouse's career / job</b>						
No.	1	4	4	5	4	12
%	3.3	13.3	13.3	16.7	13.3	40
	Median: No Influence			Mode: Some Influence to Leave		
<b>36. Level of pharmacy technician staffing</b>						
No.	9	15	1	4	1	
%	30	50	3.3	13.3	3.3	
	Median: Some Influence to Stay			Mode: Some Influence to Stay		
<b>37. Level of pharmacy technician competence</b>						
No.	18	9	0	3	0	
%	60	30	0	10	0	
	Median: Strong Influence to Stay			Mode: Strong Influence to Stay		
<b>38. Level of pharmacist staffing</b>						
No.	7	6	6	10	1	
%	23.3	20	20	33.3	3.3	
	Median: No Influence			Mode: Some Influence to Leave		
<b>39. Workplace resources</b>						
No.	1	18	9	2	0	
%	3.3	60	30	6.7	0	
	Median: Some Influence to Stay			Mode: Some Influence to Stay		
<b>40. Peer relations</b>						
No.	10	16	2	2	0	
%	33.3	53.3	6.7	6.7	0	
	Median: Some Influence to Stay			Mode: Some Influence to Stay		

**FIGURE B-6 (cont'd).** Interview Responses of Study Participants (*n* = 30)

How do/did the following factors influence your decision to remain in or separate from the AF?						
	<b>Strong Influence to Stay</b>	<b>Some Influence to Stay</b>	<b>No Influence</b>	<b>Some Influence to Leave</b>	<b>Strong Influence to Leave</b>	<b>N/A</b>
<b>41. Performance evaluation system</b>						
No.	0	5	12	7	6	
%	0	16.7	40	23.3	20	
	Median: No Influence			Mode: No Influence		
<b>42. Patriotism</b>						
No.	16	13	1	0	0	
%	53.3	43.3	3.3	0	0	
	Median: Strong Influence to Stay			Mode: Strong Influence to Stay		



**FIGURE B-7.** Pharmacist Influences to Stay

<b>Pharmacists Deciding to Stay (n = 16)</b>		<b>Undecided Pharmacists (n = 8)</b>	
<b>Factor</b>	<b>“Strong” or “Some” Influence to Stay [Rank* (of 42 factors) / % of Responses]</b>	<b>Factor</b>	<b>“Strong” or “Some” Influence to Stay [Rank* (of 42 factors) / % of Responses]</b>
Patriotism	1 / 100	Retirement benefits	1 / 100
Retirement benefits	2 / 93.8	Patriotism	2 / 100
Impact work environment	3 / 93.8	Education opportunities	3 / 100
Peer relations	4 / 93.8	Job security	4 / 87.5
Level of technician competence	5 / 87.5	Level of technician competence	5 / 87.5
Work schedule	6 / 87.5	Peer relations	6 / 87.5
Professional satisfaction	7 / 81.3	Work schedule	7 / 87.5
Level of technician staffing	8 / 81.3	Medical / dental benefits	8 / 75
Education opportunities	9 / 75	Level of technician staffing	9 / 75
Job security	10 / 75	Impact work environment	10 / 62.5
Frequency of TDYs	11 / 75	Practice full scope of pharmacy	11 / 62.5
Professional development	12 / 75	Professional development	12 / 62.5
Practice full scope of pharmacy	13 / 68.8	Current duty assignment	13 / 62.5
Mentorship	14 / 68.8	Pharmacist specialty pay	14 / 62.5
Availability of loan repayment	15 / 68.8	Fitness standards/requirements	15 / 62.5
Local leadership	16 / 68.8	Availability of loan repayment	16 / 62.5
Workplace resources	17 / 68.8	Promotion opportunity	17 / 62.5
Medical / dental benefits	18 / 62.5	BX, commissary, fitness centers	18 / 62.5
Promotion opportunity	19 / 62.5	Local leadership	19 / 62.5
Current duty assignment	20 / 62.5	Board certification pay	20 / 50
Military training opportunities	21 / 62.5	Professional satisfaction	21 / 50
BX, commissary, fitness centers	22 / 62.5	Frequency of TDYs	22 / 50
Additional duties	23 / 56.3	Level of pharmacist staffing	23 / 50
Pharmacist specialty pay	24 / 50	Recognition programs	24 / 50
Board certification pay	25 / 50	Mentorship	25 / 50
Fitness standards/requirements	26 / 50	Workplace resources	26 / 37.5
Frequency of PCS moves	27 / 50	Additional duties	27 / 37.5
Level of pharmacist staffing	28 / 43.8	Base pay and allowances	28 / 25
Promotion timing	29 / 43.8	Military training opportunities	29 / 25
Recognition programs	30 / 37.5	Frequency of PCS moves	30 / 25
Family issues / concerns	31 / 37.5	Assignment process	31 / 12.5
Performance evaluation system	32 / 31.3	Family issues / concerns	32 / 12.5
Availability of civilian jobs	33 / 25	Availability of civilian jobs	33 / 12.5
Frequency of deployments	34 / 25	AFMS leadership	34 / 12.5
Compatibility with spouse’s job	35 / 25	Potential for job outsourcing	35 / 12.5
MAJCOM leadership	36 / 25	Promotion timing	36 / 12.5
AFMS leadership	37 / 25	MAJCOM leadership	37 / 12.5
Assignment process	38 / 25	PME requirement	38 / 12.5
Base pay and allowances	39 / 12.5	Compatibility with spouse’s job	39 / 12.5
PME requirement	40 / 12.5	Performance evaluation system	40 / 0
Potential for job outsourcing	41 / 6.3	Frequency of deployments	41 / 0
Time for training requirements	42 / 6.3	Time for training requirements	42 / 0

\*Where % of responses is equal, rank is determined by: 1) number of “strong influence” responses, 2) number of “some influence” responses, and 3) highest calculated composite score, applied in sequence until tie is broken.

**FIGURE B-8.** Pharmacist Influences to Leave

Pharmacists Deciding to Leave (n = 6)		Undecided Pharmacists (n = 8)	
Factor	“Strong” or “Some” Influence to Leave [Rank* (of 42 factors) / % of Responses]	Factor	“Strong” or “Some” Influence to Leave [Rank* (of 42 factors) / % of Responses]
Family issues / concerns	1 / 83.3	Availability of civilian jobs	1 / 75
Base pay and allowances	2 / 83.3	Base pay and allowances	2 / 75
Availability of civilian jobs	3 / 66.7	Family issues / concerns	3 / 62.5
Pharmacist specialty pay	4 / 66.7	Mentorship	4 / 50
Performance evaluation system	5 / 50	Additional duties	5 / 50
Time for training requirements	6 / 50	Performance evaluation system	6 / 37.5
Local leadership	7 / 50	Frequency of deployments	7 / 37.5
Mentorship	8 / 50	Level of pharmacist staffing	8 / 37.5
Current duty assignment	9 / 50	Promotion timing	9 / 37.5
Compatibility with spouse’s job	10 / 50	Pharmacist specialty pay	10 / 25
Impact work environment	11 / 50	Time for training requirements	11 / 25
Frequency of deployments	12 / 50	Compatibility with spouse’s job	12 / 25
Professional development	13 / 50	MAJCOM leadership	13 / 25
Assignment process	14 / 50	Assignment process	14 / 25
Work schedule	15 / 50	Availability of loan repayment	15 / 25
Additional duties	16 / 33.3	Promotion opportunity	16 / 25
Professional satisfaction	17 / 33.3	Current duty assignment	17 / 25
Promotion timing	18 / 33.3	PME requirement	18 / 25
PME requirement	19 / 33.3	AFMS leadership	19 / 25
Practice full scope of pharmacy	20 / 33.3	Potential for job outsourcing	20 / 25
Education opportunities	21 / 33.3	Local leadership	21 / 25
Potential for job outsourcing	22 / 33.3	Professional satisfaction	22 / 25
Availability of loan repayment	23 / 33.3	Practice full scope of pharmacy	23 / 25
Fitness standards/requirements	24 / 33.3	Professional development	24 / 25
Level of pharmacist staffing	25 / 33.3	Frequency of PCS moves	25 / 12.5
Recognition programs	26 / 16.7	Recognition programs	26 / 12.5
Promotion opportunity	27 / 16.7	Level of technician staffing	27 / 12.5
Military training opportunities	28 / 16.7	Workplace resources	28 / 12.5
Medical / dental benefits	29 / 16.7	Medical / dental benefits	29 / 12.5
MAJCOM leadership	30 / 16.7	Level of technician competence	30 / 12.5
Frequency of PCS moves	31 / 16.7	Military training opportunities	31 / 0
Level of technician staffing	32 / 16.7	BX, commissary, fitness centers	32 / 0
Peer relations	33 / 16.7	Frequency of TDYs	33 / 0
AFMS leadership	34 / 0	Fitness standards/requirements	34 / 0
Board certification pay	35 / 0	Board certification pay	35 / 0
Workplace resources	36 / 0	Impact work environment	36 / 0
Patriotism	37 / 0	Work schedule	37 / 0
Retirement benefits	38 / 0	Education opportunities	38 / 0
Job security	39 / 0	Peer relations	39 / 0
BX, commissary, fitness centers	40 / 0	Job security	40 / 0
Frequency of TDYs	41 / 0	Patriotism	41 / 0
Level of technician competence	42 / 0	Retirement benefits	42 / 0

\*Where % of responses is equal, rank is determined by: 1) number of “strong influence” responses, 2) number of “some influence” responses, and 3) lowest calculated composite score, applied in sequence until tie is broken.

**FIGURE B- 9.** Responses to “What do you think would increase AF pharmacist retention?” Paraphrased and grouped by subject and retention decision.

<b>Pay</b>	
Pay comparable to civilian pharmacists (L)	Pay comparable to civilian pharmacists (S)
Pay comparable to civilian pharmacists (L)	Pay comparable to civilian pharmacists (S)
Pay comparable to civilian pharmacists (U)	Pay comparable to civilian pharmacists (S)
Pay comparable to civilian pharmacists (U)	Pay comparable to civilian pharmacists (S)
Pay comparable to civilian pharmacists (U)	Pay comparable to civilian pharmacists (S)
Pay comparable to civilian pharmacists (U)	Pay equity for junior officers (S)
Pay comparable to civilian pharmacists (U)	More pay for junior pharmacists (S)
Pay comparable to civilian pharmacists (S)	Junior AF pharmacist pay comparable to civilian pharmacists (S)
Pay comparable to civilian pharmacists (S)	civilian pharmacists (S)
<b>Clinical Pharmacy Training and Opportunities</b>	
More clinical pharmacy programs (L)	More pharmacy residencies (S)
More clinical pharmacy jobs (L)	More pharmacy residencies (S)
More clinical jobs and programs (U)	Residencies for new accessions (S)
More pharmacy residencies (U)	More clinical pharmacy jobs and programs (S)
More AFIT degree and residency programs (U)	More clinical pharmacy jobs and programs (S)
Residencies available to new accessions (U)	More clinical pharmacy jobs (S)
More pharmacy residencies (S)	More AFIT degree and residency programs (S)
<b>Loan Repayment, Scholarships, and Accession Bonus</b>	
Loan repayment available earlier (L)	Better loan repayment program (U)
Availability of a 4-year HPSP (L)	Increase loan repayment availability (S)
Increase accession bonus (L)	Increase loan repayment availability (S)
Loan repayment available earlier (U)	Expand loan repayment program (S)
Increase loan repayment options (U)	Expand tuition assistance program (S)
<b>Assignments</b>	
More input into assignment decisions (L)	More input into assignment decisions (S)
Less political/more fair assignment process (L)	More input on first assignment decision (S)
More transparency of assignment process (U)	More notice on assignments (S)
Early PCS option for new pharmacists (U)	PCS more frequently than every 4 years (S)
More input into assignment decisions (S)	More joint assignments and opportunities (S)
<b>Career Path</b>	
Ability to practice pharmacy entire career (L)	Ability to practice pharmacy entire career (U)
Ability to practice pharmacy entire career (L)	Ability to practice pharmacy entire career (S)
Ability to practice pharmacy entire career (U)	Ability to practice pharmacy entire career (S)
Ability to practice pharmacy entire career (U)	

(L): Leaving the Air Force; (U): Undecided; (S): Staying in the Air Force  
 AFIT: Air Force Institute of Technology; HPSP: Health Professions Scholarship Program  
 PCS: permanent change of station

**FIGURE B-9 (cont'd).** Responses to “What do you think would increase Air Force pharmacist retention?” Paraphrased and grouped by subject and retention decision.

<b>Mentorship</b>	
Improve mentorship (L)	More consistent mentorship across AF (S)
Improve mentorship (L)	Better communication from leadership (S)
Improve mentorship (U)	Better mentorship for junior pharmacists from MAJCOM and AFMS levels (S)
More emphasis on / structure to mentoring (U)	
<b>Training</b>	
Training program for new pharmacists (L)	Training program for new pharmacists (S)
Training program for new pharmacists (U)	Training program for new pharmacists (S)
Training program for new pharmacists (U)	Training program for new pharmacists (S)
<b>Evaluation / Promotion System</b>	
100% promotion opportunity (U)	Promotion rates equal to other AFMS corps (S)
Less “cut-throat” evaluation system (U)	Evaluation system specific to specialty (S)
Promotion rates equal to other AFMS corps (S)	More input into promotion system (S)
<b>Other Comments</b>	
Pharmacist involvement in recruiting (L)	Decrease additional duties (U)
Honest recruiting / pharmacist involved (L)	Increase pharmacist and technician staffing (S)
Standardize processes across all bases (L)	Fewer military-to-civilian conversions (S)
Better dependent dental program (L)	More fair recognition programs (S)
Decrease additional duties (L)	Pharmacy closure on training days (S)

(L): Leaving the Air Force; (U): Undecided; (S): Staying in the Air Force  
 AFMS: Air Force Medical Service

### Notes

(All notes appear in shortened form. For full details, see appropriate entry in the bibliography.)

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