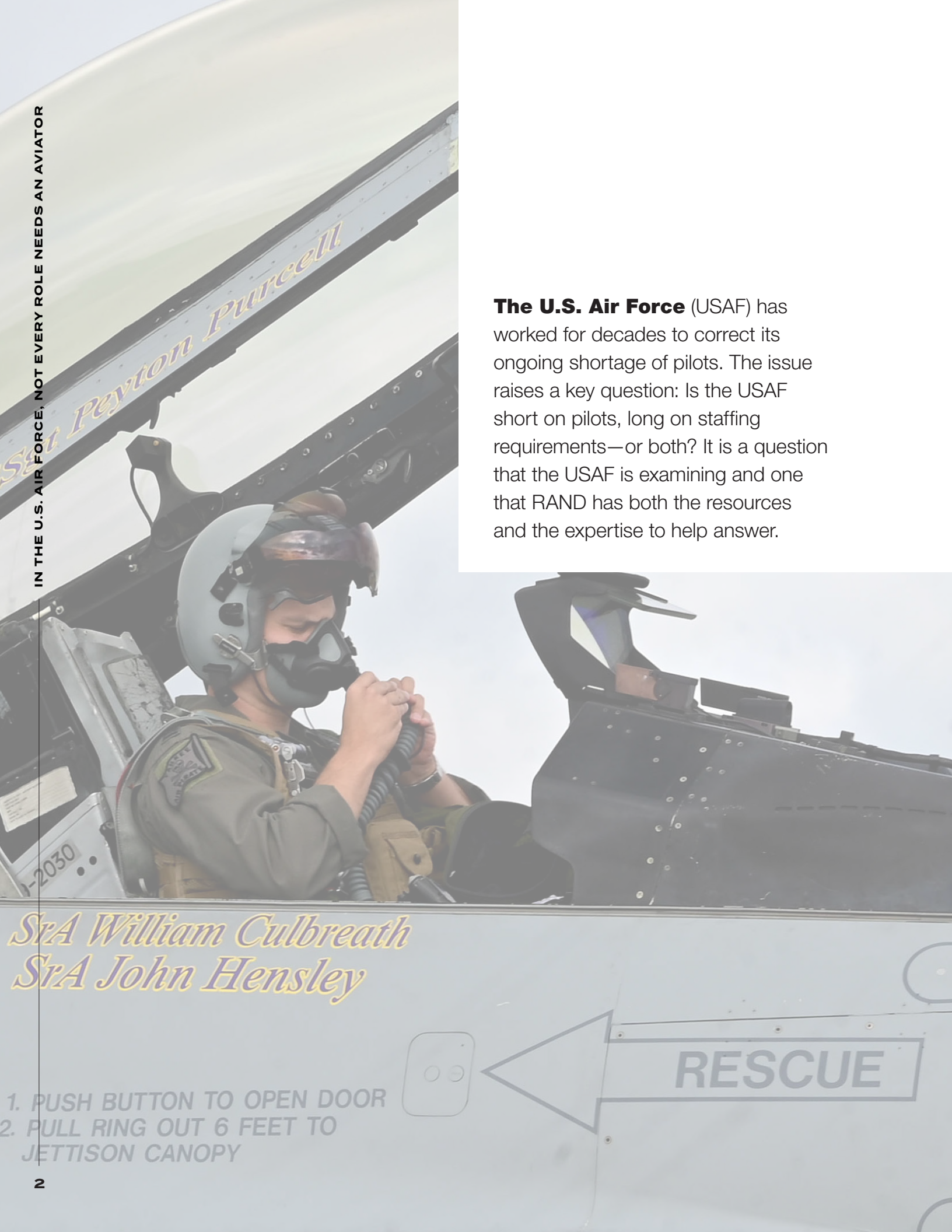
RAND

# IN THE U.S. AIR FORCE, NOT EVERY ROLE NEEDS AN AVIATOR

## How RAND Can Help Revise Requirements to Accurately State the Demand for Pilots

RAND PROJECT AIR FORCE




**The U.S. Air Force** (USAF) has worked for decades to correct its ongoing shortage of pilots. The issue raises a key question: Is the USAF short on pilots, long on staffing requirements—or both? It is a question that the USAF is examining and one that RAND has both the resources and the expertise to help answer.

## THREE LEVERS THE USAF CAN USE TO ADDRESS THE SHORTAGE

The USAF has three main levers it can adjust to address the pilot shortage: (1) increasing pilot production and absorption—i.e., boosting the number of people completing undergraduate and graduate pilot training, and then absorbing them into operational units to gain experience and qualifications; (2) retaining more experienced pilots; and (3) revising pilot and/or rated requirements.

**THREE LEVERS**

1. **Improve production and absorption throughput.**
2. **Retain more pilots.**
3. **Change requirements so that fewer positions require flight experience.**

Earlier efforts to solve the fighter pilot shortage focused on absorption and, more recently, on retention. However, production, absorption, and retention are all driven by the requirements that establish the numbers of rated officers—pilots, combat systems officers, air battle managers, and remotely piloted aircraft pilots—required to meet the mission. Specifically, the requirements determine the number of pilot company grade officers (CGOs; filled by O-1, O-2, or O-3 personnel) and the number of pilot field grade officers (FGOs; filled by O-4, O-5, and O-6 personnel) who need to be in the force, from which steady-state pilot production and absorption demand can be determined.

The main points are that (1) the more pilot CGO requirements there are, the greater the need to produce and absorb pilots; conversely, the fewer pilot CGO requirements there are, the lesser the need to produce and absorb CGO pilots, and (2) the more pilot FGO requirements there are, the greater the need to retain experienced pilots in these more senior roles.

Currently, the rated requirements are large enough that they cannot be filled with the proper personnel based on rank and career field, and many positions are vacant and have been for some time.

## WHAT THE USAF IS DOING

To mitigate the pilot shortage, which is more acute in the fighter and bomber communities, the USAF has taken the following two key steps:

**1. Prioritizing how the USAF Personnel Center (AFPC) fills positions:** The Rated Management Directive (RMD), signed by the Chief of Staff of the USAF, sets the rated priorities, which AFPC then follows over the course of the fiscal year (FY). The RMD specifies percentage fill-rate goals for rated officers and fighter pilots (for some categories). The order for filling requirements is generally cockpits first (whether operational or training), then highly specialized requirements, and then several different kinds of staff or institutional requirements.

However, filling cockpits first means that there are fewer pilots, especially fighter pilots, able to fill other roles in the USAF, such as staff and institutional requirements. This is a loss because pilots and other rated officers have an operational perspective that should be heard in planning and programming processes. To offset this loss, the FY 2024 RMD states that rated substitutions will be made from better-manned major weapon systems. While it is not ideal to fill these roles from outside the authorized career field, organizations are encouraged to accept the substitute or go without.

**2. Initiating a review of all rated staff positions to see if they can be filled by personnel other than pilots or even eliminated:** The FY 2024 RMD also acknowledged that the USAF will review the requirements as part of upcoming changes to the force structure. As USAF Secretary Frank Kendall announced in February 2024, the force restructuring is expected to decrease the nine major commands to four, and an unclear number of service component commands

will continue to have responsibility for specific geographical or functional areas.[1] The call to review rated requirements in the FY 2024 RMD and the overall restructuring effort provide a prime opportunity to assess the validity of each requirement and potentially decrease the number of rated staff positions.

## HOW RAND CAN HELP

Many RAND researchers are experts in organizational structures and planning and could help the USAF efficiently and effectively execute the rated requirements review. RAND recommends that the USAF's rated requirements review takes a centralized approach to examine nonoperational-unit pilot requirements. The review should focus on two essential questions:

1. Does the position require a uniformed military member?
2. Does the position require previous pilot or rated experience?

Unlike the RMD, which allocates the existing limited number of pilots to the existing set of positions, the proposed process would review and change the set of requirements. A centralized approach would provide consistency across the USAF and stifle the temptation to hold on to low-priority requirements. However, for the process to be effective and to avoid reducing capability, the views of individual position owners need to be heard and understood.

The rated requirements review is likely to demonstrate that some pilot career field shortages are caused by permanent structural imbalances (meaning operational units cannot absorb enough pilots to meet the requirements) rather than short-term structural imbalances (meaning retention is temporarily low or not enough personnel are completing flight training).

**Many RAND researchers are experts in organizational structures and planning and could help the USAF efficiently and effectively execute the rated requirements review.**

Past RAND research has shown that, in the fighter pilot community, the permanent structural imbalance was approximately 400 pilots in 2015.[2] Correcting such permanent structural imbalances requires either more aircraft to train on or a way to absorb pilots faster with less actual flying time—both of which are challenging. New aircraft are expensive to acquire and maintain. Options to give pilots experience more quickly are in their nascent stages but will also require significant investment in new training programs, applications, and potentially aircraft (an idea that Air Combat Command has previously explored in its Reforge concept).

### ANALYSIS TO EXAMINE REDUCING THE NUMBER OF PILOT POSITIONS

One way to correct this structural imbalance is to reduce the number of pilot positions. This type of manpower analysis is one of RAND's strengths. A successful rated requirements review would result in an overall decrease

[1] Jared Serbu, "USAF Hopes to Boost Cohesion, Innovation as Part of Broad Restructuring Plan," Federal News Network, June 21, 2024.

[2] Albert A. Robbert, Anthony D. Rosello, C. R. Anderegg, John A. Ausink, James H. Bigelow, William W. Taylor, and James Pita, *Reducing USAF Fighter Pilot Shortages*, RAND Corporation, RR-1113-AF, 2015.

of requirements, especially staff positions. This is particularly true within the fighter pilot community, where the ratio of nonoperational to operational requirements is higher. The process should consider eliminating positions that have been chronically vacant. Eliminating vacant positions would not decrease capability and would result in requirements that better reflect reality.

This approach is not without its challenges. Organizations with lower-priority pilot requirements have expressed the fear that converting pilot requirements to nonpilot requirements could be a one-way street—meaning it may be difficult to revert to a pilot requirement when the pilot inventory improves. This fear is not unfounded. Congress capped the number of rated staff requirements in 2007, prohibiting growth in rated staff unless certain criteria are met (e.g., a new mission emerges like remotely piloted aircraft), according to a civilian employee responsible for rated management within the Office of the Deputy Chief of Staff for Operations (HAF/A3), Operations, Training and Readiness. Part of HAF/A3's job is to monitor the rated staff requirements to ensure compliance with the mandate. When new staff positions are added, HAF/A3 works with the owning command to determine offsets elsewhere to meet the zero-sum policy. Reinstating any converted pilot requirements would require this same trade-off if the inventory improves.

Another significant challenge relates to funding. It is difficult to transfer funding between military personnel funding and operations and maintenance accounts. The USAF also lacks an efficient mechanism for locally initiated transfers of requirements from military to civilian or contractor. The difficulties lie in arranging for funding to follow the requirements change. Military personnel funding is centrally managed. Civilian and contractor positions for general operating purposes are paid for using locally allocated operations and maintenance funding. A local unit or even a major command converting a pilot position to a civilian or contractor role has no way of ensuring that operations and maintenance funding for the converted position will be provided.

## RESEARCH INTO OTHER POTENTIAL SOLUTIONS

For positions or capabilities that cannot be eliminated, RAND could research multiple options (including those in the text box) that could reduce the risk of losing capability.

### GROUP RESPONSIBILITIES

Some responsibilities require pilot-associated competencies and others do not. Within a group of pilot positions in a staff, it may be possible to consolidate the responsibilities requiring pilot-related competencies into fewer positions and convert other positions to nonpilot specialties.

### REQUIREMENTS MARKET

A creative approach would be for an Air Staff source to issue enforceable rated authorization quotas and then allow a market to function among rated requirement owners.

### LEVERAGE ARTIFICIAL INTELLIGENCE

Using artificial intelligence (AI) to assist personnel could further reduce rated staff requirements in at least nominal ways. The rated requirements review should consider how AI could ease the analytical burden on certain staff positions that provide analysis to inform policy decisions. For example, AI can analyze vast amounts of data related to aviation operations, safety incidents, and maintenance activities. AI-powered simulation and modeling tools could simulate various scenarios and outcomes to evaluate their impacts and effectiveness. AI could also provide predictive analytics to forecast future trends, risks, and challenges.

### AVIATION MANAGEMENT CAREER FIELD

A novel option that might help fill the nonpilot positions would be establishing a nonrated aviation management career field. Currently, positions requiring an officer with aviation knowledge and experience will specify a pilot or other rated career field because no other option provides the requisite experience. However, many rated staff positions, and perhaps some in operational units, also require knowledge and experience in aviation management rather than aviation operations. If enough of these positions could be identified, a viable nonrated aviation management career field could be established.

### CONVERT TO CIVILIANS AND CONTRACTORS

Positions that do not require a uniformed military member but do need previous pilot or rated experience could be converted to civilian and contractor positions. Civilians and contractors with prior aviator experience have firsthand knowledge of USAF operations, procedures, and culture. This operational insight can be invaluable in developing policies, making decisions, and providing strategic guidance with staff roles. These individuals have credibility and trust within the military community because of a shared background and experiences. This credibility can facilitate effective communication, collaboration, and relationship-building with military personnel, enhancing organizational cohesion and effectiveness.

To effectively address the pilot shortage, the existing requirements must be updated. The planned FY 2024 review is a good first step. RAND suggests as a second step applying some of the options in this brochure to retain needed capability in organizations that may lose uniformed military rated positions.

## MAJOR COMMAND RESTRUCTURING PRESENTS AN OPPORTUNITY

In line with Secretary Kendall's announcement, an ongoing initiative by the USAF to streamline its major command (MAJCOM) structure presents a unique opportunity to focus on field grade staff requirements, many of which are in existing MAJCOM headquarters. The restructuring is a chance to rethink not only the number of MAJCOM staff requirements but also the workforce mix used to fill them. Several of the potential solutions above could be used in determining this mix. Additionally, building on previous RAND efforts to calculate maximum sustainable field-grade pilot inventories, Project AIR FORCE (PAF) could provide rigorous analysis to inform practical limits on rated staff and institutional requirements in the future restructuring effort.

### SELECTED RAND RESEARCH ON RATED REQUIREMENTS

***The Relative Cost-Effectiveness of Retaining Versus Accessing Air Force Pilots***
Michael G. Mattock et al., 2019
**www.rand.org/t/RR2415**

***Retaining U.S. Air Force Pilots When the Civilian Demand for Pilots Is Growing***
Michael G. Mattock et al., 2016
**www.rand.org/t/RR1455**

***Reducing Air Force Fighter Pilot Shortages***
Albert A. Robbert et al., 2015
**www.rand.org/t/RR1113**

***Airman and Family Resilience: Lessons from the Scientific Literature***
Sarah O. Meadows et al., 2015
**www.rand.org/t/RR106**

***Balancing Rated Personnel Requirements and Inventories***
James H. Bigelow and Albert A. Robbert, 2011
**www.rand.org/t/TR869**

***The Air Force Pilot Shortage: A Crisis for Operational Units?***
William W. Taylor et al., 2000
**www.rand.org/t/MR1204**

# WORKING WITH RAND PROJECT AIR FORCE

## WHAT WE DELIVER

PAF's studies and analyses are tailored to the needs of the sponsor. Generally, PAF provides

- continuous interaction with PAF subject-matter experts throughout the project
- accessible, timely, and policy-focused reports that address senior leader concerns and recommend courses of action
- descriptive, transparent, and rigorous supporting materials that describe the project's methodology and support the project's conclusions
- as appropriate, additional outreach materials to help socialize the work to other interested stakeholders, such as the Department of the Air Force (DAF), the U.S. Department of Defense, Congress, or the public.

## SPONSOR IDENTIFICATION

All PAF research projects must be sponsored by an Air Force general officer (GO) or member of the senior executive service (SES). Most sponsors assign one or more action officers (AOs) to manage the technical and administrative aspects of their PAF projects.

## LINES OF FUNDING

DAF organizations can initiate a PAF research project in two ways:

1. **Centrally funded** (also referred to as *core projects*). Air Force Studies, Analyses, and Assessments (SAF/SA; formerly HAF/A9) employs a rigorous, iterative, GO/SES voting process to select projects for inclusion in its annual research plan. This process accounts for about 70 percent of the projects that PAF will conduct during a FY. Funding for these projects is part of a line item in the congressional budget and is awarded through a competitive selection process. Project topics are submitted in January, and the research plan is approved by a steering group consisting of three- and four-star GOs between June and July. Maintaining a balance of projects across the DAF and the four PAF programs is key to this selection process.
2. **Sponsor funded** (also referred to as *add-on projects* because they are add-ons to the core research agenda). This process accounts for about 30 percent of the projects that PAF will conduct during a FY. Funding for these projects comes directly from the organization requesting the research and does not require a competitive selection process, because the requesting organization is paying for the research (and not competing with others). DAF sponsors may initiate a PAF add-on research project at any time of the year by requesting the work, submitting required documentation, and transmitting organizational funds. Ideas and requests for PAF add-on projects may originate from a variety of circumstances (e.g., continuation of prior PAF work or new challenges). To initiate the process, a sponsor or AO typically contacts the appropriate PAF program director or subject-matter expert. The timeline of add-on projects is flexible.

PAF also supports DAF organizations in many informal ways. To request Workforce, Development, and Health (WDH) research reports highlighted here or to discuss pressing DAF challenges, contact the director of PAF's WDH program at www.rand.org/paf/about/pafmanagement.

RAND Project AIR FORCE (PAF), a division of RAND, is the Department of the Air Force's (DAF's) federally funded research and development center for studies and analyses, supporting both the United States Air Force and the United States Space Force. PAF provides the DAF with independent analyses of policy alternatives affecting the development, employment, combat readiness, and support of current and future air, space, and cyber forces. Research is conducted in four programs: Strategy and Doctrine; Force Modernization and Employment; Resource Management; and Workforce, Development, and Health.

Additional information about PAF is available on our website: www.rand.org/paf/

RAND is a research organization that develops solutions to public policy challenges to help make communities throughout the world safer and more secure, healthier and more prosperous. RAND is nonprofit, nonpartisan, and committed to the public interest. RAND is a registered trademark.

© 2024 RAND Corporation

IMAGE CREDITS: Cover, USAF/Andrew J. Mosely; p. 2, USAF/Stephanie Longoria; p. 5, USAF/Ivy Thomas; p. 7, USAF/Joseph Pick.

www.rand.org/t/CPA3438-3

RAND PROJECT AIR FORCE

www.rand.org

CP-A3438-3