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An Analysis of the  
Populations of the Air  
Force's Medical and  
Professional Officer Corps

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Prepared for the United States Air Force

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## Summary

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The U.S. Air Force has seven medical and professional officer corps: the BSC, the Chaplain Corps, the Dental Corps, the JAG Corps (attorneys), the Medical Corps (physicians), the MSC, and the Nurse Corps. The purpose of this report is to provide an analysis of all seven Air Force medical and professional officer corps and their relative statuses with regard to end strengths, accession levels, promotion flow, and attrition since the late 1970s. We find that recent accession and retention trends have been most adverse in the Air Force's Nurse Corps.

### **An Overview of the Populations of the Air Force's Medical and Professional Officer Corps**

The analyses presented in this report are built around Air Force Personnel Center annual inventories that have been transmitted to RAND. As of when this research was undertaken, RAND had such annual snapshots from September 30, 1975, through and including September 30, 2008. Because of data irregularities in early years, we have largely used 1978–2008 data in this analysis.

The Nurse Corps has traditionally been the largest Air Force medical and professional corps, but, in 2007, its population fell below the Medical Corps' for the first time since 1978. (See pp. 3–4.)

Since 1978, the Chaplain and Dental Corps have declined in rough parallel to the Air Force's overall active-duty population. By contrast, the other corps, except the Nurse Corps, were larger in 2008 than they were in 1978, despite the considerable diminution in the active-duty Air Force's overall size since 1978. (See pp. 4–5.)

### **Accessions and Retention in the Air Force's Medical and Professional Officer Corps**

The Medical Corps has typically had high accession rates, while Chaplain Corps accession rates have been the lowest among the seven corps. Medical Corps officers have been least likely to serve 20 years in their corps; chaplains have been most likely to do so. (See pp. 7–9.)

Service in the Air Force prior to entering the medical and professional corps has been most common in the MSC and BSC and least common in the Dental Corps. Attrition between years 15 and 20 of corps service appears to be, at least in part, explained by precorps Air Force service. (See pp. 10–12.)

## Promotions in the Air Force's Medical and Professional Corps

Nurses, MSCs, and BSCs often accessed as second lieutenants (O-1s) and first lieutenants (O-2s), while dentists almost always accessed as captains (O-3s) and a number of physicians accessed above O-3. (See pp. 13–14.)

Physicians who enter Air Force service having already completed residency training at a civilian medical center typically receive “constructive credit” for their years in residency training. As a result, they are considered for O-3 to major (O-4) promotion after a few years of O-3 service, far earlier than is typically the case for any other type of officer. (See p. 16.)

Among the seven corps, O-3 nurses were least likely to ever become O-4s. Also, along with chaplains, nurses had the longest average duration as an O-3, conditional on being promoted to O-4. (See p. 16.)

MSC officers tended to receive the O-4 to lieutenant colonel (O-5) promotion a year sooner than other corps' officers. Only about 25 percent of Medical Corps O-4s became O-5s because many physicians' service obligations expired after a few years of service as an O-4. (See pp. 16–17.)

Dentists were the only population in which more than half of the corps' O-5s became colonels (O-6s). The O-5 to O-6 promotion was least common among nurses. O-5 JAGs and MSCs tended to be promoted a year earlier than other corps' O-5s. (See pp. 17–18.)

By the 20th year in their corps, most physicians, dentists, and JAGs have been promoted to O-6. By contrast, less than 2 percent of nurses have become O-6s by their 20th year in the Nurse Corps. Nurses generally have entered at lower ranks, have spent more time as lieutenants, and have been less likely to be promoted. When nurses have been promoted, they have not been promoted as quickly as, for instance, MSCs have been promoted. (See pp. 17, 19.)

## Recent Trends in the Air Force's Medical and Professional Officer Corps

Since 2000, every corps has had a greater average annual attrition rate than average annual accession rate, implying that each corps was smaller on September 30, 2008, than it was on September 30, 1999. (See pp. 21–22.)

In a steady state, a corps would have the same number of accessions and departures in a given year. This equivalence would imply that the corps' population equals its number of annual accessions divided by its attrition rate. A corps with more accessions can tolerate a higher attrition rate.

Using 2000–2008 accession-level and attrition-rate averages, the Nurse Corps' estimated steady-state population is 19 percent below its actual September 30, 2008, level. The Nurse Corps appears to be the corps most likely to shrink further in the future. (See pp. 23–24.)

The finding that the Nurse Corps is most likely to shrink in the future is preserved using 2001–2008 and 2002–2008 accession-level and attrition-rate averages. (See pp. 24–25.)

## Challenges Using Authorization Data

We were hopeful that authorization data would be central to our inquiry. However, as our project progressed, we grew increasingly concerned about the authorization data and what they mean.

One troubling aspect of the authorization data is that there have consistently been many more chaplains than authorized, dating back to 1980. When an overage is so consistent, we cannot help but assume the Air Force needs more chaplains than authorized. (See p. 28.)

It seems terribly peculiar to us that all seven corps had a 0–10-percent overage consistently through the 1980s, but, then, around 1990, a great variance in the actual-to-authorized (or “manning”) ratio emerged and has persisted since then. (See pp. 28–29.)

Authorizations appear to be unstable when disaggregated to the rank level. For example, for many years, there were considerably more O-5s in the Nurse Corps than authorized (in 1992, almost 90 percent more). Since then, it appears Nurse Corps O-5 authorizations were increased to ratify the actual number of O-5s in the Nurse Corps (rather than actual levels being adjusted to move toward authorized levels). Authorized Nurse Corps O-5s do not appear to have been a stable statement of how many O-5 nurses the Air Force wanted to have. (See pp. 29–30.)

Given our doubts about what the authorization data mean, we are more inclined to believe insights from actual population trends.

## Conclusions

The Air Force and the DoD put considerable effort into determining how recruiting and retention investments are made. There are several high-level questions to consider. First, is there a problem—i.e., is there a military population whose recruiting or retention outcomes have been undesired? Second, assuming there is a population that has had undesired outcomes, how best should problems be addressed? Would there be greater return, for instance, in devoting incremental resources to recruiting or retention?

The Air Force is unlikely to be indifferent across points on an isoquant of accession levels and attrition rates consistent with a given steady-state population size. If the Air Force wants a youthful workforce, a combination of high accessions and high attrition would be preferred. Conversely, if training is expensive or experience is highly valued (or both), a low accession/low attrition outcome is probably preferred. A high accession outcome requires greater recruiting resources; a low attrition outcome requires greater retention resources. (See p. 33.)

This report suggests that the Air Force medical and professional corps with the most-adverse population trends is the Nurse Corps. On the other extreme, the MSC and the JAG Corps appear to have stable populations. (See p. 33.)

Given our concerns about Air Force authorization data, the analysis technique set forth in this report is better suited to characterizing military populations’ current statuses and recent trends than it is to attaching normative interpretation to those statuses and trends. (See pp. 33–34.)