

GAO

Report to the Chairman, Committee on
Transportation and Infrastructure,
House of Representatives

September 2008

AVIATION SAFETY

FAA Has Taken Steps to Determine That It Has Made Correct Medical Certification Decisions




GAO
 Accountability Integrity Reliability
Highlights

Highlights of [GAO-08-997](#), a report to the Chairman, Committee on Transportation and Infrastructure, House of Representatives

Why GAO Did This Study

The Federal Aviation Administration (FAA) seeks to make the U.S. aviation system one of the safest in the world. However, a 2005 Department of Transportation Inspector General investigation found that FAA had issued medical certificates to a small percentage of pilots with disqualifying medical conditions, such as heart conditions, schizophrenia, and drug or alcohol addiction.

In response to your request, our report addresses the following questions: (1) what procedures does FAA use to certify that pilot applicants meet medical standards and (2) how does FAA determine that medical certificates have been properly issued? In addressing these objectives, GAO researched FAA guidance and federal regulations; interviewed federal officials; analyzed FAA's application review procedures, quality assurance program, and its use of the National Driver Register; and conducted a data match between FAA's pilot registry and Social Security Administration's disability programs. The data match does not determine if pilots receiving disability benefits have medical conditions that would disqualify them from holding an FAA medical certificate.

GAO is not making recommendations in this report. The Department of Transportation generally agreed with our findings. FAA and the Social Security Administration provided technical clarifications, which we incorporated as appropriate.

To view the full product, including the scope and methodology, click on [GAO-08-997](#). For more information, contact Susan Fleming at (202) 512-2834 or flemings@gao.gov.

AVIATION SAFETY

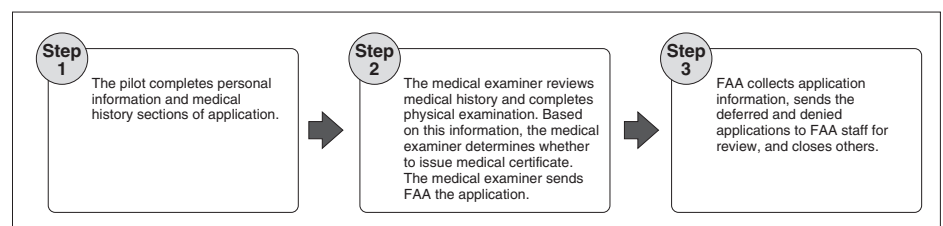
FAA Has Taken Steps to Determine That It Has Made Correct Medical Certification Decisions

What GAO Found

FAA's pilot medical certification procedures consist of a multi-step process intended to determine whether pilots meet medical standards. As part of its certification procedures, aviation medical examiners (AME) review information provided by pilot applicants and the results of their physical examination before issuing medical certificates. In the majority of cases (about 88 percent in 2007), applicants meet medical standards and AMEs issue certificates. FAA uses a computer system to process all the applications. It designates some applications for additional review by FAA application examiners, such as when AMEs do not issue the medical certificate or defer the decision. The computer system also identifies for FAA review the applications in which AMEs issued the medical certificate and the application indicates potentially disqualifying medical conditions. Finally, FAA checks each pilot applicant against the National Driver Register to look for drug- and alcohol-related motor vehicle actions and indications of substance abuse.

FAA has developed programs to help it determine whether it has properly issued medical certificates. Specifically, FAA has established two quality assurance review programs—one evaluating certificates that the AMEs issued and the other evaluating certificate decisions made by FAA application examiners. In its 2007 reviews, FAA identified 19 instances in which AMEs issued certificates to pilots who have disqualifying medical conditions as well as 16 cases in which FAA application examiners overlooked relevant medical documents and 44 with clerical errors. According to FAA officials, they plan to continue reviewing AME-issued certificates and collecting the results. These additional data from subsequent years could help FAA identify how well its procedures are ensuring that medical certificates are being properly issued. In addition, FAA relies on the National Driver Register check to help ensure pilots meet medical standards. Finally, due to recently resolved litigation, FAA currently does not check federal disability benefits databases for indications that pilots may have disqualifying medical conditions. Although our analysis of the Social Security Administration's disability databases found that 1,246 of 394,985 medically certified pilots were receiving disability benefits, this does not necessarily mean these pilots do not meet FAA medical standards. It may, however, indicate that federal disability databases can provide useful information on potentially disqualifying medical conditions.

Overview of FAA's Medical Certification Application Process



Source: GAO analysis based on FAA information.

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Abbreviations

AME	aviation medical examiner
DIWS	Document Imaging Workflow System
DOT IG	Department of Transportation Office of Inspector General
EVS	Employee Verification System
FAA	Federal Aviation Administration
NCIC	National Crime Information Center
SSA	Social Security Administration

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United States Government Accountability Office
Washington, DC 20548

September 17, 2008

The Honorable James L. Oberstar
Chairman
Committee on Transportation and Infrastructure
House of Representatives

Dear Mr. Chairman:

The Federal Aviation Administration (FAA) is charged with regulating the aviation industry and seeks to make the U. S. system one of the world's safest. As part of its regulatory role, FAA currently oversees about 590,000 active pilots,¹ in part by requiring periodic medical exams that certify the pilots meet federal medical standards.² Pilot medical checks are critical because physically or mentally unfit pilots can pose a danger to themselves and to the public. Conditions that disqualify applicants for medical certification include heart disease, diabetes, impaired hearing or vision, psychosis, drug and alcohol dependence, and any disease, condition, defect, or treatment that prevents or could prevent a pilot from safely performing his or her duties. During 2007, 438,152 pilots applied for a medical certificate and were examined by FAA-designated physicians.

A 2005 joint investigation by the Department of Transportation Office of the Inspector General (DOT IG), Social Security Administration's Office of Inspector General, and California's U.S. Attorney Office, known as "Operation Safe Pilot" and reported by the DOT IG revealed that FAA had issued medical certificates to a small percentage of pilots who had disqualifying medical conditions that they did not report on their medical certification applications. The DOT IG study compared pilots with medical certificates in the state of California with the Social Security Administration's disability information and found 48 pilots who had not made FAA aware of their disqualifying medical conditions.³ Because of

¹Active pilots are those pilots who hold a pilot certificate and a valid medical certificate.

²Depending on their duties and the medical certificate for which they are applying, pilots must apply for medical certification periodically from every 6 months to every 5 years. (See table 1.)

³U.S. Department of Transportation Office of Inspector General, *Falsification of FAA Airman Medical Certificate Applications by Disability Recipients* (July 22, 2005).

concerns raised by this investigation, you asked us to assess FAA's efforts for screening medical certification applicants and identifying medically unqualified pilots. Accordingly, we answer the following questions (1) what procedures does FAA use to certify that pilot applicants meet medical standards and (2) how does FAA determine that medical certificates have been properly issued? In addition, you asked us to identify the number of pilots with current medical certificates who are receiving disability benefits and determine if they provided FAA a Social Security number. We issued a report in February 2008 describing federal requirements for medical certification and background checks for pilots, vessel masters, and commercial drivers.⁴

To identify FAA's procedures for pilot medical certification, we reviewed agency guidance and federal regulations and met with FAA officials to discuss FAA's procedures for assessing, certifying, and documenting the physical condition of pilot applicants. We obtained information about how FAA's application computer system sorts applications and identifies which ones can be closed and which need review. We also obtained information about how FAA accesses the National Driver Register to determine whether pilot applicants have recent convictions for drug- and alcohol-related motor vehicle actions.⁵ To identify how FAA determines that medical certificates are properly issued, we analyzed FAA's application review procedures and quality assurance programs. We obtained information about FAA's progress in implementing DOT IG recommendations to identify pilots receiving disability benefits. Finally, we matched FAA's list of medically certified pilots with the Social Security Administration's disability databases as of February 2008, to identify whether pilots with medical certifications received disability benefits and how many pilots who provided FAA with their Social Security numbers received disability benefits compared to those who did not provide FAA their Social Security numbers. We conducted our performance audit from July 2007 through September 2008 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a

⁴See GAO, *Transportation Safety: Medical Certification and Background Check Requirements for Pilots, Vessel Masters, and Commercial Drivers Vary*, [GAO-08-421R](#) (Washington, D.C.: Feb. 27, 2008).

⁵The National Driver Register is a computerized database of information about drivers who have had their licenses revoked or suspended. The Register also shows driver conviction for serious traffic violations such as driving while impaired by alcohol or drugs. State motor vehicle agencies provide the National Driver Register with information.

reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings based on our audit objectives. See appendix I for further information on our scope and methodology and appendix II for detailed methodology on our FAA and Social Security Administration disability databases match.

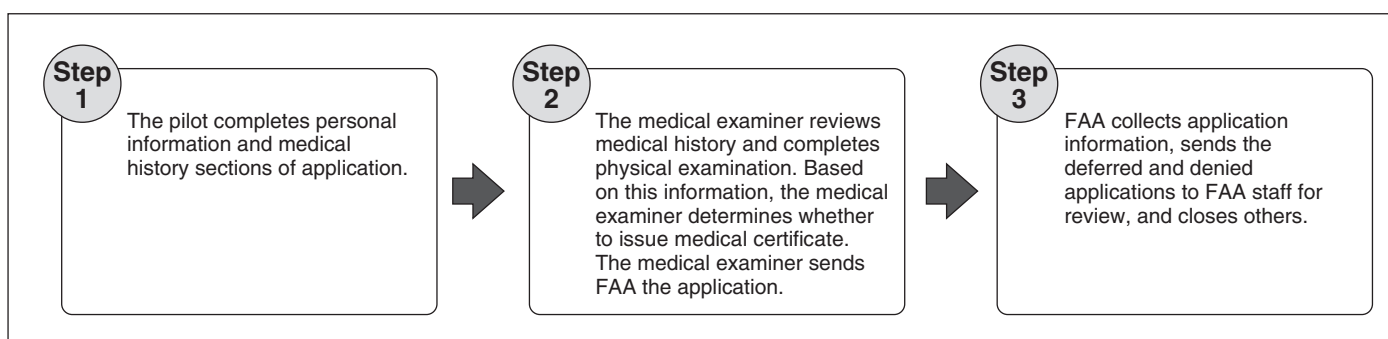
Results in Brief

Overall, FAA's pilot medical certification procedures consist of a multi-step process intended to determine whether pilot applicants meet medical standards. (See fig. 1.) As part of these procedures, aviation medical examiners—generally private practice physicians whom FAA has designated to examine pilots' medical conditions—review information provided by pilots on their medical certification applications and the results of their physical examinations before issuing pilots a medical certificate.⁶ In the majority of cases (about 88 percent in 2007), applicants meet the medical standards for certification and medical examiners issue a medical certificate.⁷ FAA uses a computer system to process all the applications received from the medical examiners. It identifies some applications as ones that FAA staff must evaluate and decide whether to issue a certificate, for example those in which medical examiners have deferred or denied the medical certificate. The computer system also designates other applications for further review, namely those in which medical examiners issued the medical certificates and the application indicated potentially disqualifying medical conditions. Finally, FAA checks an independent database, the National Driver Register, each time a pilot applies for medical certification for drug- and alcohol-related motor vehicle actions and indications of substance abuse.

⁶Aviation medical examiners are physicians whom FAA has delegated the authority to perform physical examinations to determine if applicants are qualified to receive airman medical certificates and student pilot certificates. They may or may not be the pilot's personal physician.

⁷See GAO, *Aviation Safety: FAA Needs to Strengthen the Management of Its Designee Program*, GAO-05-40 (Washington, D.C.: Oct. 8, 2004) for additional information about FAA's designee programs, including the aviation medical examiner program.

Figure 1: Overview of FAA's Medical Certification Application Process



Source: GAO analysis based on FAA information.

FAA has developed programs to check whether it has properly issued medical certificates. Specifically, FAA has established two quality assurance review programs to help ensure that FAA medical examiners and FAA staff are following FAA standards and guidelines for issuing medical certificates.

- One quality assurance review program evaluates certificates that medical examiners issued. FAA began this program in 2006 and, in its most recent review in 2007, identified 19 instances in which medical examiners issued medical certificates to pilots who had disqualifying medical conditions. According to FAA officials, they plan to continue reviewing AME-issued certificates and collecting the results. These additional data from subsequent years could help FAA identify weaknesses in its processes and demonstrate how well its procedures are ensuring that medical certificates are being issued according to standards.
- A second review program evaluates certificates that FAA staff issued or denied. These are applications that were deferred or denied by medical examiners and subsequently evaluated by FAA staff. In 2007, FAA reported reviewing 1,646 applications and found that staff overlooked relevant medical documents in 16 applications and made clerical errors in 44. FAA did not report finding any medical certificates that staff had inappropriately issued. FAA uses the results of this quality assurance program to evaluate individual FAA staff and provide training as appropriate.

In addition to reviewing applications, FAA relies on the previously-mentioned National Driver Register check for indications of substance abuse. If FAA finds a conviction for a drug- or alcohol-related motor vehicle action, FAA officials investigate the incident and take action

including possibly revoking the pilot's medical certificate. Finally, due to legal concerns about recent litigation, FAA currently does not check sources of information on federal disability benefits for indications that pilots may have disqualifying medical conditions.⁸ Although our analysis of the Social Security Administration's disability databases found 1,246 of 394,985 pilots holding current medical certificates while receiving disability benefits, this does not necessarily mean these pilots do not meet FAA's medical standards. It may, however, suggest that federal disability databases can provide useful information on potentially disqualifying medical conditions.

We provided a draft of this report to the Department of Transportation and the Social Security Administration for review. The Department of Transportation indicated that it generally agreed with our findings. FAA and the Social Security Administration provided technical clarifications, which we incorporated in the report as appropriate.

Background

According to FAA, safety is the FAA's most important mission and its goal is to achieve the lowest possible accident rate and constantly improve safety. Supporting this safety goal are a number of activities and requirements including federal regulations that require pilots to have both a pilot certificate and medical certificate prior to operating an aircraft and meet several requirements, depending on the level of certificate FAA issues the applicant.⁹

In order for FAA to issue a pilot certificate, applicants must demonstrate various piloting skills; pass written tests of aeronautical knowledge; log specified hours of flying time; read, speak, write, and understand the English language; and meet certain age restrictions, in addition to meeting the physical qualifications for a medical certificate and undergoing certain background checks.¹⁰ FAA authorizes pilots to fly specific types of airplanes or use specific types of aeronautical instruments after they meet certain training and testing requirements.

⁸A pilot filed a lawsuit against the FAA, Social Security Administration, and the U.S. Department of Transportation alleging his rights were violated under the Privacy Act of 1974. 5 U.S.C. §552a.

⁹Pilot certificates are issued for airline transport, commercial, air traffic control specialist, flight engineer, flight navigator, flight instructor, private, student, and recreational.

¹⁰Sport, glider, and balloon pilots are not required to have a medical certificate.

Federal regulations establish three classes of medical certification that correspond to the duties that pilots perform. Airline transport pilots that serve as pilots in command of scheduled air carrier operations must hold first-class medical certificates. Pilots that fly for compensation or hire or serve as flight engineers or flight navigators, as well as air traffic control tower operators, generally hold second-class medical certificates. Private pilots hold third-class medical certificates. Pilots must undergo medical examinations periodically to renew medical certificates (see table 1).

Table 1: Frequency of Pilot Medical Certification Examinations

Class of certificate	Frequency
First-class	Every 6 months if 40 years of age or older Every year if under 40 years of age
Second-class	Every year
Third-class	Every 2 years if 40 years of age or older Every 5 years if under 40 years of age.

Source: GAO analysis of federal regulations and FAA information. See 14 CFR Part 61.23.

A pilot begins the medical certification process by completing an application, including reporting his or her medical history on the application, certifying that it is complete and true, and authorizing the National Driver Register, through a designated state department of motor vehicles, to furnish to the FAA information pertaining to his or her driving record.¹¹

A pilot applicant is examined by an aviation medical examiner (AME), who is a qualified physician in private practice in whom FAA has delegated the authority to examine pilot applicants and make certification decisions on behalf of FAA. To become an AME, FAA requires physicians to receive basic training at its Civil Aerospace Medical Institute and recurrent training through seminars to stay abreast of any changing medical science. FAA collects information through a database to monitor and evaluate the performance of AMEs. For example, if an AME makes an error, FAA describes the type of error that was made in its database.

¹¹Pilot applicants are required to certify that the information they provide on the application is correct and are made aware that pursuant to 18 U.S. Code Secs. 1001 and 3571, any person that makes any false, fictitious or fraudulent statements on the FAA medical certification application form may be fined up to \$250,000 or imprisoned not more than 5 years, or both.

Finally, FAA has the authority to supersede and modify an AME's decision to issue or deny a medical certificate.

FAA Uses Medical Examinations and Application Review Procedures to Determine Whether Pilots Meet Standards

FAA has established medical certification procedures to identify whether pilots meet medical standards. As part of these procedures, AMEs decide whether or not to issue pilot medical certificates based on information gathered from pilots and their physical examinations. In the majority of cases, pilots meet the medical standards for certification and AMEs issue the medical certificate. In addition to the AME examination, FAA has a computer system that initially processes all the applications and prioritizes some for review, such as those where the AMEs deferred the decision or denied the certificate. The computer system also identifies for further review applications where the AME has issued the medical certificate and the application indicates potentially disqualifying medical conditions. Finally, FAA checks the National Driver Register to help ensure pilots meet standards by checking for indications of substance abuse.

AMEs Determine Whether Pilots Meet Medical Standards Based on Pilots' Applications and Physical Examinations

AMEs determine whether a pilot meets FAA medical standards based on their review of the pilot's medical certification application and the results of their physical examination. Pilots are responsible for providing information on the application describing their medical history to alert the AME of any health-related condition, such as cardiac problems or mental disorders. Pilots also report whether their FAA medical certificate has ever been denied, suspended, or revoked. In addition to answering medical questions, the application requires the pilot to report any convictions and administrative actions (e.g., suspensions or revocations) involving driving while intoxicated, impaired, or under the influence of alcohol or drugs.¹² The AME is responsible for reviewing the applicant's responses on the application form to identify inconsistencies, missing information, and disqualifying conditions.

The AMEs next conduct a physical examination. In 2007, FAA had about 4,400 AMEs conducting physical exams. To verify pilot information and identify potential medical issues, the AME examines the pilot for vision, hearing, mental, neurological, cardiovascular, and general medical

¹²The application also requires that pilots report any attendance at educational or rehabilitation programs as well as disclose non-traffic misdemeanors or felonies. FAA is planning to implement a revised form in September 2008 to require that pilots report arrests as well.

conditions.¹³ Additionally, if the pilot is applying for a first-class medical certificate, the AME must conduct an electrocardiogram annually for pilots over the age of 40. During the course of the medical examination, the AME should use the information obtained from the review to ask the applicant pertinent questions, especially questions that deal with type of medications and pilot's medical history. For example, if the applicant reported use of anticoagulants or indicated that he or she had a coronary artery angioplasty procedure, then the AME would be prompted to ask the applicant to provide a copy of any FAA correspondence that authorized medical certification on the medication or following the procedure; or request the applicant to provide medical documentation regarding these treatments and conditions. Certain aspects of the applicant's medical history may require more information. For example, if the pilot answered yes to having experienced heart or vascular trouble on his or her application, the AME is required to ask the pilot to clarify the significance of that item of history by asking for supplementary reports from the applicant's personal physician.

After reviewing the medical history and completing the medical examination, AMEs make one of the following determinations: issue a medical certificate, issue a special certificate, defer making a decision, or deny the certificate.

- The AME may issue a medical certificate when the applicant meets all medical standards. In such cases, the pilot leaves the AME's office with his or her medical certificate in hand.
- AMEs may also issue a special, time-limited medical certificate (or special issuance) to pilots whose medical conditions do not meet the federal medical standards but have received FAA authorization to obtain a medical certificate because they can perform their duties without endangering public safety.¹⁴ FAA may require pilots to take a special medical flight test, practical test, or medical evaluation for this purpose.¹⁵

¹³If the AME has examined the pilot in the past, he or she may have historical information on the pilot.

¹⁴FAA grants an authorization for special issuance when a pilot has a medical condition that falls outside the range of the medical standards but can still perform the duties authorized by the class of the medical certificate without endangering public safety.

¹⁵FAA grants a statement of demonstrated ability in lieu of an authorization to pilots with medical defects that are static or non-progressive in nature.

-
- The AME may defer the application for FAA review when the applicant exhibits one or more disqualifying medical conditions.¹⁶ (See app. III for a list of disqualifying medical conditions.)
 - The AME may deny certification when the applicant does not meet the medical standards.

When the AME defers or denies the application for a medical certificate or issues a certificate under an authorization for special issuance, the application is routed to FAA application examiners who decide whether to issue or deny the certificate.

FAA's Priority-Based Workload Procedures Target Resources to Selected Applications for Review

FAA established a computer system that prioritizes application review procedures in order to target its resources toward applications that it determined needed the most review. FAA's computer system, called Document Imaging Workflow System (DIWS), initially processes all medical certification applications and designates each one as either a priority or a non-priority application. See table 2 for definition of priority and non-priority applications. In 2007, of the 438,152 medical certification applications received, DIWS designated 34,590 applications as priority applications, 399,962 applications as non-priority, and 3,600 as in process. FAA's computer system identifies and closes most non-priority applications. In 2007, for example, FAA automatically processed and closed the applications where AMEs issued medical certificates—about 88 percent of all medical applications.

¹⁶According to FAA officials, AMEs may choose to send applications that they defer or deny to their FAA regional flight surgeon for review and final determination. Although this does not occur very often, it may occur in instances where the pilot was applying for a special issuance and had been directed by the region to send his or her medical information to the regional flight surgeon.

Table 2: General Description of Priority and Non-Priority Applications

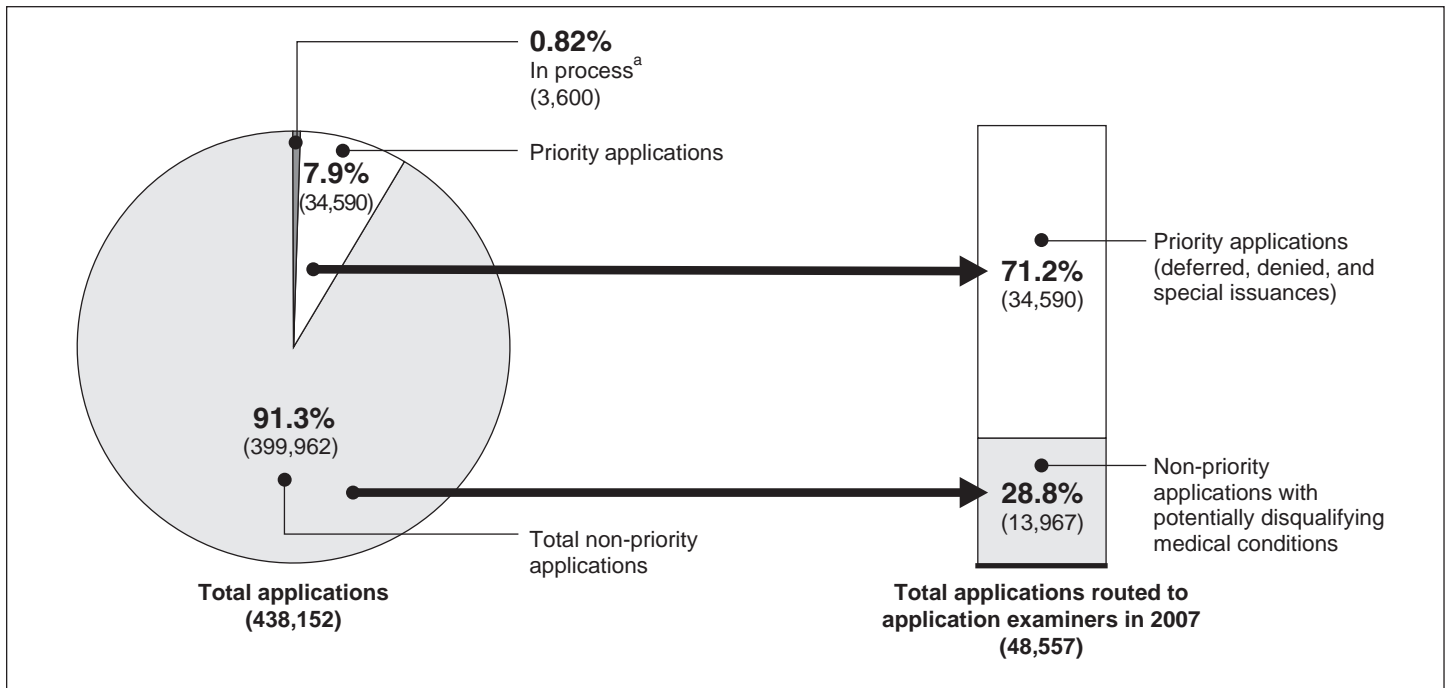
Priority level	Application characteristics
Priority applications	<ul style="list-style-type: none">• Applications where the AME denied the certificate or deferred the decision to FAA application examiners in the Aerospace Medical Certification Division.• Applications where the AME issued the medical certificate under a special issuance.
Non-priority applications	<ul style="list-style-type: none">• Applications where the AME issued the medical certificate.

Source: GAO based on FAA information.

After AMEs submit the applications, DIWS routes priority applications to application examiners for review. These examiners review the medical certification applications, supporting documentation, and any previous medical issues in a pilot's medical file. They follow FAA regulations, guidance, and consult with FAA physicians in order to decide whether to issue or deny the certificate.¹⁷ In 2007, FAA application examiners evaluated all 34,590 priority applications (see fig. 2). In 2006, as a result of growing concern by pilots and FAA's management about the length of time to review priority applications, FAA established a goal of completing each application review in 30 days. According to FAA, as of February 2008, the average time to process a priority application is 24 days.

¹⁷FAA application examiners may send a pilot's application to one of seven FAA physicians for help in making a final determination. In addition, all priority applications where the pilot has some type of heart-related medical issue are sent to a panel of physicians with expertise in cardiac conditions.

Figure 2: Overview of Applications Routd to FAA Application Examiners in 2007



Source: GAO analysis of FAA data.

^aIn process applications are considered those that are 'pending' in the electronic review process.

FAA's computer system also evaluates non-priority applications (applications where the AME decided to issue a certificate) and identifies ones where the pilot or AME indicated one or more potentially disqualifying medical conditions on the application.¹⁸ FAA programmed DIWS to route these applications to application examiners for review due to the presence of a potentially disqualifying medical condition. For example, in 2007, of the applications that were designated as non-priority applications, DIWS identified 13,967 with one or more potentially disqualifying medical condition such as a history of heart or vascular trouble, diabetes, or epilepsy. However, according to FAA officials, FAA's application examiners rarely if ever review these applications due to workload and time constraints and these applications are removed from

¹⁸ AMEs can issue a medical certificate to a pilot that has a disqualifying medical condition, if he or she receives prior FAA approval. In these cases, DIWS will identify the disqualifying medical condition and route the application to an application examiner even though the AME issued the medical certificate.

the examiners' workload after about two months. Once removed, non-priority applications are closed without being reviewed by an application examiner, thus making the AME's decision to issue the medical certificate final. A random sample of closed non-priority applications are subsequently selected for quality assurance review.

FAA officials indicated that one impact of not reviewing non-priority applications is a greater reliance on AMEs to make a correct determination and identify pilots that may have potentially disqualifying medical conditions. Because FAA application examiners rarely have time to review these non-priority applications, the burden is on the AME to make the correct determination. According to FAA, this makes the AMEs the first and sometimes the only line of defense because few if any non-priority applications are ever reviewed. More often than not, the AME decisions are considered final.

Because of their importance, FAA trains AMEs to identify pilots that have potentially disqualifying medical conditions or may not be medically fit to fly.¹⁹ Moreover, FAA teaches AMEs how to detect discrepancies in applicant responses. However, officials we spoke to also acknowledged that no matter how well-trained the AMEs, the current medical certification procedures are based on an honor system and rely on pilots being truthful on the application form. Failure to disclose medical information on the application form can be the basis for suspension or revocation of a medical certificate. This is one reason why high-ranking FAA officials visit air and pilot conventions around the country to teach pilots about the importance of disclosing medical conditions on their applications.

FAA Checks for Drug- and Alcohol-Related Motor Vehicle Actions Using National Database

FAA checks the National Driver Register each time a pilot applies for medical certification to look for indications of substance dependence. The National Driver Register identifies applicants who have had their drivers' licenses revoked or suspended or been convicted of serious traffic violations such as driving while impaired by alcohol or drugs. FAA transmits applicants' names, dates of birth, and Social Security numbers, if available, to the National Driver Register weekly. If the search results indicate the applicant has drug- or alcohol-related motor vehicle actions,

¹⁹FAA requires that physicians attend a 1-week training session and periodic refresher courses at the Civil Aerospace Medical Institute in Oklahoma City, Okla.

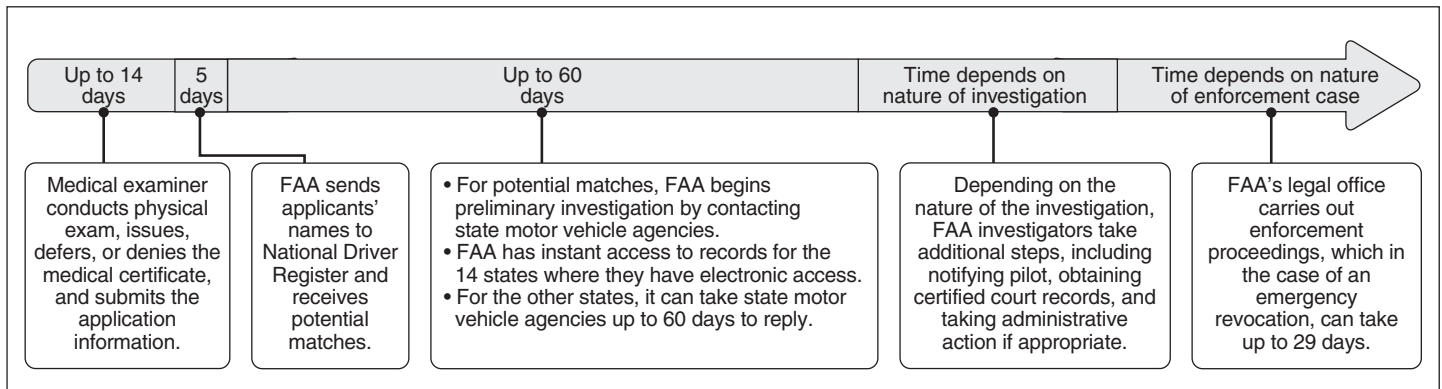
the FAA investigator contacts the state motor vehicle agency for information to request the driving record for review. When applicants do not provide their Social Security numbers, FAA investigators use applicants' demographic information and physical descriptive information to validate identities.²⁰ According to FAA officials, the lack of a Social Security number does not present a significant barrier, at this time, for completing their investigation. However, according to FAA officials, access to the Social Security number is the most efficient means of verifying a pilot's identity.

Once FAA verifies the alcohol-related action, it determines whether the person was a pilot at the time of the offense and whether he or she reported the conviction to FAA.²¹ If the FAA investigator finds that the pilot failed to properly report a drug- or alcohol-related action, he or she conducts the investigation and sends the case to FAA legal counsel for possible enforcement action. If an applicant did not report the convictions or license actions on the application for medical certification, FAA may deny, suspend, or revoke the applicant's pilot and/or medical certificates, if the applicant was aware of the conviction or license action. Applicants can appeal certificate denials, suspensions, and revocations. (See fig. 3). According to FAA officials, in 2007 FAA found 2,708 potential matches in the National Driver Register and recommended 875 enforcement actions for failure to properly report an alcohol-related motor vehicle action. These enforcement actions included issuing warning letters, assessing civil penalties, and suspending or revoking the pilot's license and/or medical certificate.

²⁰The Privacy Act of 1974 places limitations on the ability of agencies, like FAA, to enforce a Social Security number disclosure requirement by denying a license to an applicant for refusing to disclose his or her Social Security number. The Privacy Act states that an agency cannot "deny to any individual any right, benefit or privilege provided by law because of such individual's refusal to disclose his Social Security number" unless authorized by statute.

²¹14 CFR Part 61.15(e) requires pilots to report to FAA drug- or alcohol-related driving convictions within 60 days of conviction or administrative action.

Figure 3: National Driver Register Check Process



Source: GAO analysis of FAA information.

FAA officials reported that the National Driver Register investigation is taking longer to complete than before July 2007, because FAA investigators no longer have electronic access to each states' records. FAA investigators had used the National Crime Information Center (NCIC) to access state records electronically and obtain driving-related conviction information back from the states' motor vehicle agencies in minutes.²² However, in May 2007, FAA lost access to NCIC after the Justice Department concluded FAA's investigations unit did not have a criminal justice function and therefore had no need to access databases containing criminal information.²³ According to FAA officials, the lack of electronic access to states' data has increased the time it takes to complete the preliminary investigation to confirm a reportable alcohol-related incident is on the driving record. FAA officials told us staff turnover at the state agencies also creates delays because new employees do not understand why FAA is requesting the information and investigators have to take time to educate the new staff about FAA's authority. During the first half of fiscal year 2008, FAA investigations took about 59 days on average, although the time it takes to complete an investigation varies depending on the facts of the case. However, FAA has tried to limit the impact by shifting staff and workload and authorizing compensatory time. Further,

²²The NCIC is a computerized index of criminal justice information (i.e., criminal record history information, fugitives, missing persons). It is available to federal, state, and local law enforcement and other criminal justice agencies.

²³FAA requested reinstatement of electronic access to state databases which contain criminal history information (e.g., arrests, convictions, warrants, etc.) in its reauthorization proposal.

beginning January 2008, FAA has been able to get limited electronic information from 14 states' motor vehicle records.

FAA Has Developed Quality Assurance Programs to Check That Medical Certificates Have Been Properly Issued

FAA has developed programs to help it determine whether AMEs and FAA examiners properly issued medical certificates. Specifically, FAA has established two quality assurance review programs in which FAA has identified instances in which AMEs issued medical certificates to pilots that have disqualifying medical conditions and in which FAA application examiners overlooked relevant medical documents and made clerical errors. According to FAA officials, they plan to continue reviewing AME-issued certificates and collecting data from the reviews. Also, as previously mentioned, FAA checks the National Driver Register for indications of substance abuse to help ensure pilots who are issued medical certificates meet medical standards. FAA currently does not check federal disability benefits for indications of disqualifying medical conditions. Our comparison found that federal disability benefits databases can provide useful information on pilots' medical conditions.

FAA Has Programs for Checking Whether AMEs and FAA Application Examiners Properly Issued Medical Certificates

FAA has established two quality assurance programs to review selected medical certificate applications. The first program evaluates whether AMEs issued applications appropriately (see table 3). According to FAA officials, the impetus for this quality assurance program was that FAA recognized it needed to see if AMEs issued medical certificates appropriately because the majority of these determinations are closed without FAA review, thus making the AME decision final. In addition, this quality assurance program in part takes the place of application examiners' reviews. Application examiners rarely review these applications under current staffing levels, according to FAA officials, if they are to meet the 30-day performance goal.²⁴

²⁴There are currently about 34 people that review applications. Application examiners, on average, have 700 applications in their workload queues and are required to review at least 30 applications a day.

Table 3: Description of FAA Medical Certificate Quality Assurance Reviews

Type of quality assurance program	Number of quality assurance specialists as of May 2008	Type of applications reviewed	Description of responsibilities
Review AME decisions	2	<ul style="list-style-type: none"> • A random sample of non-priority applications <ul style="list-style-type: none"> - with potentially disqualifying medical conditions - without potentially disqualifying medical conditions 	<ul style="list-style-type: none"> • Examine a sample of applications that were issued by AMEs • Determine whether AMEs issued the medical certificate appropriately • Share results of their quality assurance reviews with managers, supervisors, and AMEs
Review application examiner decisions	3	<ul style="list-style-type: none"> • A random sample of priority applications <ul style="list-style-type: none"> - deferred - denied - special issuance • A random sample of non-priority applications with potentially disqualifying medical conditions^a 	<ul style="list-style-type: none"> • Examine a sample of applications that were reviewed by FAA application examiners • Ensure FAA application examiners are complying with FAA standards and guidelines • Either agree or disagree with the FAA application examiners' final decision to issue or deny the medical certificate • Track error rates of FAA application examiners and report results monthly to FAA managers

Source: GAO analysis of FAA information.

^aAccording to FAA officials, although the quality assurance specialists receive non-priority applications with potentially disqualifying medical conditions for review, they rarely have time to review them.

FAA conducted the first quality assurance review of AME issuance decisions in 2006, and found that about 95.7 percent of the applications were appropriately issued, 1.8 percent had insufficient information, and 2.5 percent were inappropriately issued. In most cases, the applications that were inappropriately issued contained information that should have led the AMEs to defer the decision to FAA rather than issuing the medical certificate. This quality assurance review evaluated 2,000 of the applications for AME-issued certificates from December 2004 to July 2005—0.6 percent of total applications. Quality reviewers based their review on the pilots' applications and AMEs examinations as well as other information stored in FAA's medical computer system.

FAA conducted the second quality assurance review in 2007 on 1,000 applications wherein AMEs issued medical certificates from January through June 2007.

-
- FAA randomly selected a sample of 500 non-priority applications from 189,239 applications that had no potentially disqualifying medical conditions. Of those selected, FAA found that AMEs appropriately issued 96.6 percent or 483 of the certificates and issued 3.4 percent (17 certificates) when the application lacked complete information. However, once FAA collected the appropriate documentation, it determined that none of these certificates were inappropriately issued by AMEs.
 - FAA randomly selected another 500 non-priority applications from 5,305 issued applications that DIWS identified as having one or more potentially disqualifying conditions. FAA found that AMEs appropriately issued 93.8 percent or 469 of the certificates, issued 2.4 percent (12 certificates) when the application lacked complete information, and inappropriately issued 3.8 percent (19 certificates) of the sampled certificates. According to FAA, if this rate were also applied to the 5,305 pilot applications that were processed without further review, 202 medical certificates would have been issued inappropriately in the January through June 2007 period.²⁵ In general, these were applications in which the AME issued the certificate when he or she should have deferred the decision to FAA due to indications of disqualifying medical problems. For example, a pilot who had reported having a seizure was hospitalized overnight, and prescribed anti-seizure medication for a month. The AME issued the medical certificate when the application should have been deferred to FAA for final determination. According to FAA, it took a range of actions depending on the nature of the error, such as gathering additional information about the medical condition, contacting the pilot or AME, and revoking the medical certificate, although it did not track the number of medical certificates that were revoked. FAA officials noted that they share the results with managers, supervisors, and AMEs and at meetings to make AMEs aware of the problems they are finding.

FAA officials indicated that they plan to continue the quality assurance reviews of non-priority applications on a semi-annual basis and collect data from the reviews. These additional data from subsequent years could help identify increases or decreases in incomplete or inappropriately issued certificates and demonstrate how well its certification procedures are ensuring that medical certificates are being properly issued.

²⁵This information on FAA's review of non-priority applications is based on sample data. The data with confidence intervals would be 93.8% (91% to 96.6%), 2.4% (0.6% to 4.2%) and 3.8% (1.6% to 6.0%). The 202 medical certificates that would have been issued inappropriately could actually range from 85 to 318.

The second quality assurance program consists of quality assurance specialists reviewing at least ten percent of (1) priority applications that each FAA application examiners had evaluated and (2) some non-priority applications with potentially disqualifying medical conditions. These applications are selected randomly by DIWS. FAA established this program in 2002 to ensure application examiners' determinations comply with FAA documentation standards and certification guidelines. FAA officials told us that quality assurance specialists review up to 50 percent of applications for application examiners who are new or in training. Following their review of the applicant's medical information, the quality assurance specialists determine whether they agree with the decision the FAA application examiner made and look for errors that may lead to incorrect determinations. FAA uses monthly reports on the results of these reviews to identify trends in error types. For example, FAA reported in 2007 it reviewed 1,646 applications and found that application examiners made clerical errors in 44 applications and overlooked relevant medical documentation in 16. In its 2007 reviews, FAA did not find any medical certificates that application examiners had inappropriately issued.²⁶ When the quality assurance specialists identify errors, they discuss their findings in person or hold group training sessions help application examiners avoid making the error in the future.

FAA Has Not Completely Implemented DOT IG's Recommendations to Identify Pilots Who Receive Disability Benefits

Another approach FAA could use to ensure pilots are medically qualified is using disability information from other federal agencies for indications of disqualifying medical conditions. In 2005, as a result of its Operation Safe Pilot investigation, DOT IG recommended that FAA come up with a strategy, such as database matching, to identify pilots who receive disability benefits.²⁷ DOT IG's investigation indicated that federal agencies that provide disability benefits (e.g., the Social Security Administration (SSA) or the Departments of Labor or Veteran Affairs) would have information that FAA could use to compare with its information about pilot medical qualifications. Because disability benefits programs have different disability standards, FAA would have to investigate the pilot's

²⁶According to FAA, application examiners avoid making critical errors that would result in inappropriately issued or denied medical certificates because they are encouraged to seek assistance if they have doubt in making a determination.

²⁷U.S. Department of Transportation Office of Inspector General, *Falsification of FAA Airman Medical Certificate Applications by Disability Recipients* (July 22, 2005).

medical condition to assess whether the disability would disqualify him or her from being medically certified under FAA's standards.

The DOT IG conducted the investigation jointly with the SSA's Office of Inspector General and California's U.S. Attorney Office. The investigation compared medical certificates for pilots in northern California with the SSA's databases to determine, in part, if pilots were receiving Social Security disability benefits. They found that 70 of 40,000 pilots were receiving disability benefits and 48 pilots had disqualifying medical conditions that were not reported to FAA. As a result of their investigation, 45 of 48 pilots were indicted for falsification.²⁸ All 45 pilots either pled guilty or were convicted at trial.

As a result its investigation, DOT IG recommended that FAA work with SSA and other disability benefits providers to implement a strategy to check pilots against disability benefits recipients. According to FAA officials, FAA has not implemented this recommendation because of litigation resulting from the investigation.²⁹ FAA will need to make decisions about using information from disability benefits providers now that the litigation is resolved. However, FAA is implementing two related DOT IG recommendations by amending its medical certification application to include a question about whether pilots are receiving disability benefits currently and a notification that information pilots provide on their medical certification application may be shared with other federal agencies. According to FAA, these revisions should be in place in October 2008 and establish the groundwork for checking information on pilots applying for medical certification with other federal information.

²⁸Of the remaining three pilots, two died before they were brought to trial, one stemming from complications from his previously undisclosed illness. Prosecutors declined to move forward in the case of the third pilot, citing the pilot's severe mental incapacity.

²⁹A pilot who was identified in Operation Safe Pilot as giving false medical history to FAA on his medical certification application, and who was subsequently convicted, filed a lawsuit against FAA, SSA, and the U.S. Department of Transportation (DOT), claiming his rights were violated under the Privacy Act of 1974 when SSA, DOT, and FAA exchanged his personal identifying information. In August 2008, the United States District Court for the Northern District of California ruled that this particular case did not comply with the Privacy Act of 1974 because DOT and SSA had not provided sufficient notice that it intended to conduct such matches under its "routine use" exception and the sharing of information did not comply with the agencies' definition of actions constituting a routine use. *Cooper v. FAA*, No. C07-1393VRW(N.D.C.A. 2008).

**GAO's Database Match
Results Indicate Disability
Databases Have
Information on Potentially
Disqualifying Medical
Conditions**

We found that for February 2008, less than 1 percent (1,246 of 394,985 pilots) of U.S. pilots with a current medical certificate were receiving Social Security disability benefits.³⁰ Of the pilots receiving a disability benefit, private pilots with third-class medical certificates were most likely to be receiving a Social Security disability benefit (79 percent or 989 of 1,246 pilots). Commercial pilots who generally fly small commercial aircraft and have second-class medical certificates were the second largest group of pilots to be receiving disability benefits (16 percent or 201 of 1,246 pilots). Finally, transport pilots who operate large passenger aircraft and have first class medical certificates were least likely to be receiving a Social Security disability benefit (4 percent or 56 of 1,246 pilots).³¹

We found that back, spinal, and muscle medical problems, such as degenerative back disorders, were the most common medical conditions. They represented 40 percent or 495 of the pilots receiving disability benefits. Psychotic and non-psychotic conditions, such as anxiety disorders, were the second most common medical conditions, representing 19 percent or 237 of the pilots receiving disability benefits. Injury related conditions, such as skull fractures, were the third most common conditions, representing 11 percent or 138 of the pilots receiving disability benefits.

We did not evaluate the individual cases in which a pilot had a current medical certificate and was receiving disability benefits to identify whether the disability was a disqualifying condition.³² According to FAA officials, they would have to review the facts of each case in order to determine whether the pilot should hold a medical certificate and be considered safe to fly. In situations where a pilot is being treated for anxiety, for example, FAA officials indicated the pilot could operate an aircraft if he or she met several conditions. The pilot would have to have been off all medication for 90 days and passed several FAA-administered evaluations. (See table 4.) According to an FAA official, FAA will need

³⁰Our data excluded 7,889 pilot records for which SSA was unable to verify Social Security numbers (see app. II for additional information).

³¹Under the Privacy Act of 1974, GAO is exempt from the prohibition on agencies disclosing records contained in a system of records, which enabled authorized GAO personnel to conduct this database match. 5 U.S.C. §552a(b)(10).

³²Our review also did not determine whether pilots receiving disability benefits had a qualifying disability.

additional staff to implement a data matching program to examine such cases.

Table 4: Examples of Potentially Disabling Medical Conditions and Factors That Affect FAA Medical Certification

Medical condition	Does SSA consider pilot's condition disabling?	Does FAA consider pilot's condition a disqualifying medical condition?
Spinal and muscular problems	<ul style="list-style-type: none"> • Yes, if the pilot has documented anatomical or physiological impairments that are expected to last for 12 months or result in death^a 	<ul style="list-style-type: none"> • Yes, if the pilot feels chronic back pain that requires medication and cannot operate aircraft controls • No, if the pilot does not have chronic back pain that requires medication
Psychotic, non-psychotic disorders	<ul style="list-style-type: none"> • Yes, if the pilot has documented psychological impairments such as a lack of vigilance, an inability to concentrate, impaired decision making, displaying suicidal gestures, that are expected to last for 12 months or result in death 	<ul style="list-style-type: none"> • Yes, if the pilot is taking any psychotropic medication or other medication therapy continuously • Yes, if the pilot has schizophrenia, bipolar disorder, depression or other psychological disorders • No, if the pilot has not taken medication for at least 90 days and passes several FAA-administered evaluations

Source: GAO analysis of FAA and SSA data and statements.

^aAn impairment must be established by medical evidence consisting of signs, symptoms, and laboratory findings. The impairment must also be the result of abnormalities that can be shown by medically acceptable clinical and laboratory diagnostic techniques.

In addition to determining how many pilots were receiving disability benefits, we also looked at whether or not pilots provided FAA with their Social Security numbers. Our analysis indicated that about 78 percent of the pilots provided FAA with a Social Security or other nine-digit number while the rest did not supply a number.³³ Of the 1,246 pilots who received disability benefits, about 86 percent provided FAA a Social Security number while the remaining 14 percent did not. (See table 5.) See appendix II for a complete description of our methodology and results.

³³As indicated previously, FAA does not require that pilot applicants provide a Social Security number and, in the instances where the pilot does not provide a number, FAA provides a nine-digit number that does not conflict with numbers assigned by SSA. Our data match analysis found that SSA was unable to verify some of the nine-digit numbers provided by pilots as Social Security numbers. We did not evaluate these cases further to determine whether they resulted from intentional or unintentional causes (see app. II for more information).

Table 5: Medically Certified Pilots Receiving Social Security Disability Benefits as of February 2008

	Number of pilots with current medical certificates	Number of pilots receiving Social Security disability benefits
Provided FAA a Social Security number ^a	308,036 (78 percent)	1,075 (86 percent)
Did not provide FAA a Social Security number ^b	86,949 (22 percent)	171 (14 percent)
Total	394,985 (100 percent)	1,246 (100 percent)

Source: GAO analysis of FAA and SSA data.

^aThese are pilots who provided FAA with a nine-digit number on their certificate application and for whom the SSA was able to either verify the number provided or find a different valid Social Security number.

^bThese are pilots for whom FAA provided a nine-digit number and for whom SSA was able to identify a Social Security number associated with these individuals based on other data elements even though FAA did not provide a Social Security number to SSA.

Concluding Observations

FAA’s overall goal is to provide the safest aviation system in the world, and toward that end, FAA has established procedures for ensuring that pilots obtain certifications showing that they are medically fit to fly. Although the recent record of safety in this area has been good, an accident stemming from a pilot’s poor medical condition would be traumatic. FAA has also developed programs to determine if medical certificates have been properly issued. As we report above, one of FAA’s quality assurance programs found that the majority, but not all, of the sampled medical certificates were properly issued. Because FAA only has two years of quality assurance data, it has not yet identified potential trends regarding the number of improperly issued medical certificates. However, if FAA continues collecting the quality assurance data, as it plans to do, it will have an opportunity to analyze the data for such trends and further help FAA identify weaknesses in its guidance and practices. Finally, due to recent litigation, FAA has decided not to use independent databases that contain disability information. In the future, however, the disability benefit information pilots report on the medical certification application could help to identify pilots who might pose risks.

Agency Comments

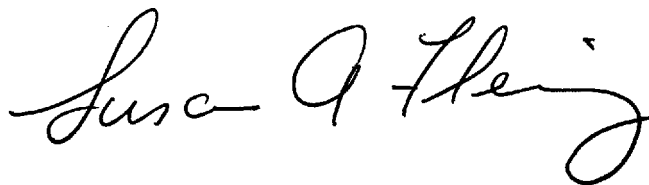
We provided a draft of this report to the Department of Transportation and SSA for review. They provided comments by e-mail. The Department of Transportation indicated that it generally agreed with our findings. We also received technical clarifications from FAA’s Office of Aerospace

Medicine within the Office of Aviation Safety, and SSA's Office of General Counsel, which we incorporated into the report as appropriate.

As agreed with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from its date. At that time, we will send copies of this report to congressional committees and subcommittees with responsibilities for aviation issues and to the Secretary of Transportation and the Commissioner of Social Security. We will also make copies available to others upon request. In addition, the report will be available at no charge on GAO's Web site at <http://www.gao.gov>.

Should you or your staff have any questions on matters discussed in this report, please contact me at (202) 512-2834 or flemings@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made contributions to this report are listed in appendix IV.

Sincerely yours,

A handwritten signature in cursive script that reads "Susan A. Fleming". The signature is written in black ink and is positioned centrally on the page.

Susan A. Fleming
Director, Physical Infrastructure Issues

Appendix I: Objectives, Scope, and Methodology

In order to assess the Federal Aviation Administration's (FAA) efforts to screen medical certification applicants and identify medically unqualified pilots, we answer the following questions (1) what procedures does FAA use to certify that pilot applicants meet medical standards and (2) how does FAA determine that medical certificates have been properly issued? In addition, we identify the number of pilots with current medical certificates who are receiving disability benefits and determine if they provided FAA a Social Security number.

To identify FAA's procedures for certifying that pilots meet medical standards, we reviewed agency guidance and federal regulations. We spoke with FAA officials about pilots' application procedures, including requirements to disclose their medical history, convictions and administrative actions involving driving while under the influence of drugs or alcohol, and whether their FAA medical certificate has ever been denied, suspended, or revoked. We spoke with FAA officials and reviewed agency guidance to identify aviation medical examiners' (AME) procedures for examining and documenting the physical condition of pilot applicants and to determine under what circumstances AMEs would issue, defer, or deny a medical certificate. We identified FAA application examiners' procedures for reviewing deferred, denied, and special issuance applications.

We spoke with FAA officials about FAA's computer system, called the Document Imaging Workflow System (DIWS), to identify how it processes and prioritizes applications, in particular how it selects some for additional review and closes others. From this computer database, FAA provided 2007 data about the number of medical certification applications that it received and that DIWS identified as priority, non-priority, and non-priority with potentially disqualifying medical conditions. Based on these data, FAA officials noted that application examiners reviewed all of the priority applications in 2007.

Finally, we spoke with FAA investigators to identify FAA's procedures for accessing the National Driver Register, an independent database FAA uses to determine if pilots have recent drug- or alcohol-related motor vehicle actions that might indicate a substance abuse problem.¹ Based on this

¹The National Driver Register is a computerized database of information about drivers who have had their licenses revoked or suspended. The Register also shows driver convictions for serious traffic violations such as driving while impaired by alcohol or drugs. State motor vehicle agencies provide the National Driver Register with information.

information and data provided by FAA, we identified the steps and the duration of FAA's activities to check the National Driver Register, investigate potential matches, and take enforcement action.

To identify how FAA determines that medical certificates are properly issued, we spoke with FAA officials about the quality assurance reviews of priority and non-priority applications, and obtained information about the frequency of the reviews, how FAA collects and reports results, and the actions taken following the reviews (i.e., certificates revoked, training, one-on-one meetings). We obtained the 2006 and 2007 quality assurance review reports. We spoke with FAA officials about its methodology for sampling non-priority applications with potentially disqualifying medical conditions and determined the sample size provided valid measures of the underlying population of non-priority applications. We identified how quality assurance specialists review samples of the priority applications completed by FAA application examiners, the types of errors they look for, and what they do with the results of their reviews. We obtained and reviewed the quality review supervisory reports for 2007.

We spoke with FAA officials to determine if FAA has implemented the recommendations related to the Operation Safe Pilot investigation, including using disability benefit information to identify pilot applicants who may have disqualifying medical conditions. We obtained documents and spoke with officials from the Department of Transportation and Social Security Administration (SSA) Offices of the Inspector General about the match they completed of pilots in northern California with Social Security databases reported in their 2005 investigation and the status of the lawsuit filed by a pilot convicted as a result of that investigation.

Finally, to determine if U.S. pilots with current medical certificates (as of February 2008) were receiving SSA disability benefits, we obtained FAA's airman registry database for February 2008. We matched FAA pilot medical certification records with two Social Security disability databases to determine (1) the number of pilots with current medical certificates who were receiving disability benefits; (2) from the group of pilots receiving disability benefits, how many had supplied their Social Security number to FAA and how many did not provide their Social Security number; and (3) what the most common disabling medical conditions were for pilots receiving disability benefits. We did not investigate each case to determine if the pilot receiving SSA disability benefits had a disqualifying medical condition according to FAA medical standards. (See app. II for a detailed description of the data match.)

We conducted our performance audit from July 2007 through September 2008 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We also took steps to assess data reliability by interviewing agency officials, reviewing documents, performing electronic testing for obvious errors in accuracy and completeness as well as inconsistencies and concluded that the data were sufficiently reliable for our purposes. We believe that the evidence obtained provides a reasonable basis for our findings based on our audit objectives.

Appendix II: Description of Match of Data from FAA's Civil Airman Registry to SSA's Disability Databases

Overview

This appendix describes the methodology we used to match data from the Federal Aviation Administration's (FAA) Civil Airman Registry to data from two of Social Security Administration's (SSA) disability benefits programs—the Old Age, Survivors, and Disability Insurance program, also known as Title II and Disability Insurance program and Supplemental Security Income program, also known as Title XVI.¹ The two programs comprise SSA's disability benefits. The purpose of the data match was to determine (1) whether U.S. pilots with current medical certificates were receiving disability benefits for disabling medical conditions, (2) how many pilots who did not supply their Social Security number to FAA received disability benefits relative to the pilots who did provide FAA with a number, and (3) what the most common disabling medical conditions were for pilots receiving disability benefits. The results of the data match are dated as of February 29, 2008. We determined that the data were sufficiently reliable for the nationwide trend analyses used for this report

FAA's Civil Airman Registry

Information in the airman registry is supplied by pilots when they apply for initial certification to operate an aircraft and for medical certification. When pilots apply for medical certification, they supply demographic information which is submitted to FAA after an aviation medical examiner (AME) performs a physical exam on the pilot. For identification purposes, the application contains a field for a nine-digit number defined as the Social Security number. Because of provisions in the 1974 Privacy Act, FAA does not require pilots to provide their Social Security number. When a pilot does not provide any data in this field, FAA provides a nine-digit number from a range of numbers that do not conflict with numbers assigned by SSA.

To determine how many active pilots are operating in the United States, in February 2008, we obtained the previous 39 months' worth of FAA's Civil Airman Registry certification records. In addition to demographic information, this database contains information about the date a pilot's last medical certificate was submitted. We received records no older than 39 months to ensure that we had a population of pilots with recent first-, second-, and third-class medical certificates. First-class medical certificates must be renewed every 6 months for pilots 40 years of age or

¹As previously noted, under the Privacy Act, GAO is exempt from the prohibition on agencies disclosing records contained in a system of records, which enabled authorized GAO personnel to conduct this database match. 5 U.S.C. §552a(b)(10).

older and every 12 months for pilots under 40 years of age, second-class every 12 months, third-class medical certificates for pilots 40 years of age or older every 24 months, and every 60 months for pilots under age 40. There were 693,105 pilot records in the database when it was received February 14, 2008. The records included U.S. as well as foreign pilots.

Pilots Included in the Analysis

In the analysis, we eliminated records for pilots who were deceased, who do not need medical certification (e.g., hang glider and balloon pilots), foreign pilots, duplicate records, and records for pilots whose medical certificates were not current.

SSA Verification of FAA Pilot Records

To verify Social Security numbers, the pilot certificate records—those with data supplied by the pilot in the field defined as Social Security numbers and those with nine-digit numbers provided by FAA—were processed through SSA's Employee Verification System (EVS). The EVS is routinely used by employers to verify workers' Social Security numbers. The EVS process first tests each number contained in the FAA field labeled as a Social Security number in its attempt to verify that the number is a valid Social Security number. This first step tests the number to see if it is within the range of validly issued numbers and if so, then it checks the name, date of birth, and gender to determine if it matches the information in SSA's database assigned that number. If the number does not meet the validly issued range test, the EVS process will test the name, date of birth, and gender to determine if a valid Social Security number matches the values contained in these fields, and a final attempt to find a verified Social Security number is made by matching just the name and date of birth. The result of the EVS process for GAO was 305,063 pilot records verified by Social Security number, name, date of birth, and gender. An additional 1,602 records were verified by name, date of birth, and gender. And finally, another 88,320 pilot records were included because the name and date of birth matched. In all, 394,985 records had verified Social Security numbers through the EVS process. The majority of the records that were not verified were for foreign pilots, while the rest were duplicate records based on the FAA database conscript.

About 78 percent (308,036) of the 394,985 records with verified Social Security numbers were records where pilot applicants provided FAA with a nine-digit number in the Social Security number field, and about 22 percent were pilot applicants for which FAA had provided a nine-digit number. (See table 6.) We included in the 308,036 records 2,067 cases where SSA was not able to verify the numbers provided by the pilots but

was able to identify Social Security numbers associated with these individuals based on other data elements.

Table 6: Breakdown of Pilot Records by Pilot-Provided and FAA-Provided Social Security Numbers

	Number of pilot records
Records with either Social Security or other nine-digit numbers provided by pilots	308,036 (78 percent)
Records with FAA provided nine-digit number	86,949 (22 percent)
Total	394,985 (100 percent)

Source: GAO analysis of FAA and SSA data.

Exclusion of Records

There were 7,889 pilot records for which SSA was unable to verify Social Security numbers. Eliminating the unverified records left 394,985 verified records, with 305,969 representing Social Security numbers contained in the FAA file and verified by SSA's EVS process, and 89,016 that were assigned a Social Security number through the EVS process.

SSA Disability Benefits Programs

Once the EVS process was complete, records were matched to SSA's Title II and Title XVI disability databases, both of which contain past and present benefit information. Those eligible to receive disability benefits from either disability fund must be considered 100 percent disabled. SSA defines disability as the "inability to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to result in death or has lasted or can be expected to last for a continuous period of not less than 12 months." Recipients' cases may be periodically reviewed and if SSA determines the person's impairment has medically improved and he or she is able to return to work, the person is removed from the program.

Under the Title II program, three categories of individuals can receive disability benefits:

- A disabled insured worker under 65.
- A person disabled since childhood (before age 22) who is a dependent of a deceased insured parent or a parent entitled to Title II disability or retirement benefits.

Appendix II: Description of Match of Data from FAA’s Civil Airman Registry to SSA’s Disability Databases

- A disabled widow or widower, age 50 to 60, if the deceased spouse was insured under Social Security.

The Title XVI program provides supplemental security insurance payments to individuals, including children under age 18, who are disabled and have limited income and resources. Under Title XVI, there are two basic categories under which a financially needy person can receive disability payments:

- An adult age 18 or over who is disabled.
- A child (under age 18) who is disabled.

SSA Disability Benefits Match Results

The 394,985 pilot records match against SSA’s disability databases identified less than 1 percent of the pilots (1,246) were receiving disability benefits. Of the pilots receiving disability benefits, 79 percent (989) were private pilots or third-class medical certificate holders while the remaining 21 percent (257) were commercial and transport pilots. (See tables 7 and 8.)

Table 7: Results of Matching Pilot Social Security Numbers to Disability Benefits Program Data

SSA disability benefits program	Number of pilots receiving SSA disability benefits
Title II	1,186
Title XVI	60
Total records with a disability match	1,246

Source: GAO analysis of FAA and SSA data.

Table 8: Pilots Receiving Disability Benefits, Listed by Medical Class

Medical certificate class	Number of pilots receiving SSA disability benefits
First-class	56
Second-class	201
Third-class	989
Total	1,246

Source: GAO analysis of FAA and SSA data.

The data match showed that 1,075 of the pilots receiving Social Security disability benefits supplied a Social Security or other nine-digit number to

Appendix II: Description of Match of Data from FAA’s Civil Airman Registry to SSA’s Disability Databases

FAA and 171 pilots receiving disability benefits did not supply a Social Security number (see table 9).² Back, spinal, and muscle medical problems, such as degenerative back disorders, were the most common disabling medical conditions representing 40 percent or 495 of the pilots receiving disability benefits. Psychotic and non-psychotic conditions, such as anxiety disorders, were the second most likely condition, representing 19 percent or 237 pilots receiving Social Security benefits. Injury-related conditions, such as skull fractures, were the third most likely condition, representing 11 percent or 138 of the pilots receiving disability benefits (see table 10). Our review did not make a determination as to whether pilots receiving disability benefits had a qualifying disability.

Table 9: Breakdown of Pilots Receiving Disability Benefits by Pilot-Provided and FAA-Provided Social Security or Other Nine-Digit Numbers

Pilots	Number receiving SSA disability benefits
Pilots who supplied FAA with a Social Security or other nine-digit number	1,075
Pilots for whom FAA provided a nine-digit number	171
Total	1,246

Source: GAO analysis of FAA and SSA data.

Table 10: The Most Common Disabling Medical Conditions for Pilots Receiving Disability Benefits

Medical conditions for which pilots are receiving disability benefits	Number of pilots receiving SSA disability benefits
Musculoskeletal	495
Psychotic and non-psychotic	237
Injuries	138
Other medical conditions ^a	376
Total	1,246

Source: GAO analysis of FAA and SSA data.

²The rate of disability benefits is slightly higher in the group of pilots who provided FAA with a Social Security or other nine-digit number than in the group of pilots whom FAA provided a nine-digit number. However, the rates were low in both groups—less than one-half of 1 percent. It is unclear whether differences in disability benefits rates between the two groups are meaningful or simply a function of the two benefits groups being very small.

^aOther medical conditions include nervous conditions (80), cancer (79 pilots), and circulatory (62), digestive (36), endocrine system (30) impairments, and miscellaneous other conditions (89).

Data Reliability of FAA's Pilot Data

To assess the reliability of the pilot data that FAA provided us, we (1) performed electronic testing for obvious errors in accuracy and completeness as well as inconsistencies; and (2) interviewed officials in FAA's Aviation Data Systems Branch and the Civil Aerospace Medical Institute, Oklahoma City, who are knowledgeable about the content of the data and how they were entered. The 7,889 pilot records excluded from our analysis was a limitation to our matching process. However, we compared the age, sex, and state of residence of the excluded records with the verified records and found that the verified records and those that were excluded were similar in the proportion of pilots in each of the three medical classes. The comparison did show that women pilots comprised 10 percent of the records that could not be verified while making up 5 percent of the group whose Social Security numbers were verified by SSA. We do not know whether the 7,889 pilot records are different from the records we were able to put through the matching process with regard to receipt of disability benefits.

We selected February 2008 as the time frame for the match between FAA pilot certificates and SSA disability databases. If FAA were to replicate our study, it might have different results, based on the length of time of the comparison and the turnover of recipients receiving disability benefits.

In addition, if FAA were to find validated Social Security numbers for the 7,889 records excluded from our analysis, that might impact the results.

Comparing the DOT-SSA IG Operation Safe Pilot Results with GAO's Data Match Findings

In 2005, the joint Department of Transportation and SSA Offices of the Inspector General Operation Safe Pilot investigation reported that 3,220 of 40,000 pilots in northern California were collecting some sort of SSA benefit. These were pilots who received any SSA benefit at any point in their lifetime, including retirement and survivor benefits. Our discussions with SSA IG officials determined that the Operation Safe Pilot investigation identified 70 pilots who were receiving disability benefits. The difference between the Operation Safe Pilot investigation and our data match was the scope of benefits examined. Our examination focused on pilots receiving only disability benefits for February 2008.

Appendix III: List of Potentially Disqualifying Medical Conditions

After reviewing the medical history and completing the examination, aviation medical examiners (AME) must issue a medical certificate, deny the application, or defer the action to the Aerospace Medical Certification Division or the appropriate regional flight surgeon. AMEs may issue a medical certificate only if the applicant meets all medical standards, including those pertaining to medical history unless otherwise authorized by FAA. AMEs may not issue a medical certification if the application fails to meet specified minimum standards or demonstrates any conditions that are considered “disqualifying.” FAA considers the following medical conditions as disqualifying under 14 CFR Part 67.

- angina pectoris;
- bipolar disorder;
- cardiac valve replacement;
- coronary heart disease that has required treatment or, if untreated, that has been symptomatic or clinically significant;
- diabetes mellitus requiring insulin or other hypoglycemic medication;
- disturbance of consciousness without satisfactory medical explanation of the cause;
- epilepsy;
- heart replacement;
- myocardial infarction;
- permanent cardiac pacemaker;
- personality disorder that is severe enough to have repeatedly manifested itself by overt acts;
- psychosis;
- substance abuse and dependence; and
- transient loss of control of nervous system function(s) without satisfactory medical explanation of cause.

Appendix IV: GAO Contact and Staff Acknowledgments

GAO Contact

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