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# Waivers for Mental Disorders in the Aviation Components of the Armed Services: Recommendations for Improving Evidence-Based Decisions and Aviator Return to Duty

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## Introduction

Aviation personnel in the U.S. Military are frequently required to fly under very difficult operational conditions. Given the high level of attention, control, and skilled performance necessary to operate highly complex aircraft, symptoms of mental disorders may compromise the safety and performance of aviation personnel (Saitzyk et al., 2013). A recent analysis of the U.S. Army's Aeromedical Resource Office (AERO) database, which contains information on all of the physical and mental illnesses experienced by all classes of aviators, was conducted to examine the incidence of common mental disorders between June 16 of 2010 and June 16 of 2015. The results revealed 1579 unique records for adjustment disorders, 781 for depressive disorders, 809 for anxiety disorders, and 680 for post-traumatic stress disorder (PTSD). These numbers highlight that mental health disorders in the aviation community are important issues that deserve clear diagnostics and evidenced-based recommendations.

The U.S. Army, Air Force, and Navy/Marines/Coast Guard all have developed standards for the diagnosis and management of different mental disorders (as well as a large number of other medical conditions). As they are used to qualify aviation personnel to fly, these standards often differ from the standard requirements for entering military service (e.g., Army Regulation [AR] 40-501 for the Army). When aviation personnel develop a mental health disorder, these guidelines help physicians assess whether a particular disorder will lead an aviator to be disqualified from flight status. In addition, and just as important, these guidelines specify when aviators can be returned to flying status following treatment and remediation of a given disorder. In order to return to flying status after being diagnosed with a mental health disorder, a pilot typically receives mental health treatment and then undergoes a thorough neuropsychological evaluation by an aeromedically trained clinical psychologist or psychiatrist, who determines that there are no longer symptoms present that would affect the pilot's operational performance. In addition, the pilot typically is required to show an absence of relevant symptoms for a period ranging from 3 months to 1 year, depending on the type and severity of their particular mental health disorder. Finally, all Services define Annual Waiver Requirements (AWR) that must be met on an annual basis in order to maintain flight status.

The guidelines for all three services contain requirements for aviation personnel to regain their flying status after a diagnosis of a mental health disorder occurs. These guidelines all describe the conditions under which service members can obtain psychiatric waivers in order to return to flying duty. These guidelines are particularly important for military personnel in the different services because the guidelines specify the conditions necessary for aviation personnel to return to work as pilots and the annual requirements required to maintain flight status. In the current report, we first present background research on mental health problems and treatment-seeking among military personnel by describing studies that have examined whether aviators return to flying after being diagnosed with mental health disorders. We then compare the psychiatric waiver process in three military services (Army, Air Force, and Navy/Marines/Coast Guard) along different dimensions. These include whether relevant research on mental disorders is cited, whether information required for the waiver process is explicitly provided, if evidence-based support for the time period aviators must remain asymptomatic is given, whether aviators may retain the ability to fly while receiving treatment, and if information about the morphology of a particular disorder within a service is provided to physicians. The report concludes with an

integrated set of recommendations for modifications to the Psychiatric Waivers sections of the guides, as well as future research to better assess the prevalence of mental health disorders in the aviation community, and predictions about the administration of psychiatric waivers following successful completion of mental health treatment.

### Background

Numerous studies have documented the psychological toll of recent combat operations in Iraq and Afghanistan (Hoge et al., 2004; Tanielian and Jaycox, 2009). These studies estimate that as many as 1 in 3 service members returning from combat operations experience mental health problems (e.g., PTSD, depression, or alcohol problems). In addition, studies show that a majority of service members suffering from mental health problems do not get appropriate mental health treatments (Hoge et al., 2004; Kim et al., 2010). Not only do acute mental health disorders precipitate a host of debilitating symptoms, without proper treatment, these disorders can worsen over time (Bryant, Moulds, and Nixon, 2003; Ehlers and Clark, 2003). When this occurs, it can lead to a host of secondary problems related to divorce, family violence, and even suicide. Prior authors have highlighted stigma as a factor in the failure of military personnel to seek mental health treatment. These authors observe that receiving mental health treatment is perceived to cause harm to the Service Member's career and may cause fellow unit members and leaders to have a more negative opinion of the Service Member (Britt, 2000; Hoge et al., 2004).

Concerns over the consequences of admitting mental health problems and getting mental health treatment may be especially prevalent among military aviation personnel (Lollis et al., 2009; McKeon et al., 2009). Aviation personnel who are diagnosed with a mental health problem are frequently disqualified from flying until the problem is treated and symptoms resolve. During this time period, pilots often do not receive their requisite flight pay. Therefore, admitting and getting help for a mental health disorder leads pilots in the aviation community to incur significant financial consequences. Jones and Ireland (2004) argued that some aviation personnel may be "suffering in silence" and flying aircraft while dealing with active symptoms of acute mental health disorders.

On the other hand, aviation personnel may be more likely to proactively seek treatment for mental health problems if they believe a process is in place to get them back to flying following completion of their treatment. Steinbacher and Perry (1976) examined U.S. Air Force aviation personnel ( $N = 112$ ) who had been referred to physicians for psychiatric evaluations. The authors found that 58 of these personnel were disqualified from flying and ordered to receive mental health treatments. Of these individuals, 38 actually received treatment, and 18 of these individuals were eventually qualified to return to flying. In a related study, Flynn, McGlohn, and Miles (1996) examined 214 aviation personnel from the U.S. Air Force who had been hospitalized for a psychiatric problem and assessed the number of aviators who returned to flying duty within 2 years of hospitalization. The authors found that 138 of the pilots (64 percent) returned to flying duty within a 2-year period. Patterson et al., (2001) examined the records of 14 U.S. Air Force aviators who attempted suicide between the years of 1981 and 1996. These authors found that 11 of the 14 aviators (79 percent) were recommended for return to a flying status after mental health treatment. The authors note these findings conflict with the common belief among aviators that a serious mental health crisis will end their career.

In a more recent study with Air Force personnel, Lollis et al., (2009) examined aviation personnel who had received a diagnosis of Major Depressive Disorder (MDD) in the Aeromedical Information Management Waiver Tracking System (AIMWTS). These authors found 51 cases in the database, which represented only a .06 percent of pilots with MDD in the entire AIMWTS database. Of the 51 cases identified, 43 experienced a single episode of depression, whereas 8 pilots experienced recurrent episodes of depression. For those 43 aviators experiencing a single episode of depression, 18 (42 percent) were returned to flying duty after being symptom-free for at least 6 months.

Taken together, these studies suggest it is possible for pilots to be diagnosed with a mental health problem, receive treatment for that problem, and then return to flying duty. However, the percentage of aviators returning to duty varies in the different studies, and none of the studies go into detail regarding why waivers were denied (e.g., failed performance on a critical neuropsychological test, less favorable evaluation by a mental health provider; see McKeon et al., 2009). Therefore, it is critical that the decision-making guidelines for returning aviators to flying status are clear, fair, and evidence-based.

### Psychiatric waivers in the military services

#### Overview of the waiver process and commonalities between the services in guidelines

Saitzyk et al. (2013) provide an excellent overview of the psychiatric waiver process in the Air Force, Army, and Navy/Marines/Coast Guard. The authors note the common features of the waiver programs in the different services. One commonality involves only granting waivers for mental health problems if doing so would not risk the health, safety, and performance of the aviators, or threaten the success of the mission. For example, the Air Force Waiver Guide (U.S. Air Force, 2015) emphasizes only granting a waiver if the aviator is not at risk of sudden incapacitation during a mission. However, the general point highlighted in all the services is that the waiver should only be granted if Service Members are free of symptoms that have the capacity to affect their health, safety, or performance of their primary job duties. Unlike medical conditions such as a heart attack or stroke, the risk of sudden incapacitation as a result of a mental disorder (e.g., a psychotic break) is unlikely.

Another commonality among the services is the requirement that physicians generate a detailed aeromedical summary (AMS) regarding the diagnosis and history of the mental disorder in question, completed by the flight surgeon through consultation with a clinical psychologist or psychiatrist. The waiver process for a mental disorder also includes a summary of all other health-related information that could impact the decision to grant or not grant a waiver. In all Services, a psychiatric waiver is only submitted when the aviator has been free of symptoms that could compromise safety and performance.

In addition to commonalities in the waiver process, there are also commonalities in the guides that the different Services provide to individuals responsible for submitting waivers. The Air Force Waiver Guide (AFWG; U.S. Air Force 2015) serves as the guide for the Air Force, the Aeromedical Policy Letter (APL; U.S. Army 2015) serves as the guide for the Army, and the U.S. Navy Aeromedical Reference and Waiver Guide (NARW; U.S. Navy, 2015) serves as the guide for the Navy. All three guides contain general information on waiver processes and

procedures. In addition, all guides provide a summary of the symptom categories for each mental disorder in the American Psychiatric Association Diagnostic and Statistical Manual of Mental Disorders (DSM), although only the Navy and Air Force have updated their guide to reflect the current 5<sup>th</sup> Edition of the DSM (DSM-5, 2013). Finally, each guide includes a section on the aeromedical implications of the disorder, addressing why a given disorder is problematic for performing aviation tasks in difficult operational conditions.

Comparisons of the psychiatric waivers sections between the services

In addition to these commonalities among the services, there are also important differences between the services in both the structure and content of the waiver process and specifically, in the documents that serve as a decision-making guide for granting psychiatric waiver. The purpose of the present section is to compare processes within the Army, Navy, and Air Force on important features that affect how diagnostic and treatment recommendations are generated, how waivers are reviewed, and how aviators are provided opportunities to regain their flying status. The criteria for comparison include: 1) the inclusion of references to and citations of up-to-date research on the prevalence, diagnosis, and treatment of the different mental disorders; 2) the standardization of the information required for the waiver submission; 3) the time periods aviators must remain symptom free for particular disorders prior to waiver submission; 4) the permission granted for pilots to fly while taking psychotropic medications; and; 5) the information provided to physicians on the morphology of disorders (e.g., numbers of cases and treatment histories) within their particular Service as well as overall outcomes of waiver processes. The table provides a summary of the Army, Navy, and Air Force on each of these criteria. Comparisons of each of the services on each of the dimensions are discussed in the Table.

Table.  
Comparisons of Army, Navy, and Air Force waiver guidelines.

Comparison Criteria	Military Services		
	Army	Navy	Air Force
Reference to and citation of current Research	Contains small number of references to research on the prevalence and treatment of mental health disorders. Explicit references to current research is very limited.	Includes a moderate amount of discussion on the prevalence and treatment of mental health disorders. No references to current research provided.	More extensive review of research on the prevalence and treatment of mental health disorders. Numerous references to current research provided.

Table (continued).

Comparison Criteria	Military Services		
	Army	Navy	Air Force
Evidence-based support provided for the time-period aviators must remain symptom free prior to waiver submission	<p>Depends on mental health disorder.</p> <ul style="list-style-type: none"> <li>a. Requires a period of 12 months symptom-free for aviators diagnosed with a psychotic or somatoform disorder.</li> <li>b. For anxiety disorders, aviators must be 3 months symptom-free if not taking psychotropic medication. If taking psychotropic medication, aviators need to be 4 months symptom-free.</li> <li>c. No information given for mood disorders.</li> <li>d. Following attempted suicide, aviator must remain symptom-free for 6 months.</li> <li>e. For adjustment disorder, the length of time aviators must remain symptom-free is up the discretion of the flight surgeon.</li> <li>f. For PTSD, aviator must be symptom-free for 3 to 4 months to apply for a waiver.</li> </ul>	<p>Depends on mental health disorder (Few specifics provided).</p> <ul style="list-style-type: none"> <li>a. Requires a period of 12 months symptom-free for aviators who had a psychotic disorder or a somatoform disorder.</li> <li>b. For anxiety disorders, obsessive-compulsive disorders, and PTSD, aviators must remain symptom-free for 12 months.</li> <li>c. For other disorders, few specifics are given.</li> <li>d. For PTSD, aviators must be symptom free for 12 months prior to applying for a waiver.</li> </ul>	<p>Depends on mental health disorder.</p> <ul style="list-style-type: none"> <li>a. Requires a period of 12 months symptom-free for aviators who have a psychotic disorder or a somatoform disorder.</li> <li>b. For anxiety disorders, aviators must be 3 months symptom-free.</li> <li>c. For mood disorders, aviators need to be 6 months symptom-free before submitting a waiver for a mood disorder.</li> <li>d. Following suicidal behaviors, aviators must be 6 months symptom-free.</li> <li>e. For adjustment disorder, the length of time aviators must be symptom-free is up the discretion of the flight surgeon.</li> <li>f. For PTSD, aviators must be symptom-free for 6 months prior to applying for a waiver.</li> </ul>

Table (continued)

Comparison Criteria	Military Services		
	Army	Navy	Air Force
Standardization of information required for waiver submission	<p>Information required for waivers are tailored to each mental health disorder.</p> <p>Moderate amount of detail provided regarding the waiver process.</p> <p>Discussion of in-flight performance evaluation requirement for several mental health disorders.</p>	<p>Information required for waivers are tailored to each mental health disorder.</p> <p>Moderate amount of detail provided regarding the waiver process.</p> <p>No discussion of in-flight performance evaluation requirement for mental health disorders.</p>	<p>Waivers for most mental health disorders have same information requirements.</p> <p>Extensive information provided about the waiver process. Information checklist is fairly standard across mental health disorders.</p> <p>No discussion of in-flight performance evaluation requirement for several mental health disorders.</p>
Permission to fly granted while taking psychotropic medications	Yes	Unclear	Yes
Information about diagnostic history provided	No	No	Yes

Incorporation of recent research

An examination of the three waiver guides reveals that the Air Force guide contains a more extensive review of the prevalence and treatment of the different mental health disorders than either the Army or Navy guides. Considering that PTSD is one of the signature injuries of the recent combat operations in Iraq and Afghanistan (Hoge et al., 2004), the Air Force guide contains a discussion of 10 references addressing the prevalence and treatment of this disorder in different populations. In contrast, PTSD is barely mentioned in the Army guide and is only

addressed briefly in a discussion of anxiety-related disorders in the Navy guide. In general, the Army APL contains a small number of references within the section describing each mental disorder, and these references do not appear to reflect recent scientific evidence on the given the disorder. The Navy Guide does include a brief discussion of the prevalence and treatment of the different mental disorders, but does not provide references for the information provided.

Our review suggests that one potential advantage of including recent research for each disorder is that it provides the medical professional completing the AMS for each waiver with information regarding the incidence of the disorder within the general population, and ideally within the military population as well. In addition, the incorporation of recent research on the treatment of the disorder highlights the probability that the service member in question may benefit from treatment and be capable of returning to flying status. For example, in the case of the treatment of PTSD, the Air Force guide indicates “the emergence of theory-driven biological therapies designed to alter the longitudinal course of the disorder is encouraging, particularly when such therapies are applied during the disorder’s critical first few months. The key element for our aviator population is quick recognition of the disease and prompt therapy by qualified mental health providers” (U.S. Air Force Guide, 2015).

#### Evidence-based support for symptom-free time period

A second area in which the waiver guides differ across the three Services involves the amount of time aviators must be free of symptoms before being considered for a waiver request. The Table contains a comparison of the services on the most common mental disorders facing service members. The Air Force guide requires a period of 12 months symptom-free for aviators who had a psychotic disorder or a somatoform disorder, and 6 months of being symptom-free before submitting a waiver for mood disorders, anxiety disorders, or suicidal behaviors. For adjustment disorder, the length of time being symptom-free is up the discretion of the flight surgeon.

In the Army guide, the amount of time aviators must remain asymptomatic also varies depending on the mental disorder under consideration, but the timeframes are different from the Air Force. For anxiety disorders, aviators must be free of symptoms for 3 months if not taking any psychotropic medication. If aviators are taking Selective Serotonin or Monoamine Reuptake Inhibitors (SSRIs/SMRIs), they must be on a stable dose of medication and not experience any side effects of that medication for 4 months. For mood disorders, information is not given on the months aviators must remain asymptomatic if not taking psychotropic medication. However, if aviators are on the SSRI/SMRI medication program, the same duration of not having side effects for 4 months is indicated. Following an attempted suicide, the aviator must remain symptom free for 6 months. For adjustment disorders, no time period is given. Minimum amounts of time symptom-free are also not provided for more severe mental disorders (e.g., psychotic disorders), most likely because of the very low likelihood of a waiver being granted for those problems.

The Navy guide contains similarities and differences between the other two services in terms of requirements for aviators to be asymptomatic before submitting a waiver request. For depressive disorders and acute stress disorder, aviators must remain “asymptomatic in a ‘fitness for duty’ status for a minimum of six months after completion of treatment” (U.S. Navy, 2015). For anxiety disorders, obsessive-compulsive disorders, and PTSD, aviators must remain

symptom-free for a whole year after completion of treatment. As in the other services, no minimum time is required for the aviator to remain asymptomatic for adjustment disorder. For many of the more severe mental disorders specific timeframes are not provided. For example, for disruptive-impulse control-conduct disorders, including intermittent explosive disorder, the Navy guide requires a psychiatric evaluation that documents “complete, sustained remission of all symptoms” (U.S. Navy, 2015). The lack of a timeframe for being asymptomatic may be a result of these types of mental disorders rarely being considered for a waiver.

In comparing the time periods aviators must remain asymptomatic prior to waiver consideration, it is clear that the services often differ in these time periods for the same mental disorder. Considering the guidelines for PTSD, the Air Force requires the aviator be asymptomatic for 6 months, the Army for 3 to 4 months, and the Navy for 12 months (where PTSD falls under anxiety disorders under the DSM-IV being used by the Air Force and Army). What accounts for these different criteria? None of the guides provide a citation to a reference for these particular timeframes, and no research the present authors are aware of has been conducted that examines likelihood of relapse once service members are asymptomatic and return to duty. These recommendations are likely based on the clinical expertise of the individuals in the Services considering aviator return-to-duty following the treatment of mental disorders, as well as knowledge of the very different flight envelopes that characterize the Services. The U.S. Army only flies dual pilot and most aircraft are helicopters (relatively low and slow aircraft). The Air Force flies many single pilot fast movers, so there is no back up pilot present and any lapse in attention is very dangerous. The Navy flies single pilot fast movers and lands on ships, which requires navy helicopter pilots to land and take off from a runway that is continuously changing position by many feet and pilots to routinely fly dangerously close to ship masts and other moving helicopters. Although there are important differences in the flight characteristics of the three Services, it is unclear how these differences map onto the differential criteria for aviator return to duty.

Although clinical expertise and knowledge of flight activities may be the only standard of evidence available for medical decision-makers, it is necessary to consider the impact that such timeframes might have on aviators coming forward to receive mental health treatment. On the positive side, all three Services do not provide an asymptomatic time period for adjustment disorders, given these disorders represent a lesser degree of impairment on aviator health and performance. Therefore, aviators can be encouraged to seek treatment when they first become affected by mental health symptoms indicative of adjustment disorder, and potentially be returned to flying status shortly after successful treatment for the symptoms.

However, considering other common mental health problems (e.g., depression, anxiety, PTSD), aviators must wait from 3 to 4 months to 12 months once they have completed their course of mental health treatment and no longer show symptoms consistent with their disorder before they can even begin submitting a waiver to return to flying. Given that most evidence-based mental health treatments require multiple sessions of psychotherapy occurring over an extended time period (Staggs, 2013), this means that aviators experiencing mental health problems face the prospect of not being able to do their primary job for a significant duration of time if they admit their problem to their flight surgeon. As discussed above, not getting treatment in the early stages of a mental health problem leads to the possibility of increased

symptoms over time, and these symptoms are likely to influence the health, safety, and performance of affected aviators. Therefore, the different service branches are urged to consider whether the amount of time aviators need to be asymptomatic before submission of the waiver is warranted and/or whether it would be possible for the waiver process to begin once aviators are asymptomatic, with the requirement that the aviator must remain asymptomatic throughout the waiver review process in order to be granted final approval to fly. The services may consider having the aviators participate in routine training flights while they are symptom-free and the waiver process is continuing. Such a policy would prevent pilots from losing their aviation skills as a result of inactivity, and facilitate a return of proficiency if they are returned to full flight status. Such a policy would also allow aviators to regain a sense of control over their flying performance, which would facilitate symptom remission and a return to full flying duty.

#### Ability to fly while taking psychotropic medications

As noted in the Table, the Army and Air Force have established policies where aviators can fly while taking SSRIs/SMRIs. The Army was the first service to allow aviators to remain on flight status while taking these medications for different mental disorders. As mentioned above, aviators must not have symptoms of the specific disorder, and have been on a stable dose of the medication without side effects for 4 months before being considered for flight status. The Army decided to allow aviators to fly while taking select medications in large part because of a position paper written by Jones and Ireland (2004), who were commissioned by the Aerospace Medical Association to write a report on the use of SSRIs among pilots in the aviation community. Jones and Ireland (2004) argued that once aviators were on a stable dose of a particular SSRI, and there were no longer significant side effects, they should be able to fly while continuing to take their medication. The authors came to this decision because of a belief that many aviators were “suffering in silence” and by finding that some pilots were already taking SSRIs without approval. Based upon this position paper, as well as the successful use of SSRIs in the Australian aviation community, the Army began allowing aviators to fly while taking SSRIs in 2005 (McKeon et al., 2009). As indicated above, SSRIs may be prescribed by Army medical professionals for aviators diagnosed with major depressive disorder, dysthymia, adjustment disorder, anxiety disorders, and PTSD. In addition, SSRIs are allowed for the treatment of premenstrual dysphoric disorder.

Given the Army policy, along with similar policies of the U.S. Federal Aviation Agency and Canadian agencies, the Air Force guide allows select aviators to use specific types of SSRIs. The guide allows “select FC II/III personnel to be considered for waivers on the following monotherapies: 1. Sertraline (Zoloft®) up to 200 mg/day; 2. Citalopram (Celexa®) up to 40 mg/day; 3. Escitalopram (Lexapro®) up to 20 mg/day; 4. Bupropion (Wellbutrin®) SR; or XL up to 450 mg/day “(U.S. Air Force Guide, 2015). Therefore, the Air Force is more selective in terms of who can take SSRIs (and what type of medication and dosage can be taken), and also requires aviation personnel to demonstrate a lack of side-effects from the medication for a longer period of time (6 months versus 4 months). It is unclear if these differences between the Army and Air Force are a function of differential flying parameters in the two services.

The Navy guide does not appear to authorize the use of any psychotropic medication to treat any mental disorder while the aviators are flying. For the treatment of Depressive Disorders, the

guide indicates that waivers may be requested “six months after completion of all treatment, including both medication and psychotherapy” (U.S. Navy, 2015). The same statement (“...completion of all treatment, including both medication and psychotherapy”) is made for the anxiety disorders, acute stress disorder, and PTSD. The Navy guide does not contain mention of the Army or Air Force’s allowance of aviators taking SSRIs, so it not possible to know whether the Navy considered the possibility of allowing aviators to fly while taking SSRIs but made the decision to not allow medication use because of unique features of Navy aviation tasks or conditions (e.g., the stressors of living on an aircraft carrier, including the constant noise and continuous 24/7 operations involving frequent drills).

As eloquently argued by Jones and Ireland (2004), allowing for pilots to receive maintenance psychotropic therapy while flying has the potential to encourage more pilots to seek treatment for mental health problems, the symptoms of which could cause safety and performance problems for the pilot. To the best of our knowledge, there has not been a report published by the Army or Air Force detailing any negative consequences of allowing aviation personnel to take SSRIs while on flying duty. Addressing SSRI use in the U.S. Army between 2004 and 2009, McKeon et al. (2009), noted the small number of aviators identified as using SSRIs during this time period while on flying duty was small ( $N = 30$ ). The authors did not report on the performance of these individuals, although it is worth noting that aviation personnel in the U.S. Army must pass a graded check ride to remain on flight status. Identifying the performance differences between aviation personnel taking and not taking SSRIs represents an important area for future research.

#### Standardization of information required for waiver submission

The different services each have different ways of organizing the information needed to be provided for the waiver. In the Air Force Guide, the waivers for all mental health disorders have mostly the same information requirements, which represent a thorough presentation of all available information (medical, psychological, occupational) that can be used to inform the decision of whether to grant a waiver to the aviator. Examples of information to be submitted for different mental disorders include insuring the aviator to have completed psychotherapy and/or immunotherapy and is unlikely to experience performance decrements, indicating that the aviator has been asymptomatic for a specified amount of time, detailing mental health and medication history, noting current psychosocial situation of the aviator, evaluating laboratory results of physical functioning, prior occupational performance, and estimating prognosis. The flight surgeon must also include a letter of support from command. Importantly, the information checklist is standard across all of the different mental health disorders, thereby facilitating provision of the necessary information to make a waiver decision.

The Navy waiver guide is less detailed regarding the information required for waiver requests, but also addresses the need for an AMS documenting the history of the mental health symptoms, course of the mental disorder, and a current mental health evaluation documenting the remission of all symptoms. In addition, the Navy’s information for waiver consideration is more tailored to each mental health disorder, especially for attention deficit/hyperactivity disorder.

In the Army’s waiver guide, the information required for waiver consideration is also more tailored to each mental disorder. For example, some disorders specifically require a clinical

interview from an aeromedically trained clinical psychologist or psychiatrist (e.g. anxiety disorder, mood disorders), whereas for other disorders having an aeromedically trained clinical psychologist or psychiatrist is not identified as necessary (e.g., schizophrenia and other psychotic disorders, adjustment disorders). Neither the Air Force nor Navy waiver guides mention a requirement that the mental health professional needs special aeromedical training, as these services do not have specialized training in aeromedical psychology. This difference in services may exist because of the assumption that the flight surgeon has the requisite aviation knowledge to determine the operational implications of the mental health evaluation.

Another requirement in the Army's waiver guide that varies for the different mental health disorders, and is not contained in either the Air Force or Navy waiver guides, is an in-flight performance evaluation in either an aircraft or a simulator. The Army's guide identifies an in-flight evaluation as necessary for Attention Deficit/Hyperactivity Disorder and any disorder where aviators will be flying while on approved psychotropic medications, including SSRIs/SMRIs. The guide indicates that these medications may be used to treat a broad list of mental health disorders including major depressive disorder, certain adjustment disorders, PTSD, and generalized anxiety disorder. The Army's permission for pilots to fly while using select psychotropic medications was previously discussed. In terms of the Army's requirement of an in-flight evaluation for select disorders, although such a requirement requires more resources on the part of the Army, an in-flight performance evaluation would appear to be a definitive source of information that could be used to assess an aviator's ability to perform critical operational tasks following the treatment of a mental disorder. Furthermore, the senior instructor pilot and staff of unit instructor pilots should remain vigilant in watching all of the pilots in the unit for signs of performance decrements.

#### Information on mental disorder incidence rate and waiver rate in the services

The final dimension on which the waiver guides differ is the provision of information regarding the number of aviators who have been diagnosed with different mental disorders and the number of waivers that have been granted following treatment for a given disorder. The Air Force is the only service that provides this information in their guide. Using Depression as an example, the Air Force guide indicates 638 cases showing depression as of 2010. The authors do not provide a total number of aviators in the system as of 2010, so it is not possible to use that number to arrive at an incidence rate. However, the guide does provide information on the distribution of the 638 cases into different flying classes of aviation personnel. There were 156 cases of trained pilots (Flying Class II) who had Depression, and of these cases, 86 of the pilots were disqualified (55 percent). The guide indicates "the vast majority of the disqualified cases were due to the diagnosis of depression (U.S. Air Force Guide, 2013)." The meaning of this statement is somewhat unclear, but in discussing the reasons for disqualification of aviators due to PTSD, the authors indicate the main reasons were "persistent symptoms, chronic disease, other mental health diagnoses, and the need to treat with medications not approved for use in USAF aircrew (U.S. Air Force Guide, 2015)." That being said, it is unclear whether waivers were submitted for the 86 pilots who were disqualified for Depression. Given the requirement of being symptom-free for 6 months prior to a waiver submission, it is likely the case that many of these aviators never submitted requests for waivers. Therefore, we do not know the true percentage of the number waivers submitted that are approved.

In highlighting the benefits of including information regarding the prevalence and waivers for different mental disorders, consider the information provided by the Air Force for adjustment disorders. As of 2010, the Air Force indicated 688 cases of adjustment disorder, 152 cases for trained pilots. Of the 152 cases that were indicated, 48 resulted in disqualification (32 percent). These data indicated that pilots are much more likely to return to flying when they get treatment for an adjustment disorder than when they get treatment for depression, reinforcing the importance of aviators receiving treatment for their mental health problem when their symptoms are not overly debilitating and severe. The Air Force should be applauded for providing information on the number of aviators with different mental disorders in their aviator population, and the number of aviators who ultimately are not disqualified for their condition. Summaries of similar information would be useful in the Army and Navy waiver guides. In addition, these summaries should be updated at regular intervals based on new records being included in the databases of the respective services.

#### Recommendations for policy guides and future research

Our analysis of the waiver procedures and related literatures suggest several recommendations for changes to the structure and content of the APL that should be consistent across the military services. In this section, we describe additional information that the APL can include. Specifically, we contend that an APL that includes more research findings can provide physicians with more standardized, more comprehensive, and more accessible guidelines about how to diagnose and treat mental health disorders. In addition, the individuals tasked with developing a revised APL are advised to reassess previous recommendations on the use of psychotropic medications by aviators in order to provide physicians with more information about how aviators might obtain waivers to regain their flight status. For the U.S. Army, the individual teaching the Aeromedical Psychology course would be the ideal candidate for updating the Psychiatric Waivers section of the APL.

#### Incorporate recent research in disorder descriptions

Our first recommendation is for the Army and Navy APLs to provide discussions of recent research in its descriptions of mental health disorders. Including such research would provide medical professionals tasked with the responsibility of completing the AMS for each waiver with easier access to state-of-the-art research. Including this information may assist physicians in diagnosing these disorders, which may increase the probability that aviators may actively seek treatment.

In addition to including current research on the diagnosis, treatment, and morphology of different mental health problems, it will also be important to generate ways to review and update the psychiatric waivers guide when significant advancements in diagnosing and treating different mental health disorders occur. Each new edition of the DSM contains important information regarding diagnosis, treatment, and likelihood of recurrence of various mental health problems as well as other information that may affect aviators' flight status. Once available, this information could be included in the Army and Air Force APLs as they are currently in the Navy APL. For example, the DSM-V includes important changes that are relevant to the aviation (and broader

military) community, including improvements in how PTSD and depression are described. Because mental health providers in the different services will generally be aware of these types of changes, codifying these changes in the Army APL will help to ensure the current diagnostic guidelines are used when physicians describe, diagnose, and treat an aviator's mental health disorder.

#### Provide evidence-based support for resuming flight status

Our second recommendation is to provide evidence-based support for recommendations on the resumption of flight status. Because mental health treatments require multiple sessions of psychotherapy occurring over an extended time period (Staggs, 2013), aviators experiencing mental health problems face the prospect of not being able to do their primary job for long intervals as they undergo prescribed treatments. While these realities may deter aviators, all services need to actively encourage aviators to seek treatment for mental health problems. Not only do aviators who deal with acute mental health concerns present significant risks to themselves and others, not seeking and receiving treatment in the early stages of a mental health problem leads to the possibility that symptoms will worsen past points where they could be more readily diagnosed and treated.

As a result, we recommend that the military services carefully assess (and potentially shorten) the amount of time it requires aviators to be asymptomatic before submitting waiver requests, and to consider allowing them to maintain currency with training and simulator flights. Furthermore, we recommend that the services should assess whether it would be possible for the waiver process to begin once aviators are asymptomatic. This provision may specify that aviators must remain asymptomatic during and after an aviator's waiver review process is completed. If it will be necessary to ground aviators, we recommend that policy makers use the most up-to-date literature to determine the shortest length of time before aviators can resume flying. Not only will this help to establish more effective baselines for care, grounding aviators for shorter intervals may motivate them to come forward and receive mental health treatments.

#### Provide information on incidence and waiver rates

Our third recommendation is that the APLs incorporate information on the incidence and remediation of mental health disorders (i.e., for both aviators and service-wide) in its descriptions. In addition, these summaries should be updated at regular intervals based on developing diagnostic and treatment records. This can help physicians identify treatment options that may allow aviators to return more quickly to flying status. In addition, showing that mental health disorders can be effectively managed may help to motivate aviators to seek and adopt treatments prescribed by flight surgeons. As noted above, the Air Force provided information indicating that as of 2010, 152 aviators had been diagnosed with an adjustment disorder, and that 68 percent of these personnel returned to flying duty. Although the total number of aviators with adjustment disorder is known, it is not possible to determine an incidence rate given the lack of information on the total number of aviators being assessed. This information is important both for reinforcing the importance of aviators getting treatment for their mental health problems and for outlining how aviators may return to flying once treatments are implemented and problems abate.

### Standardize information required for waiver submission

Our fourth recommendation is that the Army and Navy APLs provide more detailed sets of standardized guidelines regarding the information required to make decisions regarding waiver requests. Currently, the Air Force waiver guide provides the most comprehensive set of guidelines of the three services. As such, we suggest that this document could be used as both a stylistic and substantive model for improving the Army and Navy waiver guides. In providing this recommendation, we acknowledge that changes in these guides should be accompanied by a thorough review of current literature on each disorder to determine appropriate diagnostic indicators of each disorder, to assess treatment options, and to establish clear standards for determining when treatments are successful. Having a comprehensive and standardized set of waiver guidelines streamlines the process of considering each waiver request, ensures that the waiver-granting decisions are based on all available evidence, and focuses the waiver-granting decisions in ways that are likely to have the most effective operational impact.

### Reassess how psychotropic medications affect flight status

Our fifth recommendation is that the services constantly reassess their recommendations on the administration of psychotropic medications and aviators' flight status. Jones and Ireland (2004) argued that allowing for pilots to maintain their flight status while receiving maintenance psychotropic therapy may not only constitute an effective course of treatment but may encourage more pilots to seek treatment for mental health problems. To the best of our knowledge, there has not been a report published by the Army or Air Force detailing any negative consequences of allowing aviators to take SSRIs while on flying duty. This should change. Identifying the performance differences between aviation personnel taking SSRIs and those not taking various medications represents an important area for future research that we think the Army should actively engage.

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