

**UNITED STATES AIR FORCE
SCHOOL OF AEROSPACE MEDICINE**

**USAF Flight Surgeon Survey:
Aircrew Mental Health Referrals
and Satisfaction with Local
Mental Health Providers
Response**

**Timothy Paulding, Lieutenant Colonel, USAF
Wayne Chappelle
John Patterson**

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**Air Force Materiel Command
Air Force Research Laboratory
711th Human Performance Wing
USAF School of Aerospace Medicine
Aerospace Medicine Department
Clinical Sciences Division
2507 Kennedy Circle
Brooks City-Base TX 78235-5116**

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//signed//

WAYNE CHAPPELLE, Psy.D., ABPP
Aerospace Clinical Psychology Function

//signed//

ROLLAND C. REYNOLDS, Col, USAF, MC
Chief, Clinical Sciences Division

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USAF FLIGHT SURGEON SURVEY: AIRCREW MENTAL HEALTH REFERRALS AND SATISFACTION WITH RESPONSE FROM LOCAL MENTAL HEALTH PROVIDERS

INTRODUCTION

Aircrew in the USAF face significant job demands that require optimal psychological functioning and stamina. The overall challenges of military flying during training, humanitarian, and operational missions can be extremely taxing. Flight surgeons often observe or hear of changes in the emotional and behavioral disposition of aircrew, and in many situations, are the first medical providers to recognize an aircrew member's need for mental healthcare. As a result, an important aspect of aerospace medicine includes the ability of flight surgeons to recognize the need for referring aircrew members to local military mental health providers for specialty care. This is especially important when changes in an aircrew member's psychological disposition are suspected or identified that negatively affect his or her ability to perform his or her duties.

Flight Surgeon's Role in an Aviators Mental Health

The current conflicts of Operations IRAQI and ENDURING FREEDOM have been the longest sustained USAF combat-related aerial missions for the past 30 years. The chronic nature of such a high operational tempo can lead to a high level of stress- even in the most resilient aircrew. Unfortunately, the stigma associated with emotional difficulties may prevent aircrew from self-referring for mental health care or from fully disclosing the degree of difficulty or impairment they are experiencing to their flight surgeon and other medical providers.

An important aspect of understanding the role of flight surgeons is to understand their contributions to the provision of mental healthcare. Particularly salient duties of a flight surgeon that effect the provision of mental health care to aircrew include: (a) providing an atmosphere for aircrew to disclose and discuss emotional, behavioral, or relational difficulties; (b) skillfully asking questions and evaluating conditions that indicate organic or functional changes affecting an aviator's cognitive abilities (e.g., concentration/attention, reasoning, memory) or emotional stamina; (c) recognizing when a formal mental health evaluation and intervention is needed; (d) motivating and encouraging an aviator to fully participate in evaluation and treatment of his or her psychological difficulties; (e) effectively collaborating with mental health providers to address the presenting problems and needs of an aviator; (f) and making modifications in an aviator's duties (e.g., temporarily grounding the aviator from flying or participation in sensitive operations) to ensure safety and effectiveness of flying operations. In summary, a flight surgeon must perform multiple tasks to ensure that an aviator's physical and psychological condition poses no risk for sudden incapacitation or potential for subtle performance degradation. They must ensure the aviator can function reliably and dependably even under the austere living conditions, erratic schedules, and stressors required by the operational environment (Air Force Instruction 48-123, volume 3, 2006). If changes to an aviator's psychological disposition are evident, it is important to recognize the need for specialty care and to make referrals in a timely fashion to ensure adequate access to care. The referral for mental health care is to ease and resolve the emotional or behavioral difficulties of an aviator while attempting to preserve a highly trained USAF asset.

However, flight surgeons often perceive that aeromedical aspects of mental health problems can be especially challenging to investigate. Many psychological diagnoses rely upon subjective clinical assessments, and the specialized application of psychological interviews and testing. The results then must be combined with insight into the unique features of the aviation community, and the ability to establish a level of rapport with an aviator who may be highly self-guarded. Furthermore, disturbances in an aviator's mental health may become aeromedically significant at lower levels than are usually considered clinically significant in the general public (Jones & Marsh, 2001). Similarly, an aircrew member's recovery from a

psychological disorder must not only exceed the mere absence of illness, but instead represent the presence of optimal levels of health and functioning with minimal risk for recurrence and performance degradation (Air Force Instruction 48-123, volume 3, 2006). Helping the aviator achieve a high level of physical and psychological functioning is the aeromedical standard for military flying. This often translates to higher than general medical standards for serving in the military and/or deploying. The reason for a higher standard stems from the notion that even subtle changes in a person's psychological disposition during training or combat related missions can lead to aviation related mishaps and catastrophes.

Once a flight surgeon suspects that an aviator is experiencing emotional, cognitive, or motivational difficulties, he or she must respond quickly and coordinate (as needed) with local military mental health providers, in an effort to effectively manage and restore the aviator's psychological disposition to optimal functioning in a timely fashion. While most flight surgeons can recognize major psychiatric disorders (e.g., major depression, panic disorder, and psychosis), mental health providers recognize that more subtle, yet impairing, changes can be difficult to detect and evaluate. This is especially the case if an aviator makes concerted effort to conceal his or her difficulties or is unaware of them. When concerns with an aviator's mental health are suspected or identified, then flight surgeons often need the help of a mental health provider familiar with aeromedical policy and procedures specific to working with aircrew. Such conditions where this is especially important include, but are not limited to: suicidal behavior (Patterson, Jones, Marsh, & Drummond, 2001), major depression (McLay, Drake, Santiago, & Kim, 2004) panic (Krentz, Hopkins, & Moore, 1997), fear of flying (Strongin, 1987), eating disorders (Berg & Moore, 1996), motivational concerns (Frederick-Recascino & Hall, 2003), marital problems (Rashmann, Patterson, & Schofield, 1990), psychological effects of medical problems (Wyganski, Kokia, Barak, Terlo, & Caine, 1996) and various conditions associated with problems in aeronautical adaptation (Picano & Edwards, 1996), to name a few.

Flight surgeons, however, may be reluctant to refer aircrew for evaluation and treatment by mental health providers if they perceive barriers such as: lack of provider availability, slow responsiveness to referrals, low satisfaction with the quality of services provided, as well as lack of aeromedical expertise within local mental health providers. Given the on-going nature of Operations IRAQI and ENDURING FREEDOM, USAF psychologists, and psychiatrists appear to be deploying more frequently and at greater lengths of time to support military personnel in need of mental health services in theater. As a result, this has left many local Air Force installations with restrictions in the number of available military mental health providers. Areas of potential concern include: (a) availability of mental health provider for consultation, (b) timeliness of routine/emergent mental health evaluations in response to aircrew referrals, (c) access and quality of mental health care, and (d) aeromedical expertise of mental health provider. Research regarding USAF flight surgeons observations of mental health problems among aircrew and their satisfaction with the responses to their referrals from local military mental health providers has been non-existent.

Purpose of the Study

The purpose of the study is to investigate USAF flight surgeons' collaborative experiences with mental health providers at their local installations over a 12-month period. The study focuses on: (a) commonly observed psychological problems observed by flight surgeons, (b) frequency of aircrew mental health referrals, and (c) flight surgeons' satisfaction with the responsiveness (e.g., availability for consultation, timeliness of emergency and routine aircrew mental health evaluations, perceived quality of mental healthcare provided to aircrew, and sensitivity to aeromedical issues) of military mental health providers at their local installation. The results of this study aim to serve as groundwork to identify areas of concern among flight surgeons that positively and negatively effect collaboration with mental health providers at their local installation. The results may help civilian and military mental health providers focus upon professional exchanges with USAF flight surgeons needing improvement.

METHOD

Participants

A list of 352 USAF active duty flight surgeons practicing in aerospace medicine clinics at military installations Air Force wide were invited to voluntarily participate in a secure and confidential web-based survey. A total of 132 (38%) responded to the survey. There were 111 (84%) males with an average age of 37.8 years (SD=7.8), and 21 (15.9%) females with an average age of 35.5 years (SD=8.9). On average, participants who responded had 4.8 years (SD= 5.0) of experience as a flight surgeon. Overall, 55 (41.7%) were Captains, 44 (33%) Majors, 25 (19%) Lieutenant Colonels, and 8 (6%) were Colonels. On average, the flight surgeons reported they provided care for 39 (SD=23.0) aircrew members per week. Flight surgeons responded from 30 Air Force installations world-wide and from each Major Command.

Measures

A web-based, confidential survey was developed containing basic demographic questions along with the questions of interest. The survey was made available on a secure website only accessible to survey respondents using an individually tailored login identification and password. Average length of time to complete the survey was between 5 to 10 minutes to prevent response acquiescence. The instructions asked flight surgeons to review the number of active duty aircrew members they provided medical care to over the past year as a point of reference when answering survey items. They were encouraged to review all electronic and written records available.

The voluntary, fully informed consent of the subjects used in this research was obtained as required by 32 CFR 219 and AFI 40-402. The research survey involved minimal risk to the participants since interaction was indirect and participation voluntary. Data were not disclosed in such a way as to allow association with an individual. Since this project involved a survey meeting the above criteria, it was granted exemption from direct Institutional Review Board oversight under 32 CFR 219, paragraph 101b. The survey was also reviewed and approved by the USAF Survey Office.

The survey included items that assessed the number of aircrew personnel that could benefit from mental health services, as well as mental health problems most commonly observed by flight surgeons, the number of personnel they referred for services, their satisfaction with evaluations and follow-up services provided to aircrew they referred for mental health services (during both emergent and routine circumstances), and their perception of difficulties to effective collaboration. The survey items included both blank spaces for participants to write in their responses, as well as multiple choice selections. Survey items were carefully worded and developed by subject matter experts at the Aerospace Clinical Psychology function within the Aeromedical Consultation Service at the USAF School of Aerospace Medicine (USAFSAM). The survey was pre-tested and reviewed by several flight surgeons completing a residency in Aerospace Medicine at USAFSAM.

Although survey measures may not be the most scientifically sound method of investigation, at the present time, there is no electronic data base or system established that collects data regarding referral rates for mental healthcare or addresses professional exchanges (such as the timeliness of mental health evaluations to aircrew referrals). Given the logistical difficulties and costs associated with attempting to personally interview over 100 flight surgeons from 30 AF installations world-wide, the researchers of this study opted for the cost-effective and expedient survey method.

Procedure

The goal was to obtain responses from active duty USAF flight surgeons that were regularly evaluating and treating aircrew members in a USAF aerospace medicine clinic. The Aeromedical Information Management Waiver Tracking System (AIMWTS) was queried to find all registered flight surgeons in the USAF. Approximately 352 flight surgeons were selected to participate in the survey. The list of names was then matched with e-mail addresses on the Air Force e-mail global address book. Each flight surgeon on the list was then sent an e-mail inviting him or her to participate in a secure, confidential, web-based survey. The e-mail contained: (a) a brief description and purpose of the survey, (b) a link to the survey website, as well as (c) individual login identification and password codes needed to open the survey.

RESULTS

Referral Rates & Frequency of Mental Health Referrals

Overall, flight surgeons reported that over the past 12 months, 1504 aircrew members could have benefited from a referral for mental healthcare, however, only 879 (58%) aircrew members were referred for mental health care. Reasons provided by flight surgeons for a lower referral rate included: (a) relatively transient and low impact nature of symptoms, (b) utilization of alternative base resources (e.g., local military chaplains, services within the base Health and Wellness Center), (d) a referral was not deemed necessary following consultation with a mental health provider, and (e) aircrew reported they had already self-referred and/or were receiving mental health services. However, 12 (9%) flight surgeons reported a hesitancy to make a mental health referral due to concerns related to an aeromedically uninformed mental health provider making a hasty and inaccurate psychological diagnosis that would permanently disqualify an aviator from flying. Overall, 86 (65%) flight surgeons reported making referrals on a weekly-to-monthly basis, 38 (29%) reported making referrals on a bi-monthly to quarterly basis, and 9 (7%) reported they had not made a referral over the past 12 months. See figure A-1.

Reasons for Aircrew Mental Health Referrals

Flight surgeons responses to the most frequently observed problems leading to referrals for mental health care among aircrew were tallied. See Table 1.

TABLE 1. Most Common Psychological Problems Leading to Flight Surgeon Referrals for Mental Health Care

Problem	# of Flight Surgeons
Marital difficulties	102 (76%)
Symptoms of anxiety and/or depression	94 (70%)
Alcohol related incidences	81 (60%)
Adjustment related disorders	77 (57%)
Operational stress	74 (55%)

Note: Flight surgeons were asked to either write in or pick from a list the most frequently seen problems.

Modality of Aircrew Mental Health Referrals

Participants reported that 51% of referrals were made discussing the case in person with mental health provider, 33% were made via phone consultation with the mental health provider, 7 % were made via electronic referrals (e.g., use of AHLTA), 4% were made via instruction to third party medical technician, and 3% were made via e-mail to the mental health provider. See figure A-2.

Availability and Satisfaction with Timeliness of Evaluations

A total of 132 flight surgeons, 124 (94%) reported being able to obtain a routine (non-emergency) mental health evaluation the same day they make the request for a consultation. See figure A-3. Out of 113 flight surgeons who reported referring an aircrew member with a psychiatric emergency, 104 (92%) reported that mental health providers responded in a timely fashion (e.g., within an hour) to their referrals for an emergency evaluation. Out of a total of 119 flight surgeons who referred aircrew for a routine evaluation, 104 (87%) reported mental health providers provided routine evaluations in timely fashion (e.g., within 1 week). See figure A-3.

Perceived Quality of Mental Health Care

Flight surgeons should review the medical records and consult with mental health providers to determine the effectiveness of mental health services when considering whether or not to ground or return an aviator to his or her flying duties. Out of 119 flight surgeons who reported referring aircrew for mental health services, 105 (88%) reported they were satisfied with the overall quality of mental health care (e.g., psychological services address presenting problems in a coherent fashion, and provide effective relief of symptoms). See figure A-4.

Aeromedical Expertise & Sensitivity of Mental Health Provider

Overall, participants reported the majority of difficulties affecting collaboration were related to a lack of aeromedical sensitivity or expertise of the mental health provider. The results revealed that every flight surgeon who referred an aviator for mental health care, reported difficulty with the lack of aeromedical training or awareness of mental health providers at their local installation. See Table 2.

TABLE 2. Flight Surgeon's Perceived Problems with Referring Aircrew for Psychological Care.

Referral Problem	# of Flight Surgeons
Mental health provider lacked awareness & understanding of USAF aeromedical policy (relevant mental health sections of the USAF aeromedical waiver guide and Air Force Instruction 48-123, volumes 3 and 4).....	53(39%)
Mental health evaluation does not address specific aeromedical issues (i.e., safety, emotional stability, risk of recurrence, and/or motivation to fly flying).....	43(32%)
Mental health provider does not coordinate with flight surgeon when placing an aircrew member on a psychiatric profile and restricting participation in aviation related operations.....	36(27%)
Mental health provider lacked understanding of the community and/or culture of aircrew (e.g., aircrew mission and duties, airframe, pilot personality)	34(25%)

Note: Flight surgeons were allowed to write in or select more than one problem when referring aircrew for psychological care.

Several respondents to the survey provided comments to clarify their concerns with the lack of aeromedical training and sensitivity among mental health providers. For example, some flight surgeons remarked that mental health evaluations articulated the presenting problem, impact on social functioning, and treatment needs but failed to address relevant aeromedical policy or provide comments on psychological findings related to the occupational context of flying or flying safety. Other respondents indicated that mental health providers seemed to be unaware of aeromedical policy and failed to notify them when they recommended restriction to an aircrew member's participation in military operations and flying. Some commented on mental health providers using the general medical standards for deploying and fitness-for-duty in the military without recognition or awareness of the higher aeromedical standards required for flying.

DISCUSSION

The common reasons for aircrew mental health referrals suggest that local mental health providers working with flight surgeons should: (a) be well trained and familiar with marital difficulties among aircrew and how current operations impact marital functioning and aviator's ability and motivation to perform his or her aircrew duties; (b) be very familiar with how personal and occupational stressors and demands may lead to adjustment related disorders, (c) be highly skilled in the assessment and treatment of alcohol use and alcohol-related incidences; (e) be well informed regarding impact of operational tempo and job-related stress on the emotional and physical stamina of aircrew, (f) be highly perceptive of potential barriers to mental health care (e.g., stigmatization of mental health care among aircrew) and to (h) be sensitive to how a person's aircrew position (i.e., pilot, navigator, flight engineer, sensor operator) influences their presenting concerns. Furthermore, the aircrew community would likely benefit from outreach services and unit briefings that assist aviators with managing the problems outlined above.

While the actual numbers are subject to recall error, USAF flight surgeons claimed to refer only a little over half (58%) of those they perceived needed or could have benefited from mental health services. The referral rates are much lower than expected. Potential reasons for lower referral rates include, but are not limited to: (a) many flight surgeons are well-trained and equipped to provide psychological care to minor psychological difficulties; (b) the nature of the emotional or relational difficulties for aircrew may be rather transient with a low impact upon their occupational functioning; (c) some aircrew may have already been receiving mental health care, and (d) some aircrew may have preferred the appropriate use of pastoral care or other local base resources (e.g., services at the Health and Wellness Center) in lieu of a mental health referral. Additional reasons for the low referral rate came from several write-in comments on the survey that included concerns about lack of training or familiarity of the aircrew community among mental health providers, a hasty psychological diagnoses being applied to aircrew by local mental health providers, and the potentially negative outcome on the career of an aviator (or perhaps their relationship with the aviator) when making a referral for mental health care. Although the reasons above may vary per installation, mental health providers should have a clear understanding of the issues that lower the rate of aircrew referrals for mental health care.

Overall, the results of the study suggest the vast majority of flight surgeons perceive mental health providers to be available for immediate consultation, respond in a timely fashion to routine and emergency referrals, and provide effective mental health care. Despite the positive appraisal above, it should be noted the most common reported difficulties centered on military mental health providers lack of training and/awareness of aeromedical issues and policy. See Table 2. Thus, while flight surgeons appear to be satisfied with the timeliness and delivery of mental healthcare, they perceive that mental health providers at their local installation are not well-equipped to understand and/or fail to address aeromedically specific issues important to flying safety. The degree to which such issues affect referral rates is unknown, however; a person can logically assume that if a flight surgeon is concerned about the aeromedical competencies of a mental health provider, he or she may have reservations about referring an aircrew for mental health care if it is not an emergency. A partial explanation for the above difficulties may rest on the lack of aeromedical and aviation psychology training that USAF mental health providers receive. There is no formal educational training program or required didactics in either of the social work, psychiatry, or psychology training programs provided by the USAF. A mental health provider must voluntarily seek out such training on his or her own and with his or her commander's support. However, this may be difficult for a mental health provider to do if he or she does not recognize the need for additional training or if he or she is unable to obtain such training because of increasing clinical and operational duties stemming from current shortages in mental health provider manpower across the AF. The results of this study indicate the lack of training is apparent to flight surgeons AF wide, and likely interferes with effective collaboration- which ultimately affects the provision of mental health care to aircrew.

Successful Programs and Recommendations Reported by Participants

A few flight surgeons took time when completing the survey to provide suggestions they implemented and considered to improve collaboration with mental health providers at their local installation. First, was the suggestion of having a mental health provider co-located in the aerospace medicine clinic to work directly with aircrew that may benefit from mental health services. This enables frequent communication between the flight surgeon and mental health provider and enables immediate access to care within a clinic where the aviator obtains his or her medical care. Second, was the suggestion of having a mental health provider engage in brief, structured, educationally oriented consultations with an aviator. The brief, educationally oriented nature of the exchanges of a mental health provider within the aerospace medicine clinic was perceived as increasing the willingness of an aviator's utilization of psychological services (especially those who were fairly apprehensive and guarded). Third, was the suggestion of introducing mental health providers to aviators and aircrew leadership as "performance enhancement agents." A relevant example is the treatment of airsickness (Cowings, Toscano, Timbers, Casey, & Hufnagel, 2005; Sang, Yen, Golding, & Gresty, 1996). The perception of mental health providers as providing ways to improve performance helps to portray a more positive view (and may help to reduce the stigmatization) of psychological services. Fourth, is the suggestion of inviting a mental health provider to join the flight surgeon during his or her squadron and unit visits. This has the benefit of: (a) familiarizing aircrew with the mental health provider, (b) helping the mental health provider understand the occupational demands of certain aircrew positions, as well as (c) familiarizing the mental health provider with the unique features of the culture-community of aircrew. It was perceived by flight surgeons that aircrew members are less apprehensive around someone they have met in their workplace and in the presence of their flight surgeon.

Recommendations for Mental Health Providers

No single workshop, course, or list of books could adequately prepare a military psychologist for the number of professional issues that are encountered when working with flight surgeons and aircrew. However, there are a number of suggestions a mental health provider may consider helpful, such as: (a) being familiar with relevant sections of USAF aeromedical policy (AFI 48-123 volumes 3 and 4) and how changes in an aircrew member's psychological disposition affects his or her qualifications for flying; (b) understanding how the medical standards for flying are higher and different from the general medical standards for deploying and serving in the military; (c) being familiar with relevant sections of the USAF aeromedical waiver guide regarding the criteria (e.g., risk of recurrence) for grounding and/or returning aircrew to their aviation related duties; (d) being familiar with techniques for evaluating occupational safety and responding to specific aeromedical issues (e.g., such as an aviator's cognitive functioning, emotional stamina, and motivation to fly) that a flight surgeon may need to know when considering whether or not an aviator should be grounded from flying; (e) consulting and reviewing lessons learned from senior military mental health providers with experience working with aircrew; (f) reviewing professional literature regarding how the psychological disposition of certain aircrew members differ from the general population and how and demands of military flying exceed the stressors and demands of commercial flying (Parsa & Kapadia, 1997); (g) seeking out and participating in centrally funded military aviation-specific training (e.g., 2-week USAF aviation mishap investigation course at Brooks City-base, TX, 3-week Army aviation psychology course at Ft. Rucker, AL); (h) attending workshops or conferences sponsored by the military and the Aerospace Medical Association addressing mental health issues affecting military, as well as civilian aircrew; (i) reading literature on racial and gender specific issues and differences among aircrew relevant to mental health evaluation and treatment (e.g., Boyd, Patterson, & Thompson, 2005; Callister, King, Retzlaff & Marsh, 1999; Carretta & Ree, 1996; King & Flynn, 1995; King, McGlohn, & Retzlaff, 1997; Zazeckis & Thompson, 2004); (j) staying informed of the operational tempo, aviation related mission requirements, and force shaping that can directly affect the morale of aircrew at one's installation; and lastly (k) attending briefings and meetings by military leadership (group and squadron leaders of aircrew) to stay informed of the current operational and combat-related stressors facing aircrew.

Limitations of the Study

As with any sort of research conducted with surveys, caution should be given when interpreting the results. Common concerns with survey research involve item validity, response bias, and externalization of results. In an effort to ensure items were valid, they were carefully worded and reviewed by subject matter experts and pre-tested with flight surgeons at USAFSAM. Despite efforts to create a well-developed survey, the study is retrospective in nature, subject to respondents' recall error, and it is unknown whether a higher response rate would lead to similar or divergent findings. The externalization of the results seems reasonable because the entire population of flight surgeons practicing in aerospace medicine clinics were invited to participate and the sample of participants were from more than 30 Air Force installations world-wide with several respondents from each Major Command. Lastly, the results of the study provide information regarding trends and perceptions. Additional research is needed to confirm the results and address the many questions raised by this study. Such as, is a flight surgeon's satisfaction with a provider's response to his or her referral influenced by the educational background (psychiatry, psychology, social worker) of the provider?

CONCLUSION

The goal of USAF aerospace medicine services is to maximize performance effectiveness of aircrew for mission execution. Mental health services are essential to this goal. Effective collaborative relationships between flight surgeons and mental health providers, along with all specialty providers, allow better streamlining of these services to USAF aviators. This study indicates that, while flight surgeons are generally satisfied with their mental health consultants, they perceive many of their aircrew could benefit from mental health care for which they are not referred. Most of the problems cited concerning the referral of aircrew for mental health services involved a mental health provider's lack of understanding of aeromedical issues and aircrew culture. Additional research is needed to clarify and better understand this finding. Solutions for these obstacles to improve the partnership between flight surgeons and mental health providers are essential to aviation safety. The results of this study have raised several questions. For example, is there an association between frequency of interaction between flight surgeons and mental health providers and a higher likelihood of referral for mental health services? What are the primary factors contributing to the variability in mental health referral rates- especially flight surgeons supporting similar airframes or from the same clinic? These and other questions could be evaluated in further research based on the lessons learned in the study.

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**APPENDIX A- AVAILABILITY FOR CONSULTATION, TIMELINESS OF EVALUATIONS,
AND QUALITY OF MENTAL HEALTH CARE**

Figure A-1. Frequency of Aircrew Mental Health Care Referrals

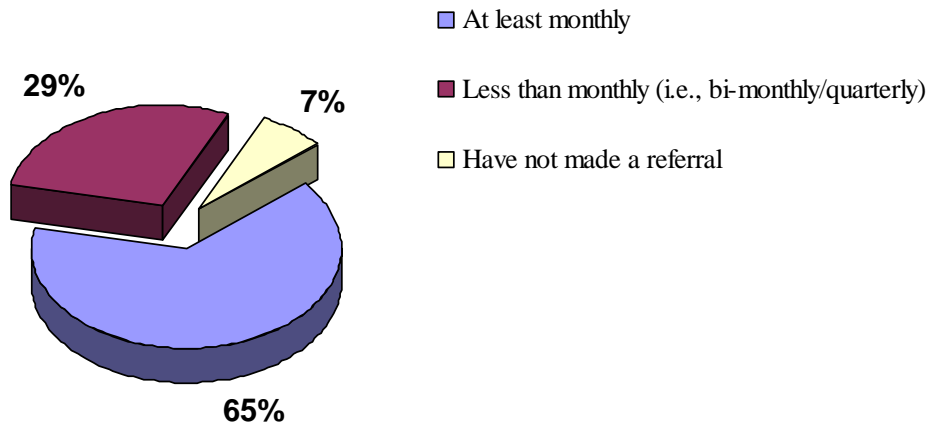


Figure A-2. Modality of Flight Surgeon Referrals for Aircrew Mental Health Care

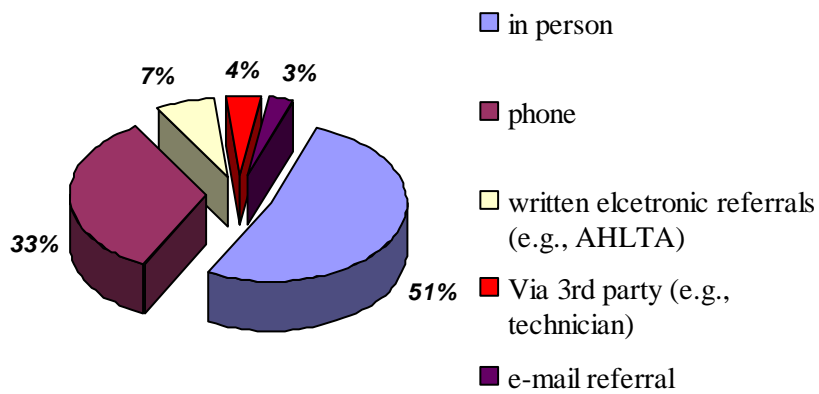


Figure A-3. Availability of Mental Health Provider for Consultation

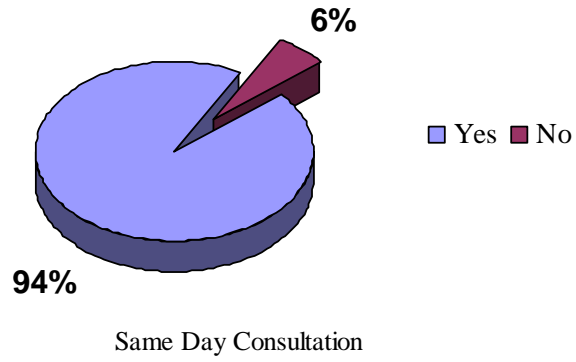
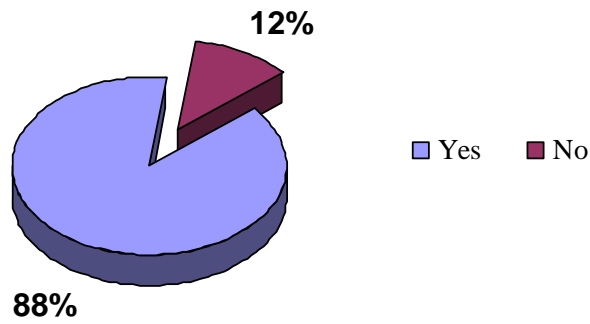


Figure A-4 Flight Surgeon Satisfaction with Quality of Mental Health Care



(e.g., services address presenting problem and provide effective symptom management)

**AIR FORCE RESEARCH LABORATORY
711th HUMAN PERFORMANCE WING
USAF SCHOOL OF AEROSPACE MEDICINE/FEC
2507 KENNEDY CIRCLE
BROOKS CITY-BASE TX 78235-5116**

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